Rangatahi Oranga:

Family functioning, cultural orientation and depression among New Zealand adolescents

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ABSTRACT

Mental health disparities between Maori and NZ European adolescents are well documented. Cultural-vulnerability theory posits that cultural dimensions may explain some of the difference in distress levels between different ethnic groups. The aim of this research was to explore the relationships between family functioning, cultural orientation and depression among NZ Maori and NZ European adolescents and examine whether cultural orientation - individualism and collectivism - would moderate the relationship between perceived family functioning and depression scores. Self-report data assessing individualism, collectivism, family functioning and depression were collected from 299 Maori and NZ European high school adolescents. Family dysfunction was found to positively correlate with depression scores for adolescents in both groups, however the relationship was stronger for adolescent males than females, and for NZ Europeans than Maori adolescents, and the relationship was strongest for Maori male adolescents specifically. The study's major findings were that collectivism had a moderating effect on the relationship between family functioning and depression for NZ European females only, and that for Maori male adolescents who were highly individualistic, family functioning accounted for 20% of the variance in depression scores. A further finding was that Maori adolescents displayed both highly individualistic and highly collectivistic tendencies, which indicates that there may be multiple culture-related pathways to depression for Maori youths. The findings suggest that Maori male adolescents may be more vulnerable to the deleterious effects of family dysfunction than Maori females, especially if they display tendencies towards individualism. The implications for these and other findings are discussed.

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INTRODUCTION

Recent statistics have shown that the depression rates of Maori adolescents in New Zealand are significantly greater than those of non-Maori adolescents (Adolescent Health Research group, 2003). Previous investigations into the cause(s) of this discrepancy have examined differences in individual cognitive processes, such as coping strategies (e.g. Jose & Schurer, 2010) or factors relating to the status of Maori, as the indigenous people of New Zealand (e.g. Thomas & Nikora, 1992). Although the findings from studies in these domains have provided some understanding of why this disparity exists, few studies have acknowledged that risk factors for adolescent depression may not be equivalent across cultures, and none have thus far examined whether Maori youth are differentially sensitive to certain events when compared with non-Maori youths. Using the cultural constructs of individualism and collectivism, this study introduces a theory of cultural-vulnerability to the literature on Maori mental health.

CHAPTER ONE

DEFINITIONS AND RELATED ASPECTS OF CULTURE

In psychological research, the term 'culture' is used to describe the shared beliefs, values, norms, roles and attitudes found among people from the same geographic region, who speak the same language and live in the same historical period (Triandis, 1995). Conceptually, culture is thought to consist of multiple dimensions that can be operationally defined and empirically tested (Kim, Triandis, Kagitcibasi, Choi, & Yoon, 1994). Individualism and collectivism are two of those dimensions.

Individualism and collectivism refer to social patterns whose elements are organised around a central theme. For this reason, they are often referred to as 'cultural syndromes'. The central theme of individualism is that individuals are separate, autonomous units, who exist independently of one another. The central theme of collectivism is that individuals are closely linked, interdependent beings, who belong to one or more collectives (Markus & Kitayama, 1991). Both constructs consist of unstated assumptions that are transmitted through interaction with others. Those assumptions determine the

way an individual defines him/herself in relation to others, they influence the goals he/she will choose to pursue, as well as the willingness with which he/she will accept social norms (Triandis, 1995; Kim et al., 1994; Triandis & Suh, 2002).

The origins of individualism and collectivism

There are two main schools of thought regarding the way in which individualism or collectivism develops in a society. They are the ecological and biological perspectives. The ecological perspective posits that culture is formed in response to the 'ecological demands' of the environment and that the blueprints for individualism and collectivism are embedded in the early human populations of hunter-gatherers and agrarians, respectively (Berry, 1994). In hunter-gatherer populations, where food supplies were limited and migration was frequent, individuals were socialised to become autonomous, self-reliant, assertive, beings, who were independent and achievement oriented (i.e. individualistic). Conversely, in agrarian societies (which were largely sedentary and abundant in resources) socialisation practices that encouraged responsibility, obedience and compliance, were fostered (i.e. collectivism) (Kim et al., 1994). Over many generations, those influences were transmitted culturally (through interaction) and biologically (through genes), from the group to the developing individual (Berry, 1994).

Conversely, the biological perspective claims that individualism and collectivism are primarily genetic in origin. Consistent with this theory, recent studies have shown that three genetic variations associated with serotonin, opioid and monoaminooxidase neural transmissions are located in higher volumes in collectivistic populations (Way & Lieberman, 2010; Caspi et al., 2003). Moreover, longitudinal research has shown that those genetic variations directly influence the way an individual perceives and responds to social events, such that carriers of those genes are more sensitive to the depressive effects of negative social interactions and less sensitive in terms of affect, to non-social events (Caspi et al., 2003). Taken together, the findings offer strong evidence for a genetic predisposition towards collectivism.

Analysing individualism and collectivism

In analysing the constructs of individualism and collectivism, several key distinctions must be made. The first is between culture as it occurs at a population level (macro) and culture as it occurs at the individual level (micro) (Triandis, 1995; Triandis, 1994). Theoretically, individualism and collectivism are constructs reserved for the description of culture at the macro level e.g. America is described as being an individualistic country (Triandis 1994). However, when describing the related personality characteristics of specific individuals, individualism and collectivism are replaced by the terms 'idiocentric' and 'allocentric', respectively (Triandis, 1995; Oyserman, Coon, & Kemmelmeier, 2002). The reason for this distinction is twofold. First, it is well established that every culture is heterogeneous. Thus, to say that a culture or a country is collectivistic, is to generalise that the majority of individuals within that culture are likely to demonstrate more 'collectivistic' rather than 'individualistic' cognitions (Triandis, 1994). Hence, the main use of the individual level distinctions, is to allow quick reference to the allocentric who lives in an individualistic society and vice versa. (Triandis, 1995). Second, although individualism and collectivism represent different worldviews that may or may not represent opposite ends of a unipolar spectrum (Oyserman et al., 2002), it is widely accepted that every individual has allocentric and idiocentric tendencies that are sampled interchangeably and may alter over time, depending on their social circumstances (Triandis, 1995). Thus, if an allocentric from a collectivist culture moves to an individualistic society, it is possible that he/she may eventually develop very high levels of both idiocentrism and allocentrism (Triandis, 1995).

Horizontal and vertical classifications

Another distinction that must be made when measuring cultural orientation is between the various types of individualism and collectivism. Before this can be addressed however, a more detailed overview of each construct is needed.

The elements that comprise individualism and collectivism can be organised into four measurable dimensions, (1) definitions of self, (2) personal goals (3) cognitions, and (4) relationships (Triandis, 1995). In collectivistic cultures, the

self is defined as interdependent (Markus & Kitayama, 1991). Personal and communal goals are closely aligned and if they are in conflict, the goals of the collective will have priority. The cognitions that guide social behaviour in collectivistic societies, focus on obligations, duties and adhering to norms. There is also an ever present emphasis on maintaining relationships, regardless of their worth (Kim et al., 1994). Conversely, in individualistic societies, the self is defined as independent of collectives and this is reflected in the tendency to prioritise personal goals over group goals. Cognitions in individualistic cultures tend to emphasise attitudes, personal needs and individual rights, and relationships are maintained based on the advantages and disadvantages that they present (Triandis, 1995).

Within the constructs of individualism and collectivism, one of two dimensions (horizontal or vertical) may be assigned, to define cultural variation more specifically. The horizontal dimension refers to cultures that emphasise equality among members and assume that people should be similar on most attributes, especially status. The vertical dimension refers to cultures that emphasise rank and offer privileges to those who have status. Examples of vertical individualism are found in the way that many businesses operate (e.g. with highly competitive employees, vying for positions at the top). In contrast, an example of horizontal individualism is seen in Sweden, where individuals are considered highly self-reliant and independent, but many do not desire social status or to 'stand out' in any way (Triandis, 1995).

Psychological advantages and disadvantages of cultural orientation
Mixed findings regarding the psychological advantages and disadvantages of each cultural orientation have been reported. Scott, Ciarrochi, & Deane (2004), found that Australian youths who were highly idiocentric, were more likely to report depressive and suicidal behaviours than those who reported more allocentric tendencies, which suggests that allocentrism may protect against psychological distress. However, several studies have also indicated that allocentrics might be particularly vulnerable to the depressive effects of negative social interactions (Tafarodi & Smith, 2001; Chen, Chan, Bond, & Stewart, 2006). Furthermore, allocentrics living in individualistic environments may be

additionally vulnerable to the distress that results from holding collectivistic values in a society that endorses opposing values (Caldwell-Harris & Aycicegi, 2006). This introduces the final issue in this discussion, culture-personality fit.

Culture-personality discrepancy

Numerous studies have recently suggested that the 'match' between one's individual-level cultural orientation (e.g. allocentrism) and one's population-level cultural surrounding or society (e.g. collectivism) has a vital impact on the quality of an individuals' psychological health (Triandis & Suh, 2002; Wachs, 2000). Caldwell-Harris & Aycicegi (2006) conducted a cross-cultural study with American and Turkish youths and found that individuals with an allocentric personality style who lived in an individualistic society (Boston), scored more highly on self-report measures of internalising disorders such as depression, social anxiety, obsessive-compulsive disorder and dependent personality disorder, than idiocentrics in the same society. Conversely, idiocentrics living in a collectivistic society (Istanbul) consistently scored above the cut off on measures of antisocial and narcissistic behaviours. Although these findings are not definitive and need replicating, they have important implications for youths living in environments that do not match their particular cultural orientation.

CHAPTER TWO

MAORI AND NZ EUROPEAN CULTURES

In the cross-cultural psychology literature, New Zealand is classified as a 'horizontal individualist' nation (Triandis, 1995). Politically and legally however, New Zealand is regarded as a bi-cultural nation, for it was founded upon a treaty drawn between European colonialists (predominantly British) and indigenous Maori (Herbert & Morrison, 2007). Data from the last census (2006) showed that NZ Europeans (New Zealanders of British/European descent) comprised 67.6% of the New Zealand population, whilst Maori (self-identified) comprised only 14.6% (Statistics New Zealand, 2011). Therefore, it is likely that the classification 'horizontal individualist' reflects the cultural orientation of the dominant group, that is NZ Europeans (Black & Huygens, 2007).

Culture, race and ethnicity

For the purposes of clarity, several distinctions must be made between the constructs of culture, race and ethnicity. Like culture, people of the same race and ethnicity are often identified by the presence of a common language and shared geographical location, but unlike culture and ethnicity (which can be identified independent of heredity), race classifications are generally made by locating physical characteristics that signify shared common descent among people (Triandis, 1995; Rattansi, 2007). Ethnicity is generally self-perceived and based on affiliation with a particular ethnic group(s). For conceptual purposes in the present study, culture is defined in terms of individualism and collectivism, race is defined by descent, and ethnicity is measured by self-identification with either Maori or NZ European ethnicity. This is to avoid the assumption that individuals who have descended from a particular race, will necessarily identify with a particular ethnic group, and subscribe to a particular cultural orientation. That being said, there is a substantial body of evidence that links people of Maori descent and/or ethnicity to a cultural orientation that differs somewhat from that practiced by NZ Europeans (e.g. Harrington & Liu, 2002; Jose & Schurer, 2010).

MAORI COLLECTIVISTS AND NZ EUROPEAN INDIVIDUALISTS

As mentioned previously, four universal characteristics can indicate whether a culture is individualistic or collectivistic, namely self-definitions, personal goals, cognitions and relationships (Triandis, 1995).

Self-definitions

From a Maori perspective, definitions of 'self' and individual identity are largely derived from family characteristics e.g. one's tribal affiliations or whakapapa (genealogy) (Herbert & Morrison, 2007). Group (collective) identity is fostered more often than individual identity, and being a 'total' person independent of one's whanau (family) is considered unhealthy (Durie, 1985; 2001; Herbert & Morrison, 2007). This contrasts with the NZ European worldview, in which individuals are regarded as independent beings, whose identity is largely deduced from their behaviour e.g. what one does for a living or what one has achieved in one's life (Black & Huygens, 2007).

Personal goals

Differences in the personal goals of Maori and NZ Europeans are also evident. For Maori, the pursuit of goals and the harbouring of ambitions that are considered 'self-centred' can attract disapproval from others, because tendencies towards selfishness are strongly discouraged (Durie 1985; Metge, 1995). This is not to say that the pursuing of personal goals in general is actively discouraged, but that pursuing them at the expense of family (collective) needs, is (Metge, 1995). Conversely, for NZ Europeans, factors such as self-motivation, financial independence and personal achievement are considered to be very important, so the pursuit of individual goals irrespective of others needs, is promoted from an early age (Black & Huygens, 2007).

Cognitions

In the context of culture, cognitions refer to the 'rules' and 'social assumptions' that inform behaviour. As such, contrasts between Maori and NZ Europeans are easily found. In Maoridom, a strong emphasis is placed on 'the right way' of doing things (tikanga). Rules and customs vary from the specific to the general, but frequently emphasise the meeting of obligations, such as working together

for the common good (mahi tahi) or fulfilling duties (such as caring for younger and older family members) (Metge, 1995). Among NZ Europeans however, such rigorous adherence to cultural norms and traditions, is rarely expected in the context of caring for young and old, and with regard to sharing personal resources (Black & Huygens, 2007; Keown, Parker, & Tiakiwai, 2005). As independent entities, NZ Europeans are taught to value the right to choose whether or not they will participate in any given community, to challenge statures that do not serve them, and to make decisions regarding their futures that are based on personal needs and preferences, not familial obligations (Keown et al., 2005).

Relationships

For Maori, whanau is the most vital aspect of society (Metge, 1995). Within the whanau network, relationships are established primarily through association with a common ancestor, and once connections have been made, relationships are maintained through the principles of aroha (unconditional love), manaakitanga (hospitality), atawhai (kindness), and utu (reciprocity). In the case of aroha, this may involve providing emotional or financial support to whanau members, even if doing so means disadvantaging oneself, and in the case of utu, means requiting with an appropriate return, any service, kindness or gift that one receives (Metge, 1995). In contrast, among NZ Europeans, social relationships are usually formed when individuals share either a common goal (e.g. achievement) or a common environment (e.g. the workplace), and a relationships' ongoing maintenance is often tied to its perceived advantages and disadvantages (Keown et al., 2005).

Thus, the literature indicates that many values inherent in Maori society, are aligned with those of collectivism, and many of the values found in NZ European society are aligned with the cultural construct of individualism. However, the findings from studies that have directly measured those relationships have not entirely confirmed this perception. A recent study by Jose & Schurer (2010), demonstrated that Maori adolescents scored significantly higher on a measure of allocentrism than a comparable sample of NZ European adolescents, as predicted. However, contrary to expectations, levels of

idiocentrism did not vary significantly between the Maori and NZ European groups. This finding may reflect at least three possibilities: (1) that Maori have assimilated the values of the dominant culture (e.g. individualism) and thus, become more idiocentric; (2) it may reflect the results of a population bias (i.e. university students who were not representative of Maori youth in general); (3) it may accurately reflect the status of Maori, who less than 300 years ago were a predominantly hunter-gatherer population that would have relied upon the attributes of self-reliance, self-motivation and self-assertiveness for survival, and may therefore have always harboured tendencies towards individualism (Jose & Schurer, 2010; Triandis, 1995). While it is beyond the scope of this review to determine the best interpretation of Harrington & Liu's (2002) results, it is acknowledged that the dichotomous classification of Maori as collectivists and NZ Europeans as individualists may be insufficient to capture the amount of cultural variation within each group. This introduces the assignment of vertical and horizontal dimensions.

Horizontal and vertical classifications

As mentioned previously, the constructs of individualism and collectivism can be further defined by the dimensions 'horizontal' and 'vertical' (Kim et al., 1994). Keown et al., (2005) recently identified three distinct types of NZ European culture. All were strongly individualistic and emphasised values associated with equality (in other words, horizontal individualism). Similarly, Tassell, Flett, & Gavala (2010) investigated the cultural orientation of a Maori university sample and found that Maori scored very highly on the dimension of horizontal collectivism (Tassell et al., 2010). Taken together, those findings support the hypothesis that the cultural orientation of Maori tends towards horizontal collectivism and the culture of NZ Europeans tends towards horizontal individualism.

CHAPTER THREE

DEPRESSION IN ADOLESCENCE

Adolescence

Adolescence is the transitional period between childhood and adulthood, usually experienced between the ages of 13-19 years (Christie & Viner, 2005). It is a time characterised by rapid change, emotional instability and both physical and mental development. According to Gladding (2007), adolescence is a stage in life, when an individual seeks to increase his/her autonomy and this can be the source of much conflict within the family unit. Because adolescence is often accompanied by periods of prolonged and intense stress, feelings of depression are not uncommon. However, when such feelings are prolonged and cause significant distress, they may be an indication of severe disorder (Sadock & Sadock, 2007).

Definitions and related aspects of depression

The diagnostic and statistics manual for psychiatric illnesses (DSM-IV) places depression in the category of 'moods disorders'. *Mood* is described as an internal feeling that is pervasive, sustained, and influences both the way a person perceives the world and their behaviour within it. *Affect* is the term used to describe the external expression of mood (Sadock & Sadock, 2007). Although feelings of depression can range in intensity from mild to severe (with level of severity indicated by the amount of psychological distress experienced and the perception of loss of control), episodes of depression that last for at least two weeks and are accompanied by at least four of the following: changes in weight, appetite, sleep and activity, lack of energy, feelings of guilt, difficulties concentrating or making decisions, and/or recurrent thoughts of death or suicide, can warrant a clinical diagnosis of Major Depressive Disorder (MDD) (Durie, 2001; Sadock & Sadock, 2007).

In adolescence, MDD can develop insidiously and remain unnoticed until the emergence of severe impairment in social relations and/or academic functioning. Though MDD is the same disorder in both adolescence and adulthood, in early adolescence the symptoms of depression may manifest as

restlessness, irritability, aggression, sulkiness, reluctance to cooperate in activities, and/or social withdrawal. However in late adolescence, pervasive anhedonia, severe psychomotor retardation, sense of hopelessness and delusions are more commonly reported (Sadock & Sadock, 2007). When feelings of depression are more chronic than episodic, a diagnosis of Dysthymic Disorder (DD) may be warranted. DD differs from MDD primarily in the severity of symptoms experienced (i.e. less intense) and the duration of symptoms experienced (i.e. more days than not, for at least one year) (Durie, 2001; Sadock & Sadock, 2007). Dysphoria is another term used to describe feelings of depression that although perhaps distressing, are neither severe nor pervasive enough to warrant a diagnosis of MDD or DD (Sadock & Sadock, 2007).

Depression in adolescence

The average age of onset for depression in adolescence is 15, however risk is known to increase with age (Sadock & Sadock, 2007) The average length of untreated depression in adolescence, is 7-9 months, with a 40% percent chance of recurrence in the 2 years following the first episode, and a 70% chance within five years (Lewinsohn, Rhode, & Seeley, 1998). For adolescents, the issue of depression is one of serious concern for three main reasons: (1) evidence suggests that the earlier depression begins, the more severe and chronic it tends to be throughout the life span (Sadock & Sadock, 2007); (2) the onset of depression increases the risk of developing one or more DSM-IV axis 1 disorders (such as alcohol abuse or dependence, panic disorder, obsessive-compulsive disorder) (Durie, 2001); (3) depression is considered to be a potent risk factor for suicide (Lewinsohn, Rhode, & Seeley, 1998; Clark, 2007; Durie, 2001).

Regarding the latter point, reports estimate that the risk of committing suicide is ten times greater for adolescents who experience prolonged low moods accompanied by an episode of MDD (Kessler, Borges, & Walters, 1999). Given the nature of the relationship between adolescent depression and suicide, research that examines risk factors for depression among NZ adolescents is urgently needed, as adolescent suicide death rates in NZ rank among the

highest of any developed nation (Durie, 2001; Clark, 2007). In addition, for the past two decades, Maori youth suicide rates have remained consistently higher than non-Maori rates (Durie, 2001; Clark, 2007; Beautrais & Fergusson, 2006), with recent figures (2007) showing that the suicide death rate for Maori aged 15-24 years was 28.1 per 100,000 - more than twice that of non-Maori (12.3 per 100, 000) (Social report, 2010).

Epidemiology of depression

MDD is the most commonly diagnosed of all the psychiatric disorders in the DSM-IV, with reports indicating a lifetime prevalence rate of 5-17% worldwide and 10-20% in New Zealand (Sadock & Sadock, 2007; Durie, 2001). Among community samples of adolescents, prevalence rates of depression range from 1%-6% (Sadock & Sadock, 2007). However, among indigenous and ethnic minority adolescent populations, this rate is almost universally higher (Clark, 2007). In New Zealand, 12-month prevalence rates for mental illness among youths are reportedly 29% (Oakley-Browne, Wells, & Scott, 2006). Recently, a study conducted among adolescent high school students, revealed a disparity in depression rates (measured by the RADS) between Maori (16.2%) and NZ European youths (11.7%) that remained even after controlling for differences in socio-economic circumstance, gender and age (Adolescent research group, 2003). However, the research in this area has not been entirely consistent. Arroll, Goodyear-Smith, & Lloyd (2002) conducted a depression survey with patients attending general practice clinics in Auckland and found that Maori were no more likely than non-Maori to be depressed.

Mental health disparities are however, commonplace among indigenous minority and mainstream populations worldwide, such as first nations youths in Canada (Laliberte & Tousignant, 2009; Isaak et al., 2010), aboriginal youths in Australia (Chenhall & Senior, 2009), indigenous youths in Taiwan (Yen et al., 2008), and indigenous Hawaiians (Carlton et al., 2006). Similar discrepancies are also found when comparing prevalence rates among non-indigenous ethnic minority populations with those of the dominant majority, such as Filipino adolescents in Hawaii (Edman et al., 1998), African-Americans and Hispanic youths in the US (Gaines Jr. et al., 1997; Guiao & Thompson, 2004), Asians in

the US (Park, 2009) and Britain (O'Connor & Shimizu, 2002). Given that depression rates in adolescence are not generally shown to differ between races, and depression does not correlate with socio-economic status (Sadock & Sadock, 2007), the findings suggest that psycho-social and cultural factors may play a unique role in the prevalence of depression among youths from minority groups.

An almost universal finding in reviews of adolescent depression is that female prevalence rates are 2-3 times that of males (Sadock & Sadock, 2007). Consistent with this, further results from the Adolescent research group study (2003) with New Zealand adolescents, showed that 18.3% of females and 9% of males scored above the cut-off for depression. Baxter (2008) however, in her report on Maori mental health, found that Maori males had higher rates of hospitilisation due to mental health problems than females, thus the results in this area (particularly with Maori) have not been entirely consistent.

The international literature examining gender disparities has shown that in childhood, rates of depression among boys and girls remain approximately the same, until the onset of puberty, where the figures start to diverge (Sadock & Sadock, 2007). Although this divergence may be partially attributed to changes in hormone levels. A recent longitudinal study (2008) conducted with Dutch pre-adolescents, showed that in the transition from childhood to adolescence females were considerably more sensitive to the adverse effects of stressful events than males. Furthermore, the gender difference that emerged was due to a decrease in depression among boys, not an increase in depression among girls, which suggests that the boys in this study became less sensitive to social related events (Bouma, Ormel, Verhulst, & Oldehinkel, 2008). This finding suggests that both biological and psychological factors are salient in the development of depression in adolescence.

ETIOLOGY OF DEPRESSION

Three areas of research have dominated the literature surrounding the etiology of depression, namely genetic, psychosocial, and personality factors. However

there is much dispute regarding the relative contribution of each to the development of depression (Clark, 2007).

Genetic Factors

It is evident that biological factors play some part in the onset of depression. Numerous twin and adoption studies show that children, who have one biological parent with MDD, have a 10-25% chance of developing a mood disorder. Moreover, children from families where both biological parents have had MDD, have a twofold risk of developing depression during their lifetime, and are four times more likely than children with no depressed parent, to experience an episode of MDD before the age of 18. Further evidence suggests that the greater the number of relatives affected by the disorder, the greater the risk to the individual. This is particularly true of first-degree relatives, rather than distant relatives (Sadock & Sadock, 2007). Taken together, these findings indicate a strong common genetic underpinning to the development of depression. However, data from studies with monozygotic twins raised in separate households, indicate that only 50-70% of the etiology of mood disorders is accounted for by genes, implying that the remainder is due to environmental factors (Sadock & Sadock, 2007).

Psychosocial Factors

Many studies show that stressful events more often precede rather follow an episode of depression (Sadock & Sadock, 2007). In particular, experiencing parental death before the age of 11 has been highlighted as a salient risk factor in the onset of youth depression (Brent, Melham, Donohoe, & Walker, 2009). The theory that underpins research in this area, posits that exposure to stress can permanently alter neural pathways, which can in turn increase the likelihood of developing a mood disorder. Sastry & Ross (1998) argue however, that stressful events are not universal across cultures, and that more research is needed to determine which specific events affect which specific groups.

Personality Factors

No single personality trait has been found to predispose an individual to develop depression, however the research in this area does demonstrate, that stressors

which an individual perceives as reflecting negatively on his/her self esteem, are more likely to induce depression. Thus, the onset of depression appears to be triggered in part by the idiosyncratic meanings an individual attaches to specific events in their life (Sadock & Sadock, 2007).

In sum, it appears that multiple factors contribute to the development of adolescent depression and that risk factors from the environment may differ between individuals. The integration of these three areas of research, introduces the next topic of discussion namely, major theoretical formulations of depression.

MAJOR THEORETICAL FORMULATIONS OF DEPRESSION

The following section provides a summary of the major theoretical formulations of depression. Each summary also includes a comment on whether or not the formulation has cross-cultural applicability.

Psychodynamic perspective

Psychodynamic theorists hold that disturbances in the infant-mother relationship during the first 0-18 months of life (known as the oral phase) predispose an individual to develop depression (Sadock & Sadock, 2007). Such individuals use introjection (a defense mechanism) to help them deal with the distress associated with perceived object loss. An object may be a person or a thing, either real or imagined, that an individual cares for. When an individual experiences object loss, the object is regarded with a mixture of both love and hate, and feelings of anger are invoked. In introjection, those feelings are directed at the self, which in turn leads to depression. Psychodynamic theories are widely used in America, but rarely applied cross-culturally (Hammack, 2003).

Cognitive theory and related perspectives

Cognitive theory states that depression develops as the result of an individual perceiving life through a distorted set of lenses known as depressogenic schemata (Beck & Clark, 1988). Depressive schemata consist of negative views of the self, the environment and the future, and are collectively thought to

activate the symptoms of depression (Beck & Steer, 1989). Cognitive theory is often used within a diathesis-stress framework of depression, where it is argued that depressive schemata interact with exposure to stress to cause depression - in some cases magnifying stress exposure, in other cases developing as a result of stress exposure (Beck & Steer, 1989).

An additional branch of cognitive theory, posits that people are differentially prone to develop depressogenic schemata in response to different life events. Clark, Beck, & Brown (1992) noted a clear difference in risk factors and vulnerability to stress between individuals who valued achievement highly (autonomous types) and people who valued interpersonal relationships highly (sociotrophic types). Autonomous individuals were more vulnerable to depression after experiencing a major failure but sociotrophs were more likely to experience symptoms after a relationship break-up (Clark, Beck, & Brown, 1992).

A third cognitive formulation 'learned helplessness theory', posits that when negative life events occur, people attribute causality for them to either internal causes (which results in low self-esteem, and subsequent depression) or external causes (which results in loss of perceived control, and thus depression) (Sadock & Sadock, 2007). A note worthy aspect of this theory, is its cultural adaptability. For example, Wheaton (1980), used aspects of this theory to show how African-American children raised in low socio-economic conditions, habitually learned to attribute causality for their circumstances to events beyond their control, which predisposed them to developing disorders of depression.

Cognitive theories overall have been criticised for their lack of cross-cultural application, and for failing to account for the influence of wider societal forces such as poverty, oppression, and cultural discrepancy (Hammack, 2003). Consistent with this, Clark, Beck, & Brown (1992) have argued that the cognitive model offers best results when used in a sample similar to the one the theory was formulated upon (e.g. Anglo-American adults).

Bio-psycho-social model

The bio-psycho-social model posits that depression is caused by numerous factors from biological, psychological and social domains interacting and influencing one another (Clark, Anderson, Clark, & Williams, 1999). Bio-psycho-social models integrate information from a wide range of sources and provide a holistic formulation of depression, which does not presume the contributing factors operate in a linear fashion (Borrell-Carrio, Suchman, & Epstein, 2004). This model is often used by medical professionals, to understand the development of disease in general, however in depression formulations it has received criticism for placing too much emphasis on the biological factors associated with mood disorder onset and not enough on the socio-cultural factors that also contribute (Hammack, 2003).

Diathesis-stress model

Closely aligned with the bio-psycho-social model, is the diathesis-stress model. This theory holds that individuals are born with a set of genetic predispositions to developing disorders, such as depression. Throughout the life span, these vulnerabilities interact with the environment to determine whether the illness will manifest. Compelling evidence for this model was established in 2003, in a longitudinal study with a birth cohort in New Zealand. The study revealed that children born with either one or two short 5HTTLPR alleles, were more vulnerable to developing depression if exposed to stress during childhood, than children born with two long alleles, exposed to the same stress (Caspi et al., 2003).

Family Stress Model

The family stress model posits that the development of depression in adolescence can be largely attributed to family factors. Specifically, the theory holds that low socio-economic status has a negative influence on family functioning. This dysfunction has an adverse effect on the well being of individual family members, particularly in cultures where family harmony is of paramount importance (Conger, Ge, Elder Jr, Lorenz, & Simons, 1994). Causal pathways within this model are open to a number of mediating and moderating relationships, however much like the cognitive models presented earlier, this

perspective also fails to take into account wider societal mechanisms (such as ethnic discrimination) that can contribute to economic deprivation and subsequently launch the sequelae of events that precipitate depression (McLoyd, 1998).

Socio-ecologic model

Based on Bronfenbrenner's (1977) systems theory, the socio-ecologic model emphasises the relationship between the person and his/her environment. In contrast to the bio-psycho-social model, the emphasis for socio-ecologic theories of depression is on the social environment, with little attention paid to the biological aspects of the individual. Conceptually, the model uses the metaphor of Russian dolls to describe how relationships between the person and his/her environment influence psychological distress at different levels, namely macro, meso and micro. For example, racial discrimination (a macro level factor) might reduce parents' ability to find employment and provide for their family (a meso level factor), this could create tension in the household, which would in turn cause children to become depressed (micro level) (Bronfenbrenner, 1977). Many have argued that the model's emphasis on person-environment interconnections makes it well suited to indigenous communities (Connors & Maidman, 2001).

Person-environment fit model

Also known as the culture-personality discrepancy perspective, this theory is one of only a few that specifically examines the role of culture in the development of depression. As mentioned previously, this theory holds that the 'match' between one's cultural orientation and one's social surroundings has a significant impact on the quality of one's psychological health (Caldwell-Harris & Aycicegi, 2006). Caldwell-Harris & Aycicegi, (2006) found that allocentrics living in an idiocentric society scored higher than idiocentrics on measures of depression, social anxiety and dependent personality disorder. Although the process by which this interaction led to disorder is uncertain, it was assumed that increased psychological distress in response to the mis-match in values between person and environment was responsible.

Anomie theory

A second theory that considers cultural factors in the etiology of depression is Durkheim's theory of anomie (normlessness) (as cited in Stockard & O'Brien, 2002). Durkheim (as cited in Stockard & O'Brien, 2002) examined Western historical records and observed that there was a sharp increase in the number of suicide deaths whenever a society underwent a period of rapid change e.g. during the industrial revolution. He then theorised that the absence of clear social norms made individuals prone to experiencing feelings of purposelessness and alienation (i.e. depression), and this made them more likely to commit suicide. According to Stockard & O'Brien (2002), anomie theory is applicable to modern day society, where rapid changes in social infrastructure (particularly over the past twenty to thirty years following the onset of the postmodern movement) have also coincided with surges in suicide rates. As postmodernism is characterised by the systematic dismantling of collective social institutions such as family and religion, anomie theorists hold that postmodernism poses a unique threat to the psychological well being of collectivists, for as society becomes more individualistic, collectivists are likely to suffer from anomie and be vulnerable to depression (Stockard & O'Brien, 2002).

Te Whare Tapa Wha

In New Zealand, the most widely noted model for conceptualising the way that Maori view wellbeing is Mason Durie's (2001) Te Whare Tapa Wha. Te whare tapa wha uses the metaphor of a whare (meeting house) as a framework for understanding the way that four key areas of health interact to promote wellness or disease. In the Maori world, those four areas are: (1) Te taha tinana (which includes the physical aspects of health); (2) Te taha wairua (which incorporates spiritual factors); (3) Te taha hinengaro (which relates to emotional and psychological aspects of wellbeing), and (4) Te taha whanau (which encompasses the family, the social environment and the relationships within each). The metaphor holds that balance between all four of these factors, makes the house (the person) strong, but imbalance in one or more of those areas, results in sickness. With regard to the development of depression among young Maori, the role of Te taha whanau will be discussed in the present study.

In sum, there are a multitude of formulations that aim to explain the cause(s) of depression. However few have been designed with cross-cultural application in mind and most do not take into account the influence of culture on individual psychology. This introduces the next chapter, which outlines differences in cultural values between Maori and NZ European adolescents, and considers the way in which those values might predispose Maori and NZ Europeans to developing depressive symptoms in response to certain life events.

CHAPTER FOUR

FAMILY DYSFUNCTION AND ADOLESCENT DEPRESSION

Definitions and related aspects of family

In the non-Maori psychology literature, 'family' is defined as being 'those persons who are biologically and/or psychologically related, who are connected by historical, emotional, or economic bonds, and who perceive themselves as a part of a household' (Gladding, 2007). In the Maori world, family is conceptualised by the term whanau. Much of the NZ literature, uses the term whanau interchangeably with the word family, however, to avoid unnecessary conflation of those words, some reference to the origins of whanau must be made. Traditionally, whanau was used to exclusively reference those who had descended from a common recent ancestor. Whanau membership was dependent on biological connections and did not include spouses or those who were adopted into the whanau (Metge, 1995). Over many generations, use of the term has broadened such that whanau may now refer to 'one or more parents and their children, regardless of whether or not they live in the same household'. Whanau may also reference people who are linked by marriage, by friendship or even by a common interest (Durie, 2001; Metge, 1995). In short, it is only recently that the term whanau has come to resemble mainstream definitions of family. Thus, it is plausible that the meaning of whanau may differ between generations of Maori. Given that the focus of the present study is on rangatahi (youth), the following definition (modified from above) will be used to describe both family and whanau:

> *'Those persons who are biologically, psychologically, and/or socially related, who are connected by historical, emotional, or economic bonds'*

Family and whanau functioning

'Family functioning' is a term commonly used to evaluate family health (Gladding, 2007). The majority of family functioning models have evolved from a systems theory, which conceptualises family as a type of 'ecosystem' made up of many interdependent parts. As such, family functioning models emphasise the interconnectedness of each element within the family system, and posit that

to fully understand an individual operating in a family, it is necessary to see how the entire unit functions. The McMaster model of Family Functioning provides a good example of this. There a five principles underlying the McMaster approach, namely that (1) all parts of the family are interrelated; (2) one part of the family cannot be understood in isolation from the rest of the family system; (3) family functioning cannot be fully understood by simply understanding each of the individual family members or subgroups; (4) a family's structure and organisation are important factors that strongly influence and determine the behaviour of family members; (5) the transactional patterns of the family system strongly shape the behaviour of family members (Miller, Ryan, Keitner, Bishop, & Epstein, 2000).

According to the McMaster model, a family's level of functioning can be determined by seven factors, namely (1) the quality of communications between family members; (2) the family's capacity to be emotionally responsive to aspects of one another's lives; (3) the structure and clarity of roles within the family; (4) the family's ability to solve problems; (5) the family's ability to control the behaviour of its members; (6) the family's capacity to be actively involved in member's lives; (7) the presence or lack of dysfunctional transactions/patterns.

Although the qualities that define a healthy, functioning family vary across time and culture, recent research suggests that in virtually all modern cultures, healthy families share a number of characteristics in common (Miller et al., 2000). In New Zealand, this finding is given credence by the many similarities between Maori conceptions of 'whanau wellbeing' and Western interpretations of 'family functioning'.

Table 1 displays a summary of the family functioning characteristics found in the non-Maori literature, presented alongside elements drawn from the Maori literature on whanau well-being. The seventh factor in the McMaster model refers to general dysfunction and as such, is excluded from the table. With the exception of the McMaster domains 'Affective involvement', which relates to how willing family members are to be actively involved in one another's lives, and 'Affective responsiveness', which relates to family members' capacity to nurture one another, there is near perfect agreement between the non-Maori

views of family functioning and Maori perceptions of whanau wellbeing. Consistent with this, the literature also shows agreement between the qualities of dysfunctional families and whanau.

Table 1
Characteristics of healthy families compared with the qualities of healthy whanau

McMaster domains of family functioning (Miller et al., 2000)	Characteristics of healthy families (Gladding, 2007)	Characteristics of healthy whanau (Durie, 1994)
Problem solving	The ability to adapt to change	The capacity to adapt e.g. respond to changing needs
Roles	The ability to set appropriate boundaries	The capacity to assert e.g. set teenage limits
Behaviour control	The promoting of responsibility	The capacity to plan ahead e.g. be responsible
Affective responsiveness	The expressing of optimism about the future	The capacity to care e.g. nurture the elderly
Communication	The development of relationships through open communication	The capacity to share e.g. cooperation between siblings
Affective involvement	The expressing of confidence in themselves	The capacity to defend e.g. protect family from threats

Table 2
Characteristics of dysfunctional families and dysfunctional whanau

Beaver's concept of severely dysfunctional families (Beaver, 1985 in Gladding, 2007)	Characteristics of dysfunctional whanau (Durie, 1994)
Confused communication	Whanau Tukino - Unsafe families where abuse is present
Poor boundaries	Whanau Wewete - Families that lack structure/ boundaries
Despair, cynicism	Whanau Tu-mokemoke - Families alienated from Maori networks and society
Lack of shared attentional focus	Whanau Pohara - Marginalised families

Table 2 shows four of the criteria that describe severely dysfunctional families in Beaver's concept of family health (as cited in Gladding, 2007). Much like the McMaster model, Beaver's conceptualisation also emphasises the importance of communication, roles, boundaries and affective responsiveness. With the exception of the Beaver domain 'Lack of attentional focus' and its corresponding

whanau category of 'Whanau Pohara', there appears to be a substantial amount of overlap between the Western and Maori models of family dysfunction. Given that many modern Maori and NZ Europeans family households are alike in both composition and values, and conceptualisations of family functioning in each culture are closely matched (Durie, 1994), it seems appropriate to use the McMaster model of family functioning as the framework for understanding family dysfunction within both Maori whanau and/or NZ European families, for its domains can be empirically measured.

The impact of family dysfunction on adolescents
A strong relationship between family environment and the psychological wellbeing of adolescents has been well established in the psychological literature. Family dysfunction in particular, has been shown to associate with psychological distress among African American, (Chapman & Woodruff-Borden, 2008), Hong Kong Chinese (Xiohua Chen, Wu, & Bond, 2009; Kwok & Shek, 2009), Taiwanese (Gau et al., 2008), Hispanic (Hovey & King, 1996; Schwartz, Mason, Pantin, & Szapocznik, (2009), English (Prinstein, Spirito, Boergers, Grapentine, & Little, 2000), American (Reinherz, Paradis, Giacona, Stashwick, & Fitzmaurice, 2003) and New Zealand (Beautrais, & Fergusson, 2006) youths.

Benjet, Borges, & Medina-Mora (2009) revealed that family dysfunction was the variable most strongly associated with the onset of substance abuse, mood, anxiety and externalising disorders throughout the life span. In addition, a cross-sectional study conducted by Cumsille & Epstein (1994) showed that adolescents' satisfaction with family functioning was the most important predictor of adolescent depression. Supporting a causal relationship, Sheeber, Hops, Alpert, Davis, & Andrews, (1997) followed a community sample of 420 adolescents over the course of one year and discovered that family conflicts and decreased perceptions of family support precipitated the onset of depressive symptoms, but depressive symptoms failed to predict deteriorations in family relationships. Similarly, Reinherz. et al. (2003) followed 354, 5 year old children until they turned 26 and found that chaotic, unsafe family environments were the strongest predictors of adolescent depression. However, discrepant results regarding the directness and strength of the relationship between family

dysfunction and adolescent depression suggests that there may be some variation in the pathways through which family dysfunction affects adolescent moods (Hovey & King, 1996; Prinstein et al., 2000).

In sum, there is strong empirical support for the hypothesis that family dysfunction contributes towards the development of adolescent depression.

Cultural differences in the importance of family: Collectivists and Individualists
There is a burgeoning school of thought suggesting that the family system is of central importance to members in collectivistic cultures, and of slightly less importance to those from individualistic cultures (e.g Li, 2002; Xiohua Chen, Wu, & Bond, 2009; Dmitrieva, Chen, Greenberger, & Gil-Rivas, 2004). In the past twenty years, numerous studies have provided empirical support for this hypothesis. Fuligni, Tseng, & Lam's (1999) cross-sectional study of the differences in familial expectations between adolescents from a range of cultures, indicated that Latin American and Asian-American (i.e. collectivistic) youths possessed much stronger values regarding familial obligations and expectations, than Anglo-American (individualistic) youths. More recently however, Li (2002) showed that Anglo-Canadian (individualistic) university students construed relationships within their families to be largely independent, whereas Mainland Chinese (collectivistic) construed their family relationships to be highly interdependent. Li's (2002) study also showed that the difference in relationship construal scores was specific only to family relationships and not peer relationships, which suggests that youths from collectivistic cultures may value family relationship harmony more than youths from individualistic cultures do. Evidence that individuals are given the blueprints for divergent construals of family relationships from a young age, is found in Liu et al., (2005). The Liu et al., (2005) study compared differences in the socialisation processes of Canadian and Chinese mothers and their 2-year children. The results indicated that Chinese mothers scored much higher on an 'encouragement of connectedness' measure, whereas Canadian mothers scored much higher on an 'encouragement of autonomy' measure. One limitation to the generalisability of those findings, is that they have not yet been replicated in other populations.

Cultural differences in the importance of family: NZ Maori and NZ Europeans

As mentioned previously, there is much agreement regarding the composition and 'functioning' criteria of modern Maori conceptions of whanau and Western definitions of family. In spite of these similarities however, vast differences in the significance given to family and whanau relationships by individuals within Maori and NZ European cultures are evident. Those differences are primarily seen in two areas: (1) expectations of the individual and (2) extended family.

Expectations of the individual

From a Maori perspective, the individual is viewed as a link in a long chain that consists of their ancestors and descendants (Metge, 1995). From a young age, many Maori children are taught that they belong to a whanau - a network of people connected through ancestry, whom they are expected to feel warmth and affection for, especially in times of sickness, need or trouble. Metge's (1995) treatise on whanau in the mid-nineties, demonstrated that Maori individuals were expected to show loyalty towards and offer support to whanau members, both in good times and in bad; they were expected to help increase the mana (honour, prestige) of the whanau at large, by fulfilling certain obligations and roles; they were expected to work with (as well as care for and protect) vulnerable whanau members; they were expected to know their whakapapa (genealogy) so that they could pass that information on to future generations, and if married, they were expected to maintain close links with their family. As Maori families today appear to share many similarities with NZ European families, it is unclear how many of those values are still expected of individual whanau members. However for Maori living close to their ancestral land and/or in rural areas of New Zealand, those values may still apply.

In contrast to traditional Maori whanau expectations of the individual, individuals within NZ European families are construed as separate, autonomous beings, who are strongly encouraged to live independently of other family members. When an individual from a NZ European family marries, he or she is usually expected to live separately from parents and siblings. Houses for their families are designed with individual spaces in mind so that children can have 'their own room', children are encouraged to leave home as soon as possible and in some

cases, are expected to pay board to their parents once they have reached a certain age (Black & Huygens, 2007).

In sum, traditional Maori whanau expectations of the individual differ greatly from NZ European family practices. However, it is likely that many modern Maori youths (particularly those living in urban centres) may hold values and expectations that are akin to those of NZ European youths.

Extended family

From a Maori perspective, the boundary between 'family' and 'extended family' is relatively fluid. Less than twenty years ago, it was common for extended family members (i.e. cousins) to be afforded the same status as one's siblings, or for one's grandparents or aunts/uncles to be thought of as parents. Twenty years prior, it was not uncommon for a couples' first born child to be given to one of the sets of grandparents to be raised, to ensure close ties between the generations (Metge, 1995). Today, particularly in rural communities, it is easy to find adult whanau members living in the same geographic region as their cousins, aunts, and uncles. Where this is the case, whanau members' children are just as likely to live for weeks at a time with different sets of relations, as to remain in one household with their parents. The boundaries of a modern whanau group may stretch to include all of the relatives descended from a common ancestor (usually a great-great grandmother or grandfather), as well as their spouses and/or individuals who have been adopted into the family (Metge, 1995; Durie, 2001). Thus, for some Maori individuals who belong to a whanau (particularly those living in rural areas), family may comprise the majority of the relationships in their lives. Given that the majority of Maori now live in urban centres however, such individuals are likely to be the exception and not the rule (Durie, 2001).

In contrast, NZ European families are considered to be 'short' and to consist primarily of the parent/child(ren) unit. From there, families can be extended to include grandparents, with further extensions required to include aunts, uncles, cousins. However, the extendions are numbered 1st, 2nd, 3rd etc. in order of genetic proximity. Generationally, NZ European families are rarely traced

beyond one or two generations. For NZ European adults, neither extended family nor one's family of origin are considered a necessary part of daily life, but rather, family is construed as a group of people who are simply 'there' (Black & Huygens, 2007).

In sum, because of the institution of whanau, many Maori individuals are likely to consider family relationships to be of vital importance. Such an emphasis on family contrasts however, with the NZ European worldview, in which family is valued, but family well being is not of central importance to individual well being.

CHAPTER FIVE

CULTURAL-VULNERABILITY THEORY

Research investigating culture-specific (i.e. collectivist or individualist) risk factors for psychological distress, are a fairly recent phenomenon. However, an increasing number of research findings indicate that some depression risk factors for members of collectivistic cultures may differ from risk factors for members of individualistic cultures. Cultural theorists have long held the view that the most characteristic feature of a collectivistic society, is having members that value interpersonal relationships more highly than individual pursuits, and feel obligated to fulfill duties within their in-group (i.e. family) (Triandis, 1995; Oyserman et al., 2002). Cultural-vulnerability theory extends this reasoning by suggesting that individuals from collectivistic societies are likely to be more sensitive to the adverse effects of negative social events (e.g. family problems), than are individuals in individualistic societies - just as individuals from individualistic societies are likely to be more vulnerable to the adverse effects of negative achievement related events (Sastry & Ross, 1998). The following section presents a summary of the findings from a number of key studies in this area.

Mak, Law, & Teng (2011) used Beck's (as cited in Mak et al., 2011) theory of sociotrophic vulnerability for depression (see chapter two), to investigate whether or not *inter*dependent self-construal (i.e. collectivistic orientation) predisposed a person to develop sociotrophy (a dependence on relationship harmony), thus making them vulnerable to depression when exposed to negative social life-events. The results supported the hypothesis that collectivists were more vulnerable to developing sociotrophy and experiencing depression in turn. The results showed also, that *inter*dependent self-construal and independent self-construal were in themselves, inversely related to depression. This finding goes some way towards explaining the results of a number of earlier studies that found similar relationships. For example, Tafarodi & Smith (2001) conducted a prospective study examining differential sensitivity to social events for Malay and British university students. Consistent with a cultural-vulnerability hypothesis, the results of this study revealed that Malay

students (collectivistic) were not only more prone to dysphoria in response to negative social events than British students (individualistic), but Malay students also showed more affective sensitivity to positive social events than British students. A similar cross-sectional study conducted with Spanish and Japanese youths showed, that collectivistic adolescents were not only more sensitive than individualistic youths to the depressogenic effects of negative social events, but non-social events (both positive and negative) did not have as much affective impact on collectivistic youths as they did on individualistic youths (Nezlek et al., 2008). Furthermore, the Stewart et al., (2003) investigation into various depression risk factors for collectivistic Hong Kong Chinese university students, revealed that interpersonal relationship harmony was more strongly associated with mood levels than was personal efficacy. Both the Stewart et al., (2003) and Sastry & Ross (1998) findings, suggest that low perceived control had less impact on the psychological distress levels of Asian youths than American youths. These findings can be explained by the lack of emphasis which collectivistic cultures place on values such as autonomy, independence and personal control, and by Mak, Law, & Teng's (2011) finding that collectivists often show sociotrophic tendencies.

Evidence of culture-related sensitivities in the area of family variables has also been found. A cross-cultural comparison between Chinese and US youths (aged 16-17 years), showed that family relationships had a significantly stronger association with depression among Chinese than US adolescents (Greenberger, Chen, Tally, & Dong, 2000). A similar result was reported by Moon & Rao (2010) who investigated the differential impacts of several contributors to youth depression, and found that the youth-family relationship was more significantly associated with adolescent depression among Asian and Hispanic youths, than among White or Black youths. Moon & Rao (2010) also showed that the youth-school relationship contributed more strongly to the depressive symptoms of White and Black adolescents than Hispanic or Asian youths. The family-related variable of parenting style has also been shown to affect youths from individualistic and collectivistic cultures differently, such that among Chinese youths, an authoritarian parenting style associates strongly with psychological well-being, but among Anglo-American adolescents authoritarian parenting has an adverse effect on psychological health (Greening &

Stoppelbein, 2010). Furthermore, Dmitrieva, Chen, Greenberger, & Gil-Rivas (2004) found cultural differences in the impact that parental dissatisfaction had on adolescent depression, such that parental dissatisfaction of adolescent misconduct was a stronger depression risk for individualistic (e.g. US and Czech) youths than for collectivistic youths (e.g. Chinese and Korean).

However such results have not been consistent across studies. Contrary to expectations associated with a theory of cultural-vulnerability, Chapman & Woodruff-Borden (2009) found that family dysfunction was a better predictor of anxiety among Anglo-American than African-American adolescents. Similarly, in a cross-cultural study investigating differences in the way that parent-adolescent relationships mediated the association between family-related negative events and adolescent depression, Dmitrieva et al., (2004) found little evidence to suggest a discrepancy between the way family factors affected the internalising and externalising symptoms of adolescents from four different nations. One interpretation of such findings, is that cultural factors other than individualism and collectivism were responsible for the findings of previous authors, however further research in this area is needed before firm conclusions can be drawn.

In sum, consistent with cultural theory, numerous studies have shown that among collectivistic youths (e.g. Hong Kong Chinese, Malay, Japanese, and Spanish), social events and processes are more closely related to mood levels than achievement-related events or processes. Conversely, achievement related events and processes are more significantly related to the psychological wellbeing of individualistic youths, when compared with collectivistic youths. In several studies, family relationships have been shown to have a stronger relationship with depressive symptoms in collectivistic rather than individualistic cultures, though this finding has not been consistent across the literature.

CHAPTER SIX

THE PRESENT STUDY

Given evidence that family is the most vital aspect of Maori society (Metge, 1995), and that cultural values influence the salience of certain depression risks, such that collectivistic individuals are more likely to become depressed in response to negative social events (Mak, Law, & Teng, 2011), the present study aims to extend the literature on cultural-vulnerability by examining its validity with a sample of Maori and European adolescents in New Zealand.

Specifically, the main aim of the present study is to test whether or not the strength of the correlation between family dysfunction and depression is greater for youths who are highly collectivistic, than for youths who are highly individualistic. If this hypothesis is correct, it may be an indication that cultural orientation moderates the relationship between family functioning and adolescent depression. The rationale for such a hypothesis stems from evidence that: (1) Maori youths are significantly more depressed than NZ European youths (Durie, 2001); (2) that family dysfunction is a potent risk factor for adolescent depression (Gladding, 2007); (3) that Maori place greater value on the importance of family and whanau relationships, than NZ Europeans (Clark, 2007); and (4) that cultural values (such as the centrality of family and whanau) are known to influence both the variety and potency of risk factors for depression, for adolescents in collectivistic cultures (Sastry & Ross, 1998).

To the best of the researchers' knowledge this project is the first to test a cultural-vulnerability hypothesis with a sample of NZ Maori and European adolescents. Given the volume of cross-cultural studies that have used American, Canadian and Asian participants, this project introduces some much needed sample variation to the literature in this area. This work builds on previous findings regarding factors associated with adolescent depression in New Zealand and in particular, it contributes to the literature associated with the mental health of young Maori. Lastly, this study adds to the growing body of literature surrounding indigenous mental health, as it not only considers differences in depression risk factors between collectivist and individualist

youths, but it also compares those differences in a bi-cultural context where one culture has had a colonising impact on the other.

Therefore, based on previous findings in the literature, the objectives and hypotheses for the present study are as follows:

Hypothesis 1: Ethnicity and depression
The first hypothesis predicts that Maori adolescents will report higher levels of depressive symptoms than NZ European adolescents.

Hypothesis 2: Gender and depression
The second hypothesis predicts that female adolescents will report higher levels of depressive symptoms than their male counterparts.

Hypothesis 3: Maori and collectivism
The third hypothesis predicts that Maori participants will score more highly than NZ Europeans on a measure of collectivism.

Hypothesis 4: NZ Europeans and individualism
The fourth hypothesis predicts that NZ Europeans will score more highly on a measure of individualism than Maori adolescents. This hypothesis also examines whether or not there will be similarities in individualism scores between Maori and NZ European adolescents, as reported elsewhere in the literature.

Hypothesis 5: Family dysfunction and depression
The fifth hypothesis predicts that perceived family dysfunction will positively correlate with depressive symptoms for all adolescents.

Hypothesis 6: Moderation analyses
The sixth hypothesis tests a cultural-vulnerability theory and predicts that cultural orientation (i.e. individualism or collectivism) will moderate the relationship between family function and depressive symptoms for Maori and NZ European adolescents.

CHAPTER SEVEN

METHOD

This study utilised a mixed-method (quantitative and qualitative) approach to obtain and analyse data regarding cultural orientation, family functioning and depressive symptoms from a sample New Zealand adolescents. The first part of the study involved administering a survey questionnaire to high school students and analysing the results using SPSS 19.0. The second part of the study involved interviewing a sample of adolescents and conducting a thematic analysis on the transcribed interviews.

PART I: SURVEY QUESTIONNAIRE

Participants

Eleven New Zealand high schools were contacted and invited to take part in this study. Over a ten-week period, nine schools were visited by the researcher, who gave a brief presentation during school assembly then invited students to participate in the study. Survey packs that included an Information Sheet (see Appendix A), the Individualism and Collectivism Scale (I-CS) questionnaire (Appendix B), the General Functioning Subscale of the Family Assessment Device (GF-FAD) questionnaire (See Appendix C), the Center for Epidemiological Studies Depression Scale for Children (CES-DC) questionnaire (Appendix D), a parental consent form and demographic questionnaire, as well as an entry form to go in the draw to win an ipod (see Appendix E), were distributed to interested students. Participants were asked to return the completed questionnaire to a box held at the school reception. Of the 450 surveys that were distributed to interested students, 299 were completed and returned to the school reception. This group had a mean age of 16.4 years ($SD= .08$), and consisted of 121 males (40.7%) and 176 females (59.3%). The ethnic composition of the group consisted of 114 Maori (38.5%) and 182 (61.5%) NZ Europeans. Table 3 shows gender and ethnicity details of the sample. For a more comprehensive display of the demographic composition of the sample, see Appendix F.

Table 3

Number of participants in each ethnic and gender group and percentage of total sample

	Number of participants	% within ethnic group	% total sample
Maori male	55	49.1%	18.7%
Maori female	57	50.9%	19.4%
NZE male	66	36.3%	22.4%
NZE female	116	63.7%	39.5%
Maori	114	-	38.5%
NZE	182	-	61.5%
Male	121	-	40.7%
Female	176	-	59.3%

N.b there were 2 missing data scores for gender

MEASURES

General Functioning sub-scale of the McMaster Family Assessment Device (GF-FAD)

In order to assess participant's overall level of family functioning, the general functioning sub-scale of the McMaster Family Assessment Device (GF-FAD) (Epstein, Baldwin, & Bishop, 1983) was used (see Appendix C). The GF-FAD is a brief, multidimensional measure comprised of 12 statements that relate to family functioning. Participants are asked to rate how well each statement describes their family, by selecting from among four alternative responses: (1) strongly agree, (2) agree, (3) disagree and (4) strongly disagree. Given that definitions of family/whanau functioning in the present study correspond closely with the McMaster domains, the GF-FAD is an appropriate choice for assessing overall family/whanau functioning.

Development of the GF-FAD

The General Functioning (GF) scale was developed as part of the Family Assessment Device (FAD) by Epstein et al., (1983). The FAD is a 60-item, self report instrument that operationalises the six domains of the McMaster Model of Family Functioning: (1) problem solving, (2) roles, (3) behaviour control, (4)

affective responsiveness, (5) communication, and (6) affective involvement (Miller, Ryan, Keitner, Bishop, & Epstein, 2000). The GF scale is the seventh sub-scale of the FAD and it contains six items that describe healthy functioning and six items that describe unhealthy functioning (Byles, Byrne, Boyle, & Offord, 1988). The purpose of the GF-FAD scale is to provide an overall indication of family function using items that describe aspects of each of the other six sub-scales (Byles et al., 1988; Ridenour, Daley, & Reich, 1999).

Although the FAD is one of the most researched and widely used family assessments available, confirmatory and exploratory analyses have revealed substantial overlap among items from its six original sub-scales, raising doubt as to the uniqueness of its dimensions (Kabacoff, Miller, Bishop, Epstein, & Keitner, 1990; Ridenour et al., 1999; Byles et al., 1988). A scree plot conducted by Ridenour et al., (1999), revealed a one factor solution among the six sub-scales that correlated with the general functioning sub-scale just less than unity (.95), which suggests that the GF-FAD provides a sufficient summary of overall family functioning and captures much of what the other FAD sub-scales measure (Byles et al., 1988; Ridenour et al., 1999). In short, the GF-FAD's brevity makes it the preferred assessment of overall family functioning (Gladding, 2007; Ridenour et al., 1999; Byles et al., 1988).

Scoring

The GF-FAD takes approximately 5 minutes to complete and is scored by summing the responses for each individual item (reverse scoring is required for six items), then dividing the sum by 12 to give a total score ranging from 1-4 (Miller, Epstein, Bishop, & Keitner, 1985). Higher scores indicate more severe dysfunction and a score of 2 or more is considered indicative of unhealthy family functioning (Miller et al., 1985; Byles et al., 1988).

Psychometric properties

Byles et al., (1988) used Chronbach's test of internal consistency and the Gutman split-half correlation to examine the reliability of the GF-FAD with a sample of 1,822 families comprised of psychiatric, medical and non-clinical participants. Results showed that the item-total correlations for each question ranged from .44 to .63, indicating that each item of the measure significantly

contributed to the total GF-FAD score. Cronbach's alpha was reported as .86, and the Gutman split-half coefficient was reported as .83 (Byles et al., 1988). Reliability evaluations for the present sample showed that Cronbach's alpha for the GF-FAD was also .86. Using Nunnally's (1978, as cited in Byles et al., 1988) standard criteria of .70 for the reliability of a research instrument, these results offer strong support for the internal consistency of the GF-FAD. In addition, Byles et al., (1988) found that high scores on the GF-FAD were significantly associated ($p < .001$) with parental deviance, alcohol abuse, parents' mental and emotional health, marital disharmony, parental separation and spousal abuse. Those family variables are often considered surrogates for family dysfunction, which promotes confidence in the construct validity of the GF-FAD. Additional t tests demonstrated that GF-FAD scores were not related to geographic location, parental physical health, or family size, which supports the divergent validity of the measure (Byles et al., 1988).

In sum, the GF-FAD shows good reliability and validity properties, which supports confidence in its ability to measure perceptions of how the family unit works together on essential tasks (i.e. functions). Its brevity makes it well suited to the purposes of the present study and its domains adequately match the definitions of family/whanau function outlined in chapter four (Byles et al., 1988; Ridenour et al., 1999; Gladding, 2007).

Individualism and Collectivism Scale (I-CS)

The I-CS (Singelis, Triandis, Bhawuk, & Gelfand, 1995) was used to assess participant's tendencies towards horizontal and vertical individualism and collectivism (See Appendix B). The I-CS is a 32-item measure comprised of four 8-item sub-scales: (1) vertical collectivism (VC), (2) horizontal collectivism (HC), (3) vertical individualism (VI), (4) horizontal individualism (HI). Participants are asked to read each statement and rate how well it describes their values on a Likert scale of 1 (strongly disagree) to 9 (strongly agree).

Development of the I-CS

Items for the I-CS were generated from a pool of 94 items drawn from previous measures of individualism and collectivism (Triandis, 1995). Seventy of those

items had previously been identified as measuring either one of two types of individualism (vertical or horizontal) or one of two types of collectivism (vertical or horizontal). Those priori items were subjected to a principal components analysis that extracted a single unrotated factor. Items with loadings below .35 were dropped and replaced with previously unclassified items that correlated more than .30 with the new scales. The new scales were eventually reduced to 8 items each, after dropping the items with the lowest item-total correlations. Those steps eventually yielded a scale with 32-items divided among four dimensions: vertical individualism (VI), horizontal individualism (HI), vertical collectivism (VC) & horizontal collectivism (HC) (Singelis et al., 1995).

For the present study, the wording of several questions was simplified to make the measure more developmentally appropriate. For instance, item 10 "It is important to me that I do my job better than others" was modified to "It is important that I do my schoolwork better than others". Item 13 "We should keep our aging parents with us at home" was modified to "We should keep our aging grandparents with us at home". Item 14 "The well being of my co-workers is important to me" was modified to "The wellbeing of my classmates is important to me". Item 20 "If a co-worker gets a prize I would feel proud" was modified to "If a classmate gets a prize I would feel proud". Lastly, item 26 "Without competition it is impossible to have a good society" was modified to "Without competition it is impossible to have a good school." As demonstrated below, alpha reliabilities remained adequate for the present study.

Scoring

The I-CS takes approximately 10 minutes to complete and participant's scores on each item (which include one reverse scored item) are summed to give four sub-scale scores (HC, VC, HI, VI) and two composite scores (IND and COLL). The composite scores are obtained by summing the scores from all 16 collectivistic items and all 16 individualistic items. Higher scores indicate higher tendencies towards that particular orientation and range from 8-72 for individual sub-scale scores (HC, VC, HI, VI), and 16-144 for each composite IND/COLL scale score (Triandis, 1995; Singelis et al., 1995). By dividing the sum of each scale by the number of items it comprises, average IND, COLL, VI, VC, HI, &

HC scores are obtained. For a comparison table that presents I-CS scores from the present study with those from previous studies, see Appendix J.

Psychometric properties

Singelis et al., (1995) report alpha coefficients for the four scales as .67 = horizontal individualism, .74 = vertical individualism, .74 = horizontal collectivism, and .68 = vertical collectivism, indicating reasonable reliability (Triandis, 1995). Similar alpha coefficients were also found for the overall individualism (IND) and collectivism (COLL) scales (.78 and .66, respectively). Tests of intercorrelation among the scales revealed a strong correlation between the horizontal and vertical collectivism scales ($r = .39$, $p <. 001$), but not between the horizontal and vertical individualism scales ($r = -.00$, $p >.05$), indicating that the individualism sub-scales measure distinct domains of individualism. In the present study, Cronbach's alpha for the I-CS was .76, which can be considered adequate for research purposes.

Convergence and construct validity for the I-CS is reported by Oishi, Shimmack, Diener, & Suh (1998), who found that the dimensions captured by the measure were positively correlated with Schwartz's (as cited in Triandis, 1995) 10 value types at the individual level (e.g. achievement related to VI, self direction related to HI, benevolence related to HC and conformity related to VC). Triandis (1995) also demonstrated that I-CS scores correlated adequately with scores from 13 statements of individualism and collectivism developed by Sinha (as cited in Triandis, 1995), as well as measures of independent and interdependent self-construal constructed by Singelis et al., (1995). Taken together those findings indicate support for the convergence and construct validity of the I-CS (Singelis et al., 1995).

Criticism has been aimed at measures of individualism and collectivism, for their failure to consistently provide convergent results (Oyerserman, Coon, & Kemmelmeier, 2002; Shulruf et al., 2011). Findings from a meta-analysis conducted by Oyserman et al., (2002) revealed that individualism scores produced by a range of measures were inconsistent, suggesting that there may be conceptual differences in how individualism is understood, measured and interpreted. However, Schimmack, Oishi, and Diener (2005), challenged this

critique by showing that response style could adequately explain the inconsistencies found. For example, in some cultures (particularly traditional, rather than modern), participants show a tendency to agree with all items independent of item content, producing a strong bias in the measurement of individualism.

In short, the I-CS is one of the most widely used tools for measuring the cultural dimensions of individualism and collectivism, and their vertical and horizontal correlates at the individual level. As an instrument it demonstrates good psychometric properties and is easy to administer. Moreover, the fact that the I-CS has previously been applied to a sample of Maori university students in New Zealand (e.g. Tassell et al., 2010) makes it an appropriate assessment tool for capturing the cultural orientation domains examined in the present study (Triandis, 1995; Singelis et al., 1995).

Center for Epidemiological Studies - Depression Scale for Children (CES-DC)

The CES-DC (see Appendix D) is a 20-item self-report instrument based on the Center for Epidemiological Studies - Depression scale (CES-D), which has been modified for children (6-17 years) (Weissman, Orvaschel, & Padian, 1980; Radloff, 1977). The purpose of the instrument is to measure symptoms associated with depression experienced in the past week (Radloff, 1977). It is comprised of six scales that reflect major dimensions of depression including (1) depressed mood, (2) feelings of guilt and/or worthlessness, (3) loss of appetite, (4) sleep disturbance, (5) psychomotor retardation and (6) feelings of helplessness/hopelessness (Sadock & Sadock, 2007).

Development of the CES-D

The items of the original CES-D were selected from previously validated depression scales, such as the Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) and the Zung Self-Rating Depression Scale (SDS) (Zung, Richards, & Short, 1965). Domains of depression were identified from clinical literature and from factor analyses, and performance of the measure was pretested on small convenience samples during development

(Radloff, 1977). The scale was field tested as part of a series of structured interviews conducted in homes across America, from 1971-1974, and among clinical patients in a psychiatric setting (Radloff, 1977). Results showed that the scale proved acceptable to both clinical and general populations.

The CES-DC contains an identical number of items as the CES-D, but the wording of several questions has been simplified in a developmentally appropriate manner. For example, the CES-D item "My sleep was restless" has been modified in the CES-DC to "I didn't sleep as well as I usually sleep this week" (Robinson, Garber, & Hillsman, 1995; Weissman et al., 1980).

Scoring

The CES-DC takes approximately 5 minutes to complete. Participants are asked to read each item and rate how often they experienced that symptom over the past week: (0) almost none of the time, (1) some of the time, (2) a lot of the time or (3), all of the time. Items on the 4-point Likert scale are summed to give a total score indicative of depressive symptomatology (reverse scores are required for four negative items). Scores can range from 0-60, however a cut-off score of $> =16$ indicates a clinically significant level of depressive symptomatology (Weissman et al., 1980).

Psychometric properties

Weissman et al., (1980) examined convergence validity for the CES-DC with a mixed sample of 6-17 year olds. The results showed that the instrument correlated moderately ($r = .44$, $p < .05$) with children's self report symptoms on the Children's Depression Inventory (CDI; Kovacs, 1981). In addition, Faulstich (1986) reported good internal consistency for the measure (alpha = .86), and found it had reasonable test-re-test reliability after a 2-week interval ($r = .69$).

Good internal consistency for the instrument was reported among adolescent psychiatric inpatients aged 13-17 (alpha = .77) (Faulstich, 1986). Additionally, Robinson et al., (1995) found good alpha reliabilities of .90 to .93 with a sample of 5th and 6th grade children in America. Reasonable construct validity for the measure was also found by Robinson et al., (1995), such that the CES-DC showed correlations of .61 to .73 with a measure of negative affect.

Furthermore, La Grange (2008) reported that Pearson's product movement correlation coefficients between the CES-DC and individual grade levels ranged from .81 to .87, with a tendency for higher values to associate with higher-grade levels. The psychometric evaluation conducted by Faulstich (1986) used a sample of 8-17 year old inpatient adolescents, from a diverse range of ethnic backgrounds (57% white, 39% black), suggesting that the measure has some cross-cultural application. In the present study, Cronbach's alpha for the CES-DC was .89. Taken together, the findings offer confidence in the reliability and validity of the CES-DC as a measure of self reported depressive symptoms among children and adolescents.

In sum, the CES-DC is an appropriate measure for use in the present study for a number of reasons (1) because it has been modified for an adolescent population; (2) its psychometric properties are sufficient for use in research (3) it adequately captures the construct of depression, but is not a clinical diagnostic tool; (4) it is suitable for use with a range of different cultures and requires minimal training to administer (Weissman et al., 1980).

PART II: INTERVIEW PHASE

The purpose of conducting structured but open-ended interviews with adolescents was to facilitate greater depth of analysis with the goal of providing greater insight into the views of the participants (particularly as they relate to family and cultural orientation) and to identify areas for future research. The structured but open-ended interview method uses a standardised procedure that consists of asking each interviewee pre-set questions in a predetermined order (Coolican, 2004).

Participants

Nine students from the participant pool expressed an interest in participating in an interview. Those students were sent a parental consent form (Appendix G), which they were asked to complete and return to the researcher at the interview. Upon agreement of a suitable time and location, and receipt of a signed parental consent form, nine semi-structured interviews lasting approximately 20 minutes were conducted and recorded. The interview

questions were based upon items drawn from the CES-DC, the GF-FAD and the I-CS and are described in Appendix H. This group had a mean age of 17.2 years (*SD=.* 92), and was comprised of 4 females and 5 males, 6 Maori and 3 NZ European adolescents.

The structured but open-ended interview method was chosen because the age of the participants and the sensitive nature of the subject matter required that a high degree of rapport be established. The procedure for conducting a thematic analysis on interview data consisted of six steps drawn from the guidelines outlined by Braun & Clarke (2006). Step one involved transcribing the interview audio files verbatim, into a word document and checking the transcripts against the audio files to ensure accuracy. A primary purpose of this phase was to familiarise the researcher with the data and to prime for the generation of initial codes (Step two). During this procedure, particular attention was paid to the punctuation of verbal accounts, in order to preserve their original intention.

Step two consisted of systematically scanning the data and manually generating initial codes, into which thematically related extracts could later be assigned. Because selected codes were data-driven (rather than approached with specific questions in mind), multiple readings of the data set were required to ensure that equal attention was given to every item. Relevant data extracts were then copied from each transcript and filed under corresponding codes. This eventually produced a thematic 'map' - an overall conceptualisation of major themes (repeated patterns), that showed dominant data patterns, as well as the relationships between them. In step three, the initial codes were organised into 5 overarching themes and 10 sub-themes (see figure 1).

Figure 1. Initial themes and sub-themes formulated during step three of thematic analysis
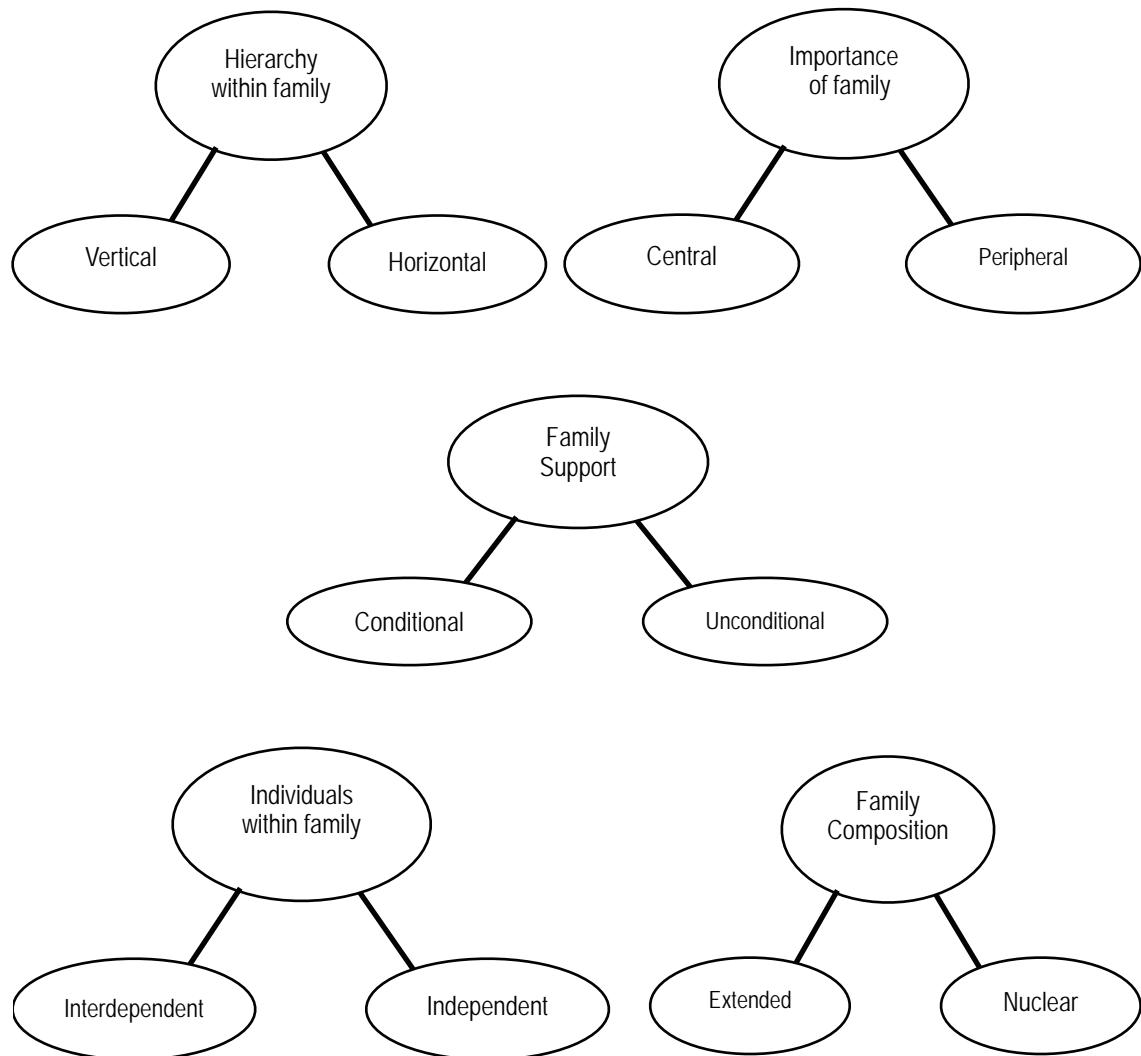
In step four, those themes were reviewed and refined numerous times. This procedure involved re-reading coded data extracts to ensure they cohered together under clear and distinct themes (ensuring internal homogeneity), then testing those themes against the overall data set to ensure external homogeneity. During this process, 1 item was discarded due to insufficient data (See figure 2). Step five consisted of further refining and defining the essence of each theme, and assigning an appropriate name to each theme. In the final formulation, 3 conceptually distinct themes and 7 sub-themes were identified.

Importance of family

Central

Peripheral

Hierarchy within family

Vertical

Horizontal

Family Support

Conditional

Unconditional

Individuals within family

Interdependent

Independent

Step six involved interpreting and analysing the constructs captured by each theme and producing a report that outlined the important aspects of each.

Figure 3. Final conceptualisation of themes and sub-themes in the thematic analysis

Idiocentrism/ Individualism

Personal needs before family needs

Personal success is of personal importance

Independent individuals, unaffected by one another's problems

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                    ┌─────────────┐
                    │ Allocentrism/│
                    │ Collectivism │
                    └─────────────┘
         ╱                 │                 ╲
  ┌──────────────┐         │          ┌──────────────┐
  │    Family    │         │          │ Unconditional│
  │needs before  │         │          │   support    │
  │personal needs│         │          └──────────────┘
  └──────────────┘  ┌──────────────┐
                    │   Family/    │
                    │whanau wellbeing is│
                    │central to indiividual│
                    │  wellbeing   │
                    └──────────────┘
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              ┌──────────────┐
              │Family Culture│
              └──────────────┘
                     │
                     │
              ┌──────────────┐
              │  Horizontal  │
              └──────────────┘
```
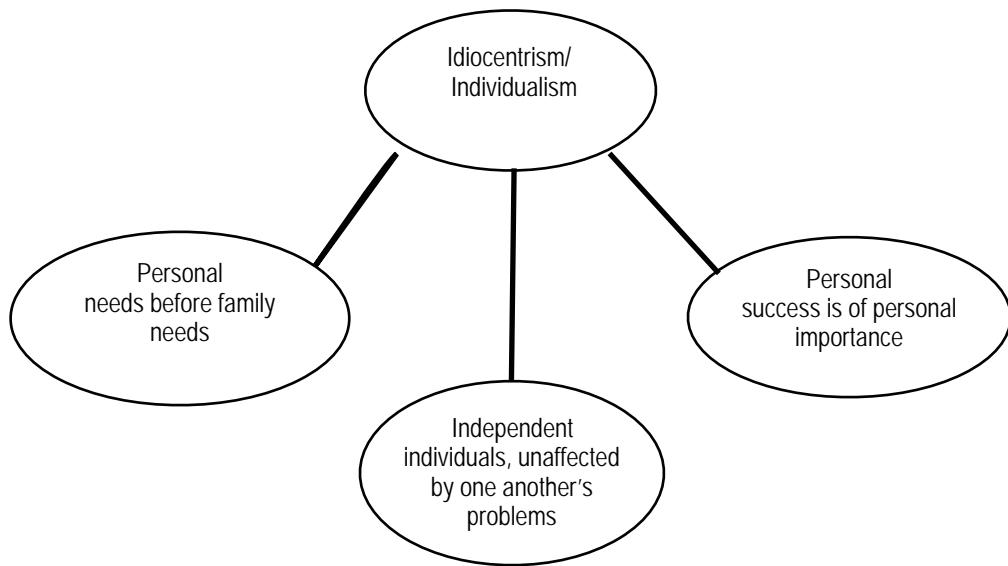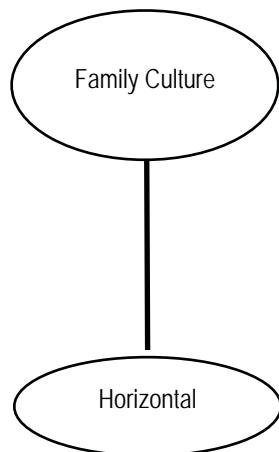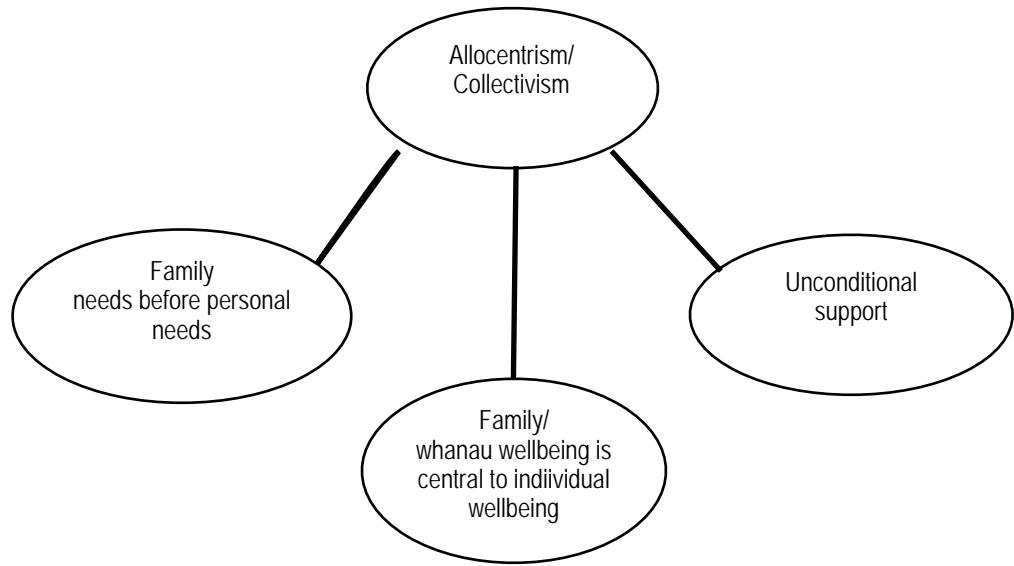
Procedure and ethical considerations

This project was reviewed and approved by the Massey University Human Ethics Committee (MUHEC; Northern, Application 10/062). The letter affirming ethical approval is provided in Appendix I.

Permission to approach high school students was obtained from the Principal of each high school, and their respective Year Deans. In accordance with the MUHEC Code of Ethical Conduct, minimal class time was used to distribute the surveys and explain the research. During school visits, the researcher briefly explained the study at a school assembly and survey packs were administered to interested students immediately after. Students who wanted to complete an interview with the researcher were asked to express their interest by contacting

the researcher using the details provided in the Information Sheet. Both survey and interview students were informed of their rights as a participant in the study through the Information Sheet (see Appendix A). These included the right to refuse to answer any questions and to ask the researcher any questions related to the study. In acknowledgement of their rights and in accordance with MUHEC guidelines, all participants were asked to obtain parental consent before completing the questionnaire and returning it (Appendix E). As well as obtaining parental consent, interview participants were asked to sign a consent form allowing the interview to be recorded (Appendix G). As part of the commitment to share the research findings with those who provided the knowledge, all participating schools were sent a summary of the results, and all interview participants were sent a summary of the study's procedures and its main findings.

As the interviews were conducted face to face and contact was made either by phone or email, participation in Part II of the study was not anonymous. Participant's confidentiality was protected by having the researcher sign a confidentiality agreement and assigning each audio file and transcript a three-digit number (which was the only form of identification used on all of the files). Participant's name and contact details were then separately filed and locked in a secure cabinet. The link between the ID numbers and the participant's identities were stored in an electronic document with password protection. Similar measures were taken for those survey participants who provided parental consent forms and contact details for the ipod draw. Upon receipt of the completed questionnaires, the participant's name and contact details, along with consent form were separated from the questionnaire and locked in a secure cabinet. This removed any links between individual participants and questionnaires.

All interview participants were offered either a gift box of chocolates or a Bennetts book voucher to the value of $10.00, as reimbursement for the time and effort spent completing the interviews. All survey participants were entered into the draw to win an ipod. This study was supported by funding from the Massey University Post Graduate Research Fund (PGRF).

CHAPTER EIGHT

RESULTS PART I: STATISTICAL ANALYSIS

Participants survey responses were entered into the Statistical Package for the Social Sciences version 19.0 (SPSS), a computer software package for various inferential and descriptive statistical analyses. Each respondent was allocated a coded numerical value for data entry and subsequent statistical analyses. Categorical variables such as *Maori/NZ European* or *Male/Female* responses were entered on a nominal scale, while all subjective ratings, such as the level of agreement with each statement on the CES-DC, GF-FAD or I-CS scale, were entered as the actual value rated on the respective 3-point, 4-point and 9-point Likert-scales. For chi-square analyses and bivariate correlation analyses, scores on the GF-FAD were dichotomised above and below the cut-off of 2 (e.g. dysfunctional $> = 2$), which produced the categorical variables *Functional/ Dysfunctional.* This procedure was repeated for scores on the CES-DC, which were dichotomised above and below the cut-off of 16 (e.g. depressed $> =16$) to produce the categories *Non-depressed/Depressed.* Participant's sub-scale scores on the I-CS were individually examined and the cultural orientation scale most highly endorsed by each respondent was identified as their dominant cultural orientation.

Screening and missing data

All participants' responses on the GF-FAD, CES-DC and I-CS were screened for outliers, normality and missing data. For Maori participants, there were normal distributions of scores for the GF-FAD scale, as well as the summed individualism and collectivism sub-scales of the I-CS, but not the CES-DC scale, as indicated by the Kolmogorov-Smirnov statistic. In contrast, for NZ European participants, scores on the summed collectivism sub-scale of the I-CS, the CES-DC and the GF-FAD scale were not normally distributed. This would largely be due to the positive skewness of responses, as the NZ European participants scored very low on collectivism, depression and family dysfunction. Pallant (2007) has argued that violations of normality are not uncommon in large samples ($n = > 30$), and are unlikely to cause major problems in statistical analyses of between-group differences (Pallant, 2007). However, in cases where there were severe violations of normality, non-

parametric tests were used. In cases where respondent's questionnaires had missing data on a particular scale, their responses for that measure were excluded from subsequent analyses.

Data analyses

Descriptive statistics were initially conducted to examine the participant's characteristics in relation to depression, family dysfunction and cultural orientation. Hypothesis one, which predicted that Maori adolescents would score more highly than NZ European adolescents on a measure of depression, was tested using data from 171 NZ European students and 102 Maori students. A 2-by-2 chi-square test of contingencies was used to examine the relationship between ethnicity and depression as the assumptions of normality for Pearsons product-movement correlation coefficient were not met. Hypothesis two, which predicted that females would report higher levels of depression than males, was tested with a sample of 164 females and 111 males. As in the previous analysis, a 2-by-2 chi-square test of contingencies was used to examine the relationship between gender and depression because the assumptions of normality were violated. Hypothesis three used an independent samples *t* test to examine the relationship between ethnicity and collectivism. Likewise, hypothesis four used an independent samples *t* test to evaluate the relationship between NZ European ethnicity and individualism. Hypothesis five, which predicted that family dysfunction would correlate with depression scores for all participants, was tested using Spearman's rank correlation coefficient (r^s). Additional correlational analyses also used the r^s statistic due to violations of normality. However the correlation analysis between family dysfunction and depression for Maori adolescents specifically, used Pearson's product-movement correlation coefficient (*r*) because the normality assumptions for each variable were met. Multiple regression analyses were conducted to determine the amount of variance in depression scores that could be explained by family dysfunction and gender. Hypothesis six employed hierarchical multiple regression analysis to examine whether or not individualism and/or collectivism would moderate the relationship between family functioning and depression.

Selection of statistics

Due to the large sample size, statistical power was not a concern for the

majority of analyses. However, having a large sample increased the risk of committing a Type-I error. The risk of Type-I-error in each analysis is shown by value of p, and in most cases was set at the 0.05 significance level, to minimise the risk of committing a Type-I error.

Descriptive statistics

Participants completed the I-CS (Singelis et al., 1995) as a measure of cultural orientation. The mean scores for HC ($M = 6.49$, $SD = 1.13$), HI ($M = 6.80$, $SD = .94$), VC ($M = 5.36$, $SD = 1.15$) and VI ($M = 4.96$, $SD = 1.32$) for Maori participants were higher than those obtained by previous research with Maori students (e.g. Tassell et al., 2010, see Appendix J), though the rank order of sub-scale mean scores remained identical. The discrepancy in mean scores would be largely due to the difference in scale points (e.g. the Tassell et al., study measured I-CS items on a 7-point Likert scale). The HC and HI scores of Maori participants in the present study were also comparatively higher than those recorded in previous research with international samples, (as presented in Appendix J), with the exception of Soh & Leong's (2002) sample of American university students. Maori participants in the present study scored higher on the HC ($M = 6.65$, $SD = 1.20$), HI ($M = 6.90$, $SD = .90$), and VC ($M = 5.71$, $SD = 5.72$) sub-scales, and lower on the VI ($M = 4.93$, $SD = 1.37$) sub-scale, than NZ European respondents from the present study (HC - $M = 6.38$, $SD = 1.08$; HI - $M = 6.73$, $SD = .966$; VC - $M = 5.14$, $SD = 1.16$; VI - $M = 4.97$, $SD = 1.27$). However, the cultural orientation sub-scales for both groups, were ranked in the same order of preference, and the mean score for the VI sub-scale of each group, was near identical e.g. $M = 4.93$, $SD = 1.37$ for Maori adolescents, and $M = 4.97$, $SD = 1.27$ for NZ Europeans.

To obtain an overview of the socio-economic status (SES) of participants in the present study, school decile was entered into SPSS as a categorical variable. The variable was dichotomised above and below the median of decile 5, and entitled '> = decile 6' and '< decile 6'. It is acknowledged that school decile is not an ideal measurement of SES, however it was the only device available to assign participants to a respective SES category. Additional categorical variables used to describe the characteristics of the present sample included

Location (*Rural/Urban*), school authority (*Christian/State*) and school gender (*Single-sex/Co-ed*). A detailed overview of those characteristics can be found in Appendix F.

HYPOTHESIS 1: ETHNICITY AND DEPRESSION

The first hypothesis stated that Maori youths would report more depression than NZ European youths. Based on the criteria established by Weissman et al., (1980), participants were defined as depressed, if their score on the CES-DC was ≥ 16. Participants who scored < 16 were categorized as non-depressed. Due to violations of normality within both samples, a Pearson's chi square test of contingencies (with $a = .05$) was used to examine the relationship between ethnicity and depression. The chi square test was statistically non-significant, χ^2 (1, $N = 273$) = 0.53, $p = .818$, $\Phi = .014$, indicating that ethnicity had no statistically significant relationship to levels of depression, as measured by the CES-DC. As illustrated by figure 3, the distribution of depressed and non-depressed scores between the two samples was near identical. It is noteworthy to mention however, that the mean depression score for the entire sample was $M = 16.1$ ($SD = 9.58$), placing it above the cut-off for depression.

Figure 4. Pie charts illustrating that the distribution of depressed and non-depressed Maori and NZ Europeans adolescents was approximately the same

Maori adolescents   NZ European adolescents

● Depressed   ● Non-depressed
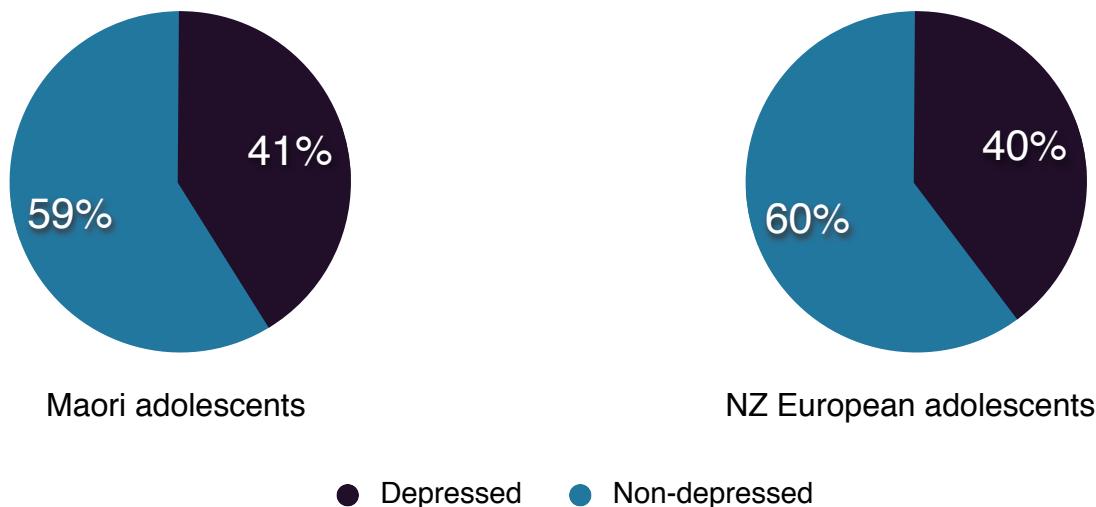
HYPOTHESIS 2: GENDER AND DEPRESSION

The second hypothesis stated that female participants would report more depression than male participants. Normal distribution of the female sample for this analysis could not be achieved, so a Pearson's chi-square test of contingencies (with a = .05) was used to evaluate whether gender was related to depression. The chi-square test was not statistically significant, χ^2 (1, N = 275) = .908, p = .341, Φ = .057, suggesting that gender had no statistically significant relationship to levels of depression in the sample of Maori and NZ European high school students. As illustrated in Figure 4, the distribution of depressed and non-depressed scores, as measured by the CES-DC was similar within both male and female samples. Inspection of the mean CES-DC scores within each categorical variable (e.g. school decile, location) however, showed that mean depression scores for girls at a gendered high school (M = 18.44, SD = 9.10) were the highest of any other group and almost three points higher than the mean score for boys at a gendered high school (M = 15.78, SD = 10.80). Within each ethnic group, gender comparisons further showed that 42.0% of Maori males were depressed compared with 40.4% of Maori females. In addition, 32% NZ European females were depressed compared with 43.6% of NZ European females (see Appendix K for a comparison table of depression scores).

Figure 5. Pie charts illustrating that the distribution of depressed and non-depressed participants was similar for both the male adolescent and female adolescent samples

Female adolescents   Male adolescents

● Depressed   ● Non-depressed
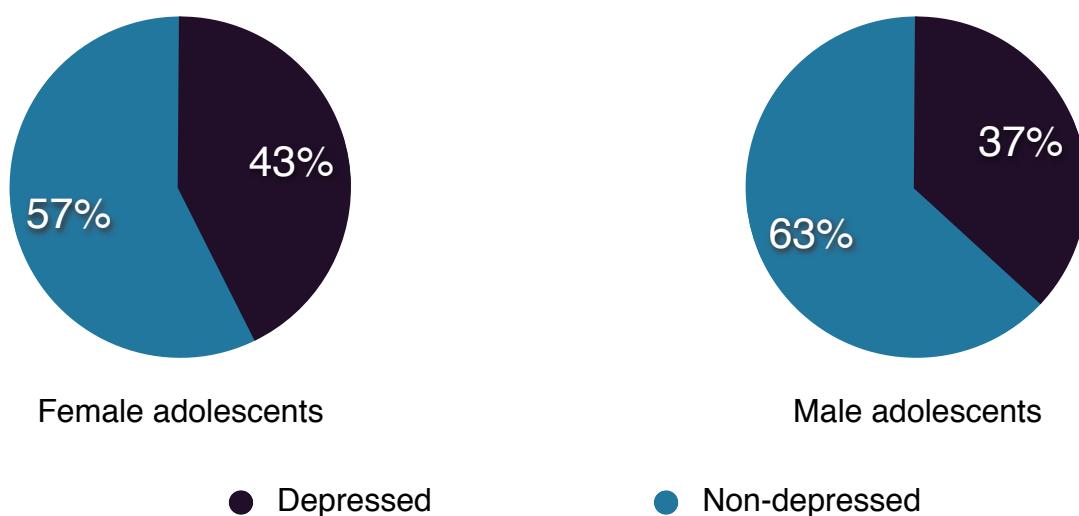
HYPOTHESIS 3: MAORI AND COLLECTIVISM

The third hypothesis stated that Maori adolescents would report higher collectivism scores than NZ European adolescents. By summing the mean scores of each group on the HC and VC sub-scales of the I-CS, an overall collectivism (COLL) score for each Maori and NZ European sample was obtained. The mean collectivism scores for each group are presented in table 4.

Table 4
Mean collectivism scores for Maori and NZ European high school students

Ethnicity	HC	*N*	VC	*N*	Sum score (COLL)	*N*	Sum score Averaged
Maori	53.22	111	45.74	111	98.80	109	6.17
	(9.64)		(8.40)		(16.04)		(1.00)
NZ European	51.00	176	41.10	177	92.11	173	5.76
	(8.66)		(9.30)		(16.02)		(1.00)

An independent samples *t* test was used to compare the difference in collectivism scores reported by Maori (*N* = 111) and NZ European (*N* = 176) participants. The Kolmogorov-Smirnov statistic for the Maori sample was not significant, *W*(109) = .055, *p* = .200, indicating that the assumption of normality was not violated. However, a moderate violation of the normality assumption was found for the NZ European sample, *W*(173) = .077, *p* = .014. As the *t* test is considered robust against moderate violations of the normality assumption with samples > 40, violation of the Kolmogorov-Smirnov statistic for the NZ European group was not a concern. Additional checks showed that Levene's test was non-significant, which indicated that the assumption of equal variances was not violated. The *t* test was statistically significant, with the Maori sample (*M* = 98.80, *SD* = 16.05) reporting collectivism scores some 6.69 points higher, 95% CI [2.83, 10.55], than the NZ European group (*M* = 92.11, *SD* = 16.02), *t*(282) = 3.41, *p* < .001, two tailed, *d* = 0.42. The effect size of this finding is approaching medium (*d* = .50).

HYPOTHESIS 4: NZ EUROPEANS AND INDIVIDUALISM

It was hypothesized that NZ European adolescents would report higher levels of individualism than Maori adolescents. To obtain an overall individualism (IND)

score for each group, the HI and VI sub-scale scores for each participant, were summed. The mean individualism scores for each group are shown in table 5.

Table 5
Mean individualism scores for Maori and NZ European high schools adolescents

Ethnicity	HI	*N*	VI	*N*	Sum score (IND)	*N*	Average
Maori	55.24 (7.22)	108	39.50 (10.95)	110	94.86 (14.45)	105	5.93 (0.90)
NZ European	53.83 (7.73)	177	39.78 (10.20)	176	93.61 (13.43)	173	5.85 (0.84)

To examine the difference in individualism scores between the Maori and NZ European groups, an independent *t* test was conducted. Preliminary assumption testing indicated that scores for Maori (*M* = 94.86, *SD* = 14.45) and NZ European (*M* = 93.61, *SD* = 13.44) respondents on the individualism scale were normally distributed. Also, Levene's test was non-significant (.584), indicating equal variance between the samples. The *t* test was not statistically significant *t*(276) = 0.731, *p* = .466, two tailed, *d* = 0.005, 95% CI [-2.12, 4.62].

HYPOTHESIS 5: FAMILY DYSFUNCTION AND DEPRESSION

The fifth hypothesis stated that family dysfunction would positively correlate with depression scores for both Maori and NZ European high school adolescents. Prior to calculating the correlation statistic, the assumptions of linearity and homoscedasticity were examined and found to be violated. A visual inspection of the normal Q-Q and detrended Q-Q plots for each variable confirmed that the CES-DC scores were positively skewed, and had a Kolmogorov-Smirnov statistic of .134, *p* <.001. Similarly, scores for the GF-FAD were positively skewed with a Kolmogorov-Smirnov statistic of .078, *p* < .001. Thus, to assess the size and direction of the linear relationship between family functioning and depression scores for the entire adolescent sample, Spearman's rank correlation coefficient was calculated. Spearman's rho was statistically significant and indicated the presence of a weak positive correlation between family functioning and depression levels *r*^{s} = .229, *p* < .001, two tailed, *N* = 256.

Ethnicity differences

Maori adolescents

To assess the linearity and size of the correlational relationship between family functioning and depression for the Maori group only, a bivariate Pearson's product-movement correlation coefficient (r) was calculated. Prior to calculating r for the Maori group ($N = 88$), several tests showed that the assumptions of normality, linearity and homoscedasticity were not violated. Specifically, visual inspection of the normal Q-Q and detrended Q-Q plots for each variable confirmed that both were normally distributed. The bivariate correlation for the two variables was statistically non-significant, weak and positive, $r(86) = .189$, $p = .077$.

NZ European adolescents

Preliminary testing of family function and depression scores among the NZ European group, showed that the assumptions of normality were not supported for the depression variable. Thus, to examine the size and linearity of the relationship between family functioning and depression scores for this group, Spearman's rank correlation coefficient was calculated. Spearman's rho was statistically significant and indicated the presence of a weak and positive correlation between family functioning and depression scores for the NZ European adolescent sample, $r^s = .263$, $p < .001$, two tailed, $N = 166$. A comparison of correlation coefficients for each ethnic group is shown in table 6.

Table 6
Ethnicity comparison of correlation coefficients for family functioning and depression

Sample	r	rs^2	p	n
Total sample	-	0.229	0.001**	256
Maori	0.189	-	0.077	88
NZ European	-	0.263	0.001**	166

** $p < .001$, two tailed

Gender differences

Female adolescents

To examine any differences in the linearity and size of the correlational relationship between family functioning and depression for males and females,

Spearman's rank correlation coefficient was calculated for each group because neither sample met the assumptions of normality on the depression variable. For the female group, Spearman's rho was statistically significant and indicated the presence of a weak and positive correlation between family functioning and depression scores, $r^s = .186$, $p = .020$, two tailed, $N = 155$.

Male adolescents

For the male sample, Spearman's rho was statistically significant and indicated the presence of a moderate and positive correlation between family functioning and depression scores, $r^s = .363$, $p = <.001$, two tailed, $N = 101$. A comparison of correlation coeffiecients for each gender is shown in table 7.

Table 7
Gender comparison of correlation coefficients for family functioning and depression

Sample Group	rs^2	p	n
Male	0.363	0.01**	101
Female	0.186	0.02*	155

* $p < .05$, two tailed

**$p < .001$, two tailed

Gender comparisons within ethnic groups

Maori female adolescents

For the Maori female sample, Spearman's rho was statistically non-significant, and indicated the presence of a weak and negative correlation, $r^s = -.111$, $p = .469$, $N = 45$.

Maori male adolescents

For Maori males specifically, Spearman's rho was statistically significant and indicated the presence of a moderate and positive correlation between family functioning and depression, $r^s = .406$, $p < .05$, two tailed, $N = 43$.

NZ European female adolescents

For the NZ European female sample, Spearman's rho was statistically significant and indicated a weak and positive correlation, $r^s = .275$, $p = .004$, two tailed, $N = 108$.

NZ European male adolescents

For the NZ European male sample, Spearman's rho was statistically significant and indicated a moderate and positive correlation, r^s = .357, p = .006, two tailed, N = 58. A comparison of gender correlation coefficients within each ethnic group is presented in table 8.

Table 8
Gender and ethnicity comparison of correlation coefficients for family functioning and depression

Sample Group	rs ^{2}	p	N
Maori Male	0.406	.007*	43
Maori Female	-0.091	0.56	44
NZ European Male	0.357	0.06*	58
NZ European Female	0.265	0.00	98

*p <.05, two tailed

Multiple regression analyses for the Maori sample

To estimate the proportion of variance in the Maori depression scores that could be accounted for by perceived family functioning and gender, a standard multiple regression analysis (MRA) was performed. Preliminary assumption testing with boxplots indicated that the CES-DC variable in the regression had numerous univariate outliers. Upon removal of those outliers, inspection of the normal probability plot of standardized residuals against standardized predicted values indicated that the assumptions of normality, linearity and homoscedasticity of residuals were met with only mild violations. Mahalanobis distance did not exceed the critical (13.816) χ^2 for df = 2 (at a = .001), as the maximum distance was 6.092 for any cases in the data file, indicating that multivariate outliers were not of concern. High tolerances for both predictors in the regression model indicated that multicollinearity would not interfere with ability to interpret the outcome of the MRA. In combination, family functioning and gender accounted for a statistically non-significant 1% of the variability in depression scores, R^2 = .011, adjusted R^2 = -.015, F (2, 81) = .421, p = .658. Unstandardized (B) and standardized (β) regression coefficients, and semi-

partial (or 'part') correlations (sr^2) for each predictor in the regression model are reported in Table 9.

Table 9

Unstandardised (B) and Standardised (β) Regression Coefficients, and squared Semi-Partial Correlations (sr^2) For Each Predictor in a Regression Model Predicting Depression Scores for Maori adolescents, N =82

Variable	B	β	sr^2
Family functioning	-0.166	-0.009	-0.009
Gender	-1.531	-0.103	-0.102

Multiple regression analyses for the NZ European sample

To estimate the proportion of variance in the NZ European depression scores that could be accounted for by perceived family functioning and gender, a standard multiple regression analysis (MRA) was performed. Prior to interpreting the results of the MRA, several assumptions were evaluated. First, boxplots indicated that the family functioning variable in the regression had numerous univariate outliers. After removing outliers, inspection of the normal probability plot of standardised residuals against standardised predicted values indicated that the assumptions of normality, linearity and homoscedasticity of residuals were met. Second, Mahalanobis distance did not exceed the critical (13.816) χ^2 for $df = 2$ (at $a = .001$), as the maximum distance was 8.303 for any cases in the data file, indicating that multivariate outliers were not of concern. Third, relatively high tolerances for both predictors in the regression model indicated that multicollinearity would not interfere with our ability to interpret the outcome of the MRA. In combination, family functioning and gender accounted for a statistically significant 12% of the variability in depression scores, $R^2 = .115$, adjusted $R^2 = .103$, $F (2, 154) = 9.86$, $p < .001$. Unstandardized (B) and standardized (β) regression coefficients, and semi-partial (or 'part') correlations (sr^2) for each predictor in the regression model are reported in Table 10.

Table 10
Unstandardised (B) and Standardised (β) Regression Coefficients, and squared Semi-Partial Correlations (sr²) For Each Predictor in a Regression Model Predicting Depression Scores for NZ European adolescents, N =155

Variable	*B*	β	*sr²*
Family functioning	5.209	0.298	0.281
Gender	-3.999	-0.252	-0.245

HYPOTHESIS 6: MODERATION ANALYSES

The sixth hypothesis stated that cultural orientation would moderate the relationship between family functioning and depression for the Maori and NZ European adolescents.

Moderation 1: Individualism

To examine whether or not individualism would act as a moderating variable in the family functioning-depression relationship for the entire sample, hierarchical multiple regression analysis (HMRA) was employed. Before interpreting the results of the HMRA, numerous assumptions were tested and checks were performed. First, the Shapiro-Wilk statistic indicated that the CES-DC and GF-FAD variables in the regression model were not normally distributed and inspection of boxplots indicated that they had several univariate outliers. Once those outliers were removed, each variable in the regression model was approximately normally distributed. Second, inspection of the normal probability plot of standardised residuals and the scatterplot of standardised residuals against standardised predicted values indicated that the assumptions of normality, linearity and homoscedasticity of residuals were met. Third, Mahalanobis distance exceeded the critical χ^2 for *df* = 3 (at *a* = .001) of 16.266, indicating that some cases in the data file had multivariate outliers. As those outliers did not appear to influence the overall distribution of each variable, they were ignored. Fourth, relatively high tolerances for all three predictors in the final regression model indicated that multicollinearity would not interfere with ability to interpret the outcome of the HRA. As recommended by Aiken & West (1991), each predictor variable in the regression model was centered by subtracting its mean score from individual values.

On step 1 of the hierarchical HMRA, individualism accounted for a non-significant .04% of the variance in depression scores, $R^2 = .004$, $F(1, 215) = .862$, $p = .354$. On step 2, the GF-FAD scores were added to the regression equation and accounted for a statistically significant additional 3% of the variance in depression, $R^2_{change} = .031$, $F_{change}(2, 214) = 3.918$, $p < .05$. In the final step of the regression analysis, an interaction term between individualism sub-scale scores and GF-FAD scores was created, which accounted for an additional statistically significant .01% proportion of the variance in depression scores, $R^2_{change} = .001$, $F_{change}(3, 213) = 2.68$, $p < .05$. In combination, the three predictor variables explained 4% of the variance in depression scores, $R^2 = .036$, adjusted $R^2 = 0.23$, $F(3, 213) = .862$, $p = < .05$. Standardized (β) regression coefficients, R, R^2, and adjusted R^2 statistics for each predictor in the regression model are reported in Table 11.

Table 11
Hierarchical multiple regression of Individualism, GF-FAD and the interaction of Individualism on depression showing standardised beta coefficients (β), R, R^2, and adjusted R^2 for total sample

Predictor	Step 1: β	Step 2: β	Step 3: β
Individualism	-0.063	-0.048	-0.047
GF-FAD	-	-0.048*	0.176*
Individualism x GF-FAD	-	-	-0.032
R	0.063	0.188	0.191
R²	0.004	0.035	0.36
Adjusted R²	-0.001	0.026	0.023
R² change	0.004	0.031*	0.001*

*p<.05, **p<.01, ***p<.001

Moderation 2: Collectivism

To test whether collectivism would moderate the relationship between family functioning and depression for the entire sample, another hierarchical multiple regression analysis was conducted. After removing several univariate outliers on the GF-FAD and CES-D variables, preliminary testing indicated that the assumptions for normality, homoscdasticity and linearity were met, however the

Mahalanobis distance again exceeded the critical χ^2 for $df = 3$ (at $a = .001$) of 16.266, which indicated that some cases in the data file had multivariate outliers. As inspection of the normal probability plot of standardised residuals and the scatterplot of standardised residuals against standardised predicted values outliers showed that the multivariate outliers did not appear to influence the overall distribution of each variable, they were ignored.

On step 1 of the regression equation, collectivism as a predictor was statistically non-significant and did not account for any of the variance in depression scores, $R^2 = .000$, F (1, 219) = .003, $p = .956$. On step 2 of the regression equation, the GF-FAD was added to the regression equation and accounted for an additional, statistically significant 4% of the variance in depression scores, $R^2_{change} = .040$, $F_{change}(2, 218) = 9.15$, $p < .05$. In the final step of the regression analysis, an interaction term between collectivism and GF-FAD scores was created, which accounted for an additional, statistically significant .03% proportion of the variance in depression scores, $R^2_{change} = .003$, F_{change} (3, 217) = .732, $p < .05$. In combination, the three predictor variables explained 4% of the variance in depression scores, $R^2 = .044$, adjusted $R^2 = 030$, F (3, 217) = .3.3, $p < .05$. Standardized (β) regression coefficients, R, R^2, and adjusted R^2 statistics for each predictor in the regression model are reported in Table 12.

Table 12

Hierarchical multiple regression of Collectivism, GF-FAD and the interaction of Collectivism on depression showing standardised beta coefficients, R, R², and adjusted R² for total sample

Predictor	Step 1: β	Step 2: β	Step 3: β
Collectivism	-0.004	0.073	0.067
GF-FAD	-	0.215**	0.211**
Collectivism x GF-FAD	-	-	0.057
R	0.004	0.201	0.209
R²	0.000	0.040	0.044
Adjusted R²	-0.005	0.031	0.030
R² change	0.000	0.04*	0.003*

*p<.05, **p<.01, ***p<.001

To further test this hypothesis, the samples' scores were analysed by gender and ethnicity to determine whether or not there were significant differences.

Moderation 3: Maori females and Collectivism

To test the hypothesis that collectivism would moderate the relationship between family functioning and depression for Maori females specifically, HMRA was used. On step 1 of the regression equation, collectivism as a predictor was statistically non-significant and did not account for any of the variance in depression scores, R^2 = .000, F (1, 38) = .014, p = .905. On step 2 of the regression equation, the GF-FAD was added to the regression equation. The GF-FAD variable was statistically non-significant and did not account for any additional variance in depression scores, R^2_{change} = .000, F_{change} (2, 37) = .000, p = .993. In the final step of the regression analysis, an interaction term between collectivism and GF-FAD scores was created, which accounted for a statistically non-significant 1% proportion of the variance in depression scores, R^2_{change} = .013, F_{change} (3, 36) = .486, p = .918. In combination, the three predictor variables explained 1% of the variance in depression scores, R^2 = .014, adjusted R^2 = -.69, F (3, 36) = .166, p = .490. Standardized (β) regression coefficients, and R, R^2, and adjusted R^2 statistics for each predictor in the regression model are reported in Table 13.

Table 13
Hierarchical multiple regression of Collectivism, GF-FAD and the interaction of Collectivism on depression showing standardised beta coefficients, R, R^2, and adjusted R^2 for Maori females

Predictor	Step 1: β	Step 2: β	Step 3: β
Collectivism	0.19	0.19	0.005
GF-FAD	-	-0.002	-0.057
Collectivism x GF-FAD	-	-	-0.126
R	0.019	0.020	0.117
R^2	0.000	0.000	0.014
Adjusted R^2	-0.026	-0.054	-0.069
R^2 change	0.000	0.000	0.013

*p<.05, **p<.01, ***p<.001

Moderation 4: Maori females and Individualism

To examine whether individualism would moderate the relationship between family functioning and depression for Maori females specifically, another HMRA was conducted. On step 1 of the regression equation, individualism as a

predictor was statistically non-significant and accounted for .02% of the variance in depression scores, $R^2 = .002$, $F (1, 35) = .082$, $p = .776$. On step 2 of the regression equation, the GF-FAD was added to the regression equation and did not account for any change in variance of depression scores, $R^2_{change} = .000$, $F_{change} (2, 34) = 010$, $p = .956$. In the final step of the regression analysis, an interaction term between individualism and GF-FAD scores was created, which accounted for a statistically non-significant additional 19% proportion of the variance in depression scores, $R^2_{change} = .185$, $F_{change} (3, 33) = 7.50$, $p = .074$. In combination, the three predictor variables explained 19% of the variance in depression scores, $R^2 = .187$, adjusted $R^2 = .113$, $F (3, 33) = .2.53$, $p = .074$. Standardized (β) regression coefficients, and R, R^2, and adjusted R^2 statistics for each predictor in the regression model are reported in Table 14.

Table 14
Hierarchical multiple regression of Individualism, GF-FAD and the interaction of Individualism on depression showing standardised beta coefficients, R, R², and adjusted R² for Maori females

Predictor	Step 1: β	Step 2: β	Step 3: β
Individualism	-0.048	-0.045	0.016
GF-FAD	-	-0.017	-0.023
Individualism x GF-FAD	-	-	-0.434*
R	0.048	0.051	0.433
R²	0.002	0.003	0.187
Adjusted R²	-0.026	-0.056	0.113
R² change	0.002	0.000	0.185

*p<.05, **p<.01, ***p<.001

Moderation 5: Maori males and Collectivism

To test the hypothesis that collectivism would moderate the relationship between family functioning and depression for Maori males specifically, HMRA was used. On step 1 of the regression equation, collectivism as a predictor was statistically non-significant and accounted for 2% of the variance in depression scores, $R^2 = .023$, $F (1, 33) = .760$, $p = .390$. On step 2 of the regression equation, the GF-FAD was added to the regression equation and accounted for a statistically non-significant additional 6% of the variance in depression scores,

R^2_{change} = .057, F_{change} (2, 32) = 1.97, p = .267. In the final step of the regression analysis, an interaction term between collectivism and GF-FAD scores was created, which accounted for a statistically non-significant .02% proportion of the variance in depression scores, R^2_{change} = .002, F_{change} (3, 31) = .064, p = . 447, indicating that there was no interaction between family functioning and collectivism.

In combination, the three predictor variables explained 8% of the variance in depression scores, R^2 = .081, adjusted R^2 = .008, F (3, 31) = .912, p = .447. Standardized (β) regression coefficients, and R, R^2, and adjusted R^2 statistics for each predictor in the regression model are reported in Table 15.

Table 15
Hierarchical multiple regression of Collectivism, GF-FAD and the interaction of Collectivism on depression showing standardised beta coefficients, R, R^2, and adjusted R^2 for Maori males

Predictor	Step 1: β	Step 2: β	Step 3: β
Collectivism	-0.150	-0.054	-0.083
GF-FAD	-	0.257	0.276
Collectivism x GF-FAD	-	-	-0.059
R	0.150	0.281	0.285
R²	0.023	0.079	0.081
Adjusted R²	0.007	0.022	-0.008
R² change	0.023	0.057	0.002

*p<.05, **p<.01, ***p<.001

Moderation 6: Maori males and Individualism

To examine whether individualism would moderate the relationship between family functioning and depression for Maori males, another HMRA was conducted. On step 1 of the regression equation, individualism as a predictor was statistically non-significant and accounted for 3% of the variance in depression scores, R^2 = .034, F (1, 31) = 1.10, p = .302. On step 2 of the regression equation, the GF-FAD was added to the regression equation and accounted for an additional statistically significant 20% of the variance in depression scores, R^2_{change} = .203, F_{change} (2, 30) = 7.98, p = <.05. In the final step of the regression analysis, an interaction term between individualism and

GF-FAD scores was created, which accounted for a statistically non-significant additional .01% proportion of the variance in depression scores, R^2_{change} = .001, F_{change} (3, 29) = .037, p < .849. In combination, the three predictor variables explained 24% of the variance in depression scores, R^2 = .238, adjusted R^2 = .159, F (3, 29) = .3.02, p <.05, f^2 = .31. Standardized (β) regression coefficients, and R, R^2, and adjusted R^2 statistics for each predictor in the regression model are reported in Table 16.

Table 16
Hierarchical multiple regression of Individualism, GF-FAD and the interaction of Individualism on depression showing standardised beta coefficients, R, R², and adjusted R² for Maori males

Predictor	Step 1: β	Step 2: β	Step 3: β
Individualism	0.185	0.374*	0.376*
GF-FAD	-	0.489**	0.481*
Individualism x GF-FAD	-	-	0.032
R	0.185	0.487	0.488
R²	0.034	0.237	0.238
Adjusted R²	0.003	0.186	0.159
R² change	0.034	0.203*	0.001*

*p<.05, **p<.01, ***p<.001

Moderation 7: NZ European females and Individualism

To examine whether individualism would moderate the relationship between family functioning and depression for NZ European females, HMRA was again used. On step 1 of the regression equation, individualism as a predictor was statistically non-significant and accounted for .06% of the variance in depression scores, R^2 = .006, F (1, 91) = .592, p = .444. On step 2 of the regression equation, the GF-FAD was added to the regression equation and accounted for a statistically non-significant 5% of the variance in depression scores, R^2_{change} = .050, F_{change} (2, 90) = 4.81, p = .072. In the final step of the regression analysis, an interaction term between individualism and GF-FAD scores was created, which accounted for a statistically non-significant additional 1% proportion of the variance in depression scores, R^2_{change} = .011, F_{change} (3, 89) = 1.09, p = .097. In combination, the three predictor variables explained 7%

of the variance in depression scores, $R^2 = .068$, adjusted $R^2 = .037$, $F(3, 89) = $. 2.17, $p = .097$. Standardized (β) regression coefficients, and R, R^2, and adjusted R^2 statistics for each predictor in the regression model are reported in Table 17.

Table 17
Hierarchical multiple regression of Individualism, GF-FAD and the interaction of Individualism on depression showing standardised beta coefficients, R, R^2, and adjusted R^2 for NZ European females

Predictor	Step 1: β	Step 2: β	Step 3: β
Individualism	-0.080	-0.028	-0.007
GF-FAD	-	0.231*	0.275*
Individualism x GF-FAD	-	-	0.116
R	0.080	0.238	0.261
R^2	0.006	0.057	0.068
Adjusted R^2	-0.004	0.036	0.037
R^2 change	0.006	0.050	0.011

*p<.05, **p<.01, ***p<.001

Moderation 8: NZ European females and Collectivism

To test the hypothesis that collectivism would moderate the relationship between family functioning and depression for NZ European females, another HMRA was conducted. On step 1 of the regression equation, collectivism as a predictor was statistically non-significant and accounted for 2% of the variance in depression scores, $R^2 = .018$, $F(1, 92) = 1.67$, $p = .200$. On step 2 of the regression equation, the GF-FAD was added to the regression equation and accounted for a statistically significant additional 8% of the variance in depression scores, $R^2_{change} = .076$, $F_{change}(2, 91) = 7.58$, $p < .05$. In the final step of the regression analysis, an interaction term between collectivism and GF-FAD scores was created, which accounted for a statistically significant additional 1% proportion of the variance in depression scores, $R^2_{change} = .012$, $F_{change}(3, 90) = 1.21$, $p < .05$, $f^2 = .117$. In combination, the three predictor variables explained 10% of the variance in depression scores, $R^2 = .105$, adjusted $R^2 = .076$, $F(3, 90) = .3.56$, $p = < .05$. Standardized (β) regression coefficients, and R, R^2, and adjusted R^2 statistics for each predictor in the regression model are reported in Table 18.

Table 18
Hierarchical multiple regression of Collectivism, GF-FAD and the interaction of Collectivism on depression showing standardised beta coefficients, R, R^2, and adjusted R^2 for NZ European females

Predictor	Step 1: β	Step 2: β	Step 3: β
Collectivism	-0.133	-0.043	-0.019
GF-FAD	-	0.289	0.285
Collectivism x GF-FAD	-	-	0.113
R	0.133	0.306	0.325
R^2	0.018	0.093	0.105
Adjusted R^2	0.007	0.073	0.076
R^2 change	0.018	0.076	0.012

*p<.05, **p<.01, ***p<.001

Moderation 9: NZ European males and Individualism

To examine whether individualism would moderate the relationship between family functioning and depression for NZ European males, HMRA was again used. On step 1 of the regression equation, individualism as a predictor was statistically non-significant and accounted for .04% of the variance in depression scores, $R^2 = .004$, $F(1, 50) = .217$, p = .643. On step 2 of the regression equation, the GF-FAD was added to the regression equation and accounted for a statistically non-significant 8% of the variance in depression scores, $R^2_{change} = .083$, $F_{change}(2, 49) = 4.45$, $p = .107$. In the final step of the regression analysis, an interaction term between individualism and GF-FAD scores was created, which was statistically non-significant and did not account for any proportion of the variance in depression scores, $R^2_{change} = .000$, $F_{change}(3, 48) = 000$, $p = .219$. In combination, the three predictor variables explained 9% of the variance in depression scores, $R^2 = .087$, adjusted $R^2 = .030$, $F(3, 48) = .1.53$, $p = .219$. Standardized (β) regression coefficients, and $R, R^2,$ and adjusted R^2 statistics for each predictor in the regression model are reported in Table 19.

Table 19
Hierarchical multiple regression of Individualism, GF-FAD and the interaction of Individualism on depression showing standardised beta coefficients, R, R², and adjusted R² for NZ European males

Predictor	Step 1: β	Step 2: β	Step 3: β
Individualism	-0.466	-0.322	-0.300
GF-FAD	-	0.289*	0.289
Individualism x GF-FAD	-	-	0.000
R	0.066	0.295	0.295
R²	0.004	0.087	0.087
Adjusted R²	-0.016	0.050	0.030
R² change	0.004	0.083	0.000

*p<.05, **p<.01, ***p<.001

Moderation 10: NZ European males and Collectivism

To test the hypothesis that collectivism would moderate the relationship between family functioning and depression for NZ European males, a final HMRA was conducted. On step 1 of the regression equation, collectivism as a predictor was statistically non-significant and accounted for 3% of the variance in depression scores, $R^2 = .029$, $F(1, 48) = 1.45$, p = .234. On step 2 of the regression equation, the GF-FAD was added to the regression equation and accounted for a statistically non-significant additional 9% of the variance in depression scores, $R^2_{change} = .092$, $F_{change}(2, 47) = 3.22$, $p = .104$. In the final step of the regression analysis, an interaction term between collectivism and GF-FAD scores was created, which accounted for a statistically non-significant additional 3% proportion of the variance in depression scores, $R^2_{change} = .032$, $F_{change}(3, 46) = 1.69$, $p = .105$. In combination, the three predictor variables explained 12% of the variance in depression scores, $R^2 = .124$, adjusted $R^2 = .067$, $F(3, 46) = .2.17$, $p = .105$. Standardized (β) regression coefficients, and R, R^2, and adjusted R^2 statistics for each predictor in the regression model are reported in Table 20.

Table 20
Hierarchical multiple regression of Collectivism, GF-FAD and the interaction of Collectivism on depression showing standardised beta coefficients, R, R^2, and adjusted R^2 for NZ European males

Predictor	Step 1: β	Step 2: β	Step 3: β
Collectivism	0.171	0.258	0.405*
GF-FAD	-	0.264	0.110
Collectivism x GF-FAD	-	-	-0.304
R	0.171	0.303	0.352
R^2	0.029	0.092	0.124
Adjusted R^2	0.009	0.053	0.067
R^2 change	0.029	0.062	0.032

*p<.05, **p<.01, ***p<.001

SUMMARY OF RESULTS FOR PART I

The present study found that there was no statistically significant difference between the depression scores of Maori and NZ European adolescents. This study also found that gender was not significantly related to the depression scores of New Zealand adolescents. Statistical analyses showed that Maori adolescents scored significantly higher than NZ European adolescents on a measure of collectivism, but there was no statistically significant difference between the groups on a measure of individualism. Further analyses showed that family dysfunction was positively correlated with depression scores for all adolescents. However, when analyses by ethnicity and gender were conducted, a statistically significant relationship between family dysfunction and depression was found for the Maori male and NZ European groups only. Additionally, the relationship was stronger for males in both ethnic groups, than for females. MRA revealed that the combination of gender and family dysfunction accounted for a statistically significant 12% of the variance in depression scores among NZ European adolescents, but only 1% of the variance in depression among Maori adolescents. HMRA revealed that collectivism moderated the relationship between family dysfunction and depression for NZ European females only, but for Maori males in the individualistic regression model, family functioning accounted for a statistically significant 20% of the variance in depression scores.

CHAPTER NINE

RESULTS PART II: THEMATIC ANALYSIS REPORT

After conducting the thematic analysis (Braun & Clarke, 2006), participant responses were categorised into three main areas. The first area 'idiocentrism/ individualism' was characterised by three dominant sub-themes. The second area 'allocentrism/collectivism' was characterised by an additional three sub-themes, and the third area 'family culture' was comprised of one dominant sub-theme. The sub-themes in each category overlap to some extent, but taken together, provide a comprehensive overview of the researcher's interpretation of the interviewee's perceptions of family and cultural orientation. Any quotes are "*written in italics and surrounded by double quotation marks*" to indicate that they are the verbatim words of the interviewees. Direct quotes are attributed to individual participants, who have been allocated pseudonyms. Where [...] appears in a direct quote, data unrelated to the theme, has been omitted in the interests of brevity. Where [with a word inside] appears within a direct quote, the word refers to a noun that has been changed to protect the privacy of the interviewee. Where (with words inside) appear within a direct quote, it indicates the voice of the interviewer asking a question, or providing the English translation for Maori words. Within each theme, a summary of the data is presented, and in the discussion section, the implications of the analysis in relation to the key objectives of the research, are presented. As participant responses were embedded in the context of family, the aim of this analysis was simply to highlight areas of interest, not to draw conclusions about the generalisability of respondent's views. Thus, the sub-themes presented herein, represent the cultural values of interviewees in relation only to their families.

THEME 1: IDIOCENTRISM/INDIVIDUALISM

Each sub-theme in this category was identified by the frequency with which it appeared both across and within participant's transcripts. The sub-themes were titled:

1.1   Personal needs before family needs

1.2   Independent individuals, unaffected by one another's problems

1.3   Personal success is of paramount importance

1.1 Personal needs before family needs

Several interviewees emphasised that taking care of one's own needs, desires, goals and ambitions was more important than tending to the needs of one's family members. Two questions from the interview schedule addressed this theme specifically. One asked participants to consider the importance of placing family needs before their own needs. The other asked participants to consider whether or not they would take a job opportunity that prevented them from seeing their family for a very long time. The majority of responses to the first question indicated that interviewees in general tended towards a collectivistic worldview and valued the prioritising of family needs over personal needs (as will be demonstrated in the next section). However, one interviewee illustrated a highly individualistic worldview regarding his family's needs.

> *"I usually put my needs before them. If mum and that wanna go out for lunch or something and I've got racing or something, I'll go and race before I go out with them. I just…always how I've been like. Mum'll be like 'do you wanna come?' and I'll be like nah, I'll go do my thing and yeah."*
>
> *NZ European, male, 17 years*
> *Shaun*

Shaun's response implies that he does not perceive any obligation to subordinate his needs to that of his family and thus, he feels justified in putting his personal needs and desires first. While it is possible that Shaun developed such a strongly idiocentric perspective through repeated exposure to the values of an individualistic society (e.g. New Zealand), it is also likely that such a perspective was accentuated by early childhood experiences that required him to be separated from his family for long periods. To illustrate this, consider Shaun's response to the question about accepting a job offer that might take him away from his family.

"Sweet. Wouldn't worry me. I suppose, if it was good money and that I'd go. Cause of...ever since I was little I've never worried about being away from home...like I've always not got homesick, like when I was little...cause dad living in [Warkworth] and we living up this way, so we were always up in [Warkworth] every couple of weeks...and I was always at my mates...and me and my sister, ever since we were younger we've travelled to Aussie by ourselves since we were like 5 and 7 up until now so, nah wouldn't worry me. I could go away for months and months…"

NZ European, male, 17 years
Shaun

Shaun's excerpts imply that the dynamics of his family's predominant cultural orientation might have played a unique role in the development of his personal cultural values. If this were the case generally, it might go some way towards explaining why several of the Maori interviewees appeared to hold both collectivistic and individualistic values. For instance, three Maori interviewees, who demonstrated strong collectivistic beliefs elsewhere in their transcripts, indicated that in the context of achieving their goals or earning *'getting paid'* personal needs would most likely take precedence over family needs.

"I'd take it – if it was an awesome opportunity. They'll understand. They'll always be there so...yeah."
Maori, male, 19 years
Bronson

"If I was getting paid I'd go. Yeah, I probably would go. If it was like, to get good experience and stuff like that."
Maori, male, 15 years
Carl

"I think if it was like cousins and my parents, I think my work and succeeding and life goals would be more important definitely yeah…'

Maori, female, 19 years
Aleisha

Such a pattern might be explained by the conjecture that individual-level cultural orientation is primarily influenced by the culture of one's family and secondarily informed by the cultural orientation of society at large. This pattern might also reflect a belief that for Maori, putting one's own needs before family needs, is most acceptable when those needs are success or finance based – perhaps

because wealth and achievement (symbols of status in most Western societies) bring mana (prestige, honour) to the family as well as to the individual. Maori interviewee Aleisha, (see above) asserted that the opportunity for a desirable job or personal success would likely take precedence over any family obligations, but Aleisha justified her response with claims that she would endeavour to maintain a close connection with her family despite the separation.

> *"…but I would um consider how they felt and um definitely make a time, like even if it was only 5 times a year...to make sure I keep to those times, that I was gonna visit them yeah, otherwise I'm...I always visit my family frequently all the time yeah."*
>
> *Maori, female, 19 years*
> *Aleisha*

Underlying Aleisha's response is the belief that it is okay to pursue personal goals and ambitions, but that family relationships are important and should be taken into account when making a decision of that nature. The excerpt also implies that Aleisha has a strong sense of obligation to her family that would compel her '*to make sure'* she kept to the times she had set aside to visit them. Like Carl and Bronson above, the sense of obligation to family combined with the assertion that personal success would take precedence over family interests suggests that these Maori youths simultaneously endorse both collectivistic and individualistic tendencies.

In sum, the sub-theme 'personal needs before family needs' was endorsed by fewer than half of all the interviewees, but most of those were of Maori ethnicity. Furthermore, those interviewees overall, tended towards a collectivistic orientation – which supports the idea that Maori demonstrate both collectivistic and individualistic values.

1.2 Independent individuals, unaffected by one another's problems
Excerpts categorised under this sub-theme, exemplified to some degree, the definition of individualism proposed by both Triandis (1995) and Oyserman et al., (2002), in which the individual is considered an autonomous, bounded entity that exists independent of a collective(s). Just under half of the interviewees

perceived that their families were comprised of individuals whose problems did not affect one another and for whom family problems, were of little concern. There were three questions in the interview schedule that addressed values associated with this sub-theme and each asked the interviewee to consider if/ how they and other members of their family were emotionally affected by problems within the family. Consistent with an extremely individualistic cultural orientation, Shaun provided an anchor with which to compare and contrast variations of the present theme. When asked to consider whether or not he thought that the wellbeing of his family affected the quality of his moods, Shaun replied:

> *"Nah not really, cause they can have a big cry about something, and I just get on with it and don't care, doesn't worry me, nah. I'm pretty sweet usually, like if they cry about something, I'm just like yeah whatever, just leave them to their problems yeah...cause I'm not home half the time anyway, so if I come home, they got a problem I just don't worry about it..."*
>
> *NZ European, male, 17 years*
> *Shaun*

Shaun's response raises an interesting question regarding the relationship between cultural orientation and maturity. Triandis (1995) has noted that collectivism tends to increase with age, which implies that the values of individualism are more likely to expressed by younger members of society. Given that the message behind Shaun's response is that he just doesn't care if his family has problems the excerpt might more accurately be viewed as a reflection of his age and not simply his cultural orientation.

That being said, the claim that he just '*doesn't worry*' about family problems, implies that Shaun feels he is entitled to choose how influenced he is or is not by family life. The belief that one is free to choose their level of involvement in a collective such as family is a belief unique to individualism (Triandis, 1995). Coupled with the assertion that he is an independent individual, who makes decisions irrespective of his family's wishes, and who is largely immune to the decisions that they make (as seen in the following excerpt) Shaun epitomizes one extreme on the continuum of individualism. When asked to consider how he would feel if his family made a major decision that he didn't agree with (such as relocating to another town) Shaun answered:

> *"Oh it wouldn't worry me I'd probably just move out...and then either go live with my mates or go flatting somewhere, so I'm still around the same place..."*
>
> *NZ European, male, 17 years*
> *Shaun 7*

To a lesser extent, several other interviewees also shared the perception that the individuals in their family were not affected by problems within the family, however, most of those responses came from Maori interviewees. Their responses raise two key issues. The first, relates to the speculation that Maori in general might be becoming more individualistic. The second implies that the extent, to which Maori interviewees were affected by family problems, was directly proportional to the severity of the problem.

Regarding the former issue, comments made by Maori interviewees Selena and Carl in particular, implied that they perceived the individuals in their families to be independent entity's, largely unaffected by one another's problems. When asked to consider whether or not family members were affected by one another's personal problems, or if personal problems only affected the person in trouble they answered:

> *"It could affect some people but not normally. Just affects them."*
>
> *Maori, male, 15 years*
> *Carl*

> *"Just the people who have the problem, cause we all just in our own world."*
>
> *Maori, female, 17 years*
> *Selena*

Those views sharply contrast with traditional views of Maori family and whanau, in which members were considered to be interdependent and closely linked emotionally (Metge, 1995). This could be viewed as evidence that this cohort of Maori youths are becoming more individualistic, or may once again reflect their level of relative immaturity or naivety in terms of understanding the effects that familial stresses and strains have on all members of the family/whanau unit.

Regarding the second issue, several interviewees highlighted the fact that their level of engagement in other family member's problems was directly

proportional to the seriousness of the problem. For example, the following excerpts were generated in response to a question regarding whether or not problems between family members would affect everyone:

> "If its something major, might be everyone. Otherwise it'd be just them or mum or something, or mum and my sister..."
>
> > NZ European, male, 17 years
> > Shaun

> "If it's a major problem, yeah it usually does but if it's a small problem then not really."
>
> > Maori male, 15 years
> > Carl

> "...we just keep it like, if I have a problem with someone, we kinda keep it between us, unless its something really serious that people need to know about..."
>
> > Maori, female, 19 years
> > Aleisha

Because no interviewees provided details as to the nature of '*serious*' or *'small'* problems, it is difficult to meaningfully interpret these excerpts. However, it appears that the perception of a' *serious'* problem within their family would have some impact on the youths, irrespective of their normally individualistic views.

In sum, more Maori interviewees than NZ European interviewees reported that the members of their family were largely unaffected by one another's problems, which indicates a major divergence from traditional values.

1.3 Personal success is of paramount importance

The third sub-theme demonstrated another aspect of individualism, namely the importance of achieving personal success, attaining one's goals and competing against others to be the best. The latter value is central to Triandis' (1995) definition of vertical individualism. In contrast to researcher expectations and somewhat inconsistent with the literature that Maori interviewees would not demonstrate strongly individualistic views, numerous Maori interviewees fervently advocated the importance of competition and *'winning'.* When asked to consider whether or not they thought competition and succeeding at all costs was very important, Bronson and Selena replied:

> *"Yeah, like I love it. Have to be number one, and that's it. (Interviewer: Do you mean, you have to be number one?)...yeah...I like to see other people try, yeah...I like to outdo them though."*
>
> Maori, male, 19 years
> Bronson

> *"I think its very important, cause without it there'll be no standard and feeling of winning, being victorious and yeah...and then, it'd just be like...there'll be no competition, no fighting for something yeah..."*
>
> Maori, female, 17 years
> Selena

Taken together, the excerpts further imply that being collectivistic does not preclude an individual from holding vertically individualistic beliefs as well. Thus, the cultural dimensions of individualism and collectivism do not appear to be mutually exclusive.

Also surprising, was the finding that most of the NZ European interviewees were reticent about the importance of competition and personal success. While some asserted that competition and achieving was *'pretty important''*, none suggested that it was integral to happiness the way that the Maori interviewees did. To illustrate, Marcus and Shaun responded with the following, when asked to consider the importance of competition and achieving success at all costs.

> *"uh, little bit I suppose. Its not too much um…what's the word?...umm what's the word? Like expectations...not like really, really high in my family...but my brother's reasonably smart, so I suppose I wanna sort of succeed."*
>
> NZ European, male, 18 years
> Marcus

> *"Pretty important. I'd always thought, or I've tried to do well in what I do and never really liked or wanted to be a bum and kick around. I've always tried to actually do something and not just sit round, and so I've wanted to achieve and…(Interviewer: Sacrifice?)...yeah, I'd sacrifice things if I had to, but usually I'd plan it so I don't. If I did have to, yeah I would."*
>
> NZ European, male, 17 years
> Shaun

In sum, the responses showed that competing and succeeding, achieving and winning, were highly valued experiences for most of the interviewees. Contrary

to expectations however, those who endorsed such values the most, were Maori interviewees who later expressed highly collectivistic values.

THEME 2: ALLOCENTRISM/COLLECTIVISM

This section presents an overview of three themes associated with a collectivistic cultural pattern. Each theme was identified by the frequency with which it appeared within and across interviewee transcripts. The sub-themes were titled:

2.1   Family needs come before personal needs

2.2   Family/whanau wellbeing is central to individual wellbeing

2.3   Unconditional support

2.1 Family needs come before personal needs

Triandis (1995) reports that subordinating personal needs to the goals of the collective or family is characteristic of collectivistic societies. Analysis of all nine transcripts revealed that the majority of interviewees generated responses that reflected this sub-theme. Those who demonstrated the explicit assumption that one should place family needs first, did so when asked to consider the importance of placing family needs before personal needs:

> *"Yeah, definitely they come first."*
>> *Maori, female, 19 years*
>> *Aleisha*

> *"That's probably a good idea. Coz you put your family first, ay. (Interviewer: You do?) yep."*
>> *Maori, female, 15 years*
>> *Krystal*

However, several interviewees demonstrated some difficulty answering the question because they held competing values.

> *"Yeah I think that's important. It depends what needs they are but, yeah if they're...yeah...just depends. (Interviewer: If its a competing interest?) yeah, their needs will come first."*

>> *Maori, female, 17 years*
>> *Sera*

When Desiree was asked to consider whether or not she thought that achieving at all costs was important she replied:

> "Um…in some ways yep, just to get there...getting to your goal kinda thing – that what you mean? (Interviewer: More important than family?). Nah. Cos at the moment...in a way yep, but in a way no...like me at the moment, I'm not working. I know I can go out there and push myself, I know I can do a lot of things, like there's a lot of things, a lot of goals out there for me...but um for one thing, my brother come back from ozzie, and I was living in [Auckland] and when I heard he was coming back [to New Plymouth], I left you know. I thought, oh I'm gonna give up all the jobs I try to go for. This was something I was pushing myself to do and nah. I think my family's more important to me than pushing myself out there, going for jobs and that."
>
> *Maori, female, 19 years*
> *Desiree*

When considering the offer to accept a job that would separate her from her family, Desiree added:

> "It would hurt me if I didn't get to see my family and I got offered a job, but that's...I'd wanna go out there and try it – there's that question again ay, I'd go out there and wanna try it, but (Interviewer: It'd be hard?)...yeah. My heart would be here with my family, but I'd just be thinking working."
>
> *Maori, female, 19 years*
> *Desiree*

Embedded in those excerpts is Desiree's belief that her family should come before her own personal ambitions and dreams. This is a view firmly rooted in collectivism and it resonates with the traditions of Maori culture and values associated with whanau.

Elsewhere in response to the job offer question, interviewees expressed similar conflicts"

> "How long? (Interviewer: Years.) Ever? (Interviewer: You could see them sometimes.) Oh yeah, I'd still go."
>
> *Maori, female, 17 years*
> *Selena*

> *"Years and years? I dunno. Probably not. Depends on how good the pay was."*
>
> *Maori, male, 15 years*
> *Carl*

Carl's response recalls a conjecture made earlier, that putting personal needs before family needs might be permissible in the eyes of his family, if there is a strong financial incentive for doing so.

Therefore, in sum the excerpts above allude to the fact that most of the Maori interviewees and several of the NZ European interviewees believed family needs should come before personal needs. The finding further supports the hypothesis that Maori youths in this sample demonstrate tendencies towards a collectivistic orientation.

2.2 Family/whanau wellbeing is central to individual wellbeing

The desire to maintain harmony within one's family is also common in collectivistic societies (Triandis, 1995). One reason for this is that collectivists believe family well being is inextricably linked to personal well being. Supporting the hypothesis that Maori youths are highly collectivistic, this sub-theme only emerged in the transcripts of Maori interviewees. Questions that tapped into this sub-theme asked interviewees to consider if and how they were affected by problems within their family, and how those family problems might be dealt with. As indicated earlier, Bronson expressed an extremely collectivistic view that could also be taken to indicate a dependence on family harmony.

> *"That's my number one priority, is make sure they're sweet. Like if they're not sweet, I wouldn't like it, I won't be able to go to work, I'll be depressed, stressing out, can't relax...so that'd be dumb, and I don't want that."*
>
> *Maori, male, 19 years*
> *Bronson*

Unfortunately, there were insufficient numbers of Maori male interviewees to determine whether this view was representative. However, this view was common among Maori female interviewees who expressed beliefs such as *'there's only one family you know'* and family is *'real precious', 'something that's real sacred'*. Specifically, when asked if/how they would be affected by family

problems, all of the Maori interviewees answered in the affirmative. For instance:

> *"Definitely. Yeah definitely affects the way I am, the way my family is yeah."*
>
> > *Maori, female, 19 years*
> > *Aleisha*

> *"Yep, it does affect me. That's a question I can answer. It affects me, all these raru (problems), these take (issues of priority), these problems within the family, it affects me [...] Yeah, it affects me and I hold it in [...] But, yep. It affects me when we have problems within the family and that. And it hurts. To see them like that.*
>
> > *Maori, female, 19 years*
> > *Desiree*

> *"Ah, yep. Yep it does. So like, if they're like real sad or angry I'll probably be sad and angry. Yeah it does affect me, in my mood.*
>
> > *Maori, female, 17 years*
> > *Selena*

> *"...only way I could explain it is, if they were um…like if I couldn't do nothing for them, that would make me depressed, other than that yeah, sweet. Like if I can't do nothing about it, yeah, I'd be pissed off anyway, if I couldn't do nothing about it."*
>
> > *Maori, male, 19 years*
> > *Bronson*

An explicit assumption within those excerpts is that family harmony is integral to emotional health e.g. moods. Such an assumption implies therefore, that family holds a place of central importance in the lives of those young people. This view contrasts greatly with the view of family promoted in NZ European society (Black & Huygens, 2007) and is consistent with two of the present study's predictions. Namely, that Maori adolescents are more collectivistic than NZ European youths and that family dysfunction is likely to have a greater impact on Maori depression levels than NZ European levels. It is noteworthy to mention that these excerpts recall traditional values placed on the importance of whanau, and demonstrate that the adoption of several highly individualistic ideals has not come at the expense traditional values.

2.3 Unconditional support

According to Triandis (1995), a third hallmark of collectivism is the presence of individuals who feel obligated to provide support and help to one another. Metge (1995) notes that in the traditional Maori whanau, such an obligation is manifested by the ideal of 'aroha' - unconditional support. One primary question that addressed the issue of family support asked interviewees to discuss how supportive their family were of decisions they made that the family did not agree with. In response, the majority of Maori participants expressed variations of this sub-theme, which further demonstrates their commitment to a collectivistic orientation.

> *"Oh, they're really supportive of any decisions that I make y' know. Never disagree or I dunno, we're just one like that. I never have problems with them or anything, I can open up and tell them whatever and there's no disagreement to whatever I say. (Interviewer: So they back you?) Yep. [...] ...Everyones so supportive too, we're not negative or anything. But if someone's got a problem, we'd be there to back them up. Or yeah, you know we're such a loving family, a big whanau, we've got each others back..."*
>
>> *Maori, female, 19 years*
>> *Desiree*

> *"I dunno yeah, they're real supportive even if I make stupid decisions...nah yeah, whatever I do, is just the awesome thing about thing about them."*
>
>> *Maori, male, 18 years*
>> *Bronson*

> *"Oh they're pretty supportive, I must say. They're all actually supportive like, for um, any decision."*
>
>> *Maori, female, 17 years*
>> *Sera 9*

It seems evident that in this context almost every Maori interviewee perceived their family to be supportive of *'any'* decision made by them. However, elsewhere in their transcripts, those same interviewees also mentioned that their families dealt with problems and disagreements either by arguing, or by choosing to subordinate their views in the interest of relationship harmony. In light of this, the ideal of unconditional support appears to be so deeply entrenched in the Maori value system that interviewees selectively filtered out

experiences they had previously mentioned, where family members had disagreed with them, in favour of presenting families that have *'no disagreement'* and are *'just one like that'.* Another noteworthy issue raised by the above responses is that the perception of unconditional support might mitigate the deleterious effects of family dysfunction for Maori youths.

THEME 3: FAMILY CULTURE

With regard to the way that interviewees families' operated and made decisions, one main sub-theme emerged that corresponded with the cultural structure of 'horizontalism'. Horizontal families were marked by an emphasis on equality between members and the absence of hierarchical ranks. In contrast, vertically oriented groups were identified by members' submission to authority and desire to maintain the status quo. While examples of horizontal culture were found only in the transcripts of Maori interviewees, examples of vertical culture were found in both Maori and NZ European transcripts. The sub-theme in this category was titled:

3.1   Horizontal families

3.1 Horizontal families

The excerpts in this sub-theme emerged in response to questions that asked interviewees to consider how their family solved problems together and managed relationship difficulties. The families that alluded to a horizontal pattern appeared to resemble the McMaster definitions of a healthy family, in that communication between all members was encouraged and family members were able to assert themselves when necessary. In response to a question that asked interviewees to discuss family problem solving, Krystal and Desiree offered the following insights:

> *"Oh we just sit down and decide like, what we're gonna do and then we do it. (Interviewer: So there's some discussion with everybody?) Yep.*
>
> > *Maori, female, 15 years*
> > *Krystal*

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"Um..we usually come together as a family. One of the family members – the older sisters in the family – aunty [Melody] usually texts around and everyone just joins up at the papakainga, at the homestead and we always have family discussions and hui and that. But its good, cause everyones involved, the cousins, the aunties, the kids and all that, and even if they aint, if they're not attended, we still include them and catch up with them and discuss it, about whats happened at our family meetings and all that."

Maori, female, 19 years
Desiree

In addition, while answering a question that addressed the way in which interviewees dealt with a family decision they didn't like, Aleisha and Selena replied:

"Um...I definitely tell them that I'm not um comfortable with their um the arrangement that they've deci..with their decision and um…I'll only settle for what I feel and um, I will definitely let them know how I feel and go from there, and make sure that my opinion is understood. Yeah. And then meet each other halfway. Yeah."

Maori, female, 19 years
Aleisha

"...if we don't agree with the decision we'll just probably have a argument. That's pretty much it. Yeah."

Maori, female, 17 years
Sera

It is apparent from the transcripts of these Maori interviewees, that a horizontal family orientation allows them to be independent individuals – who perceive the right to disagree with family members without fear of damaging family relationships – whilst at the same time receiving unconditional support from them (theme 2.3). In light of this, it is little surprise that a horizontal family orientation appears the most likely to generate a healthy, functioning family among Maori youths.

An additional point is that horizontal patterns are not typical of traditional Maori culture, which emphasised the importance of seniority in decision making and subordination to those with mana (status, privilege) (Metge, 1995). This could be taken as further evidence that colonisation has altered the orientation of Maori families.

It is also noteworthy that all of the responses indicating a horizontal pattern came from females – not males. This could be indicative of differences in the way that males and females perceive family functioning, such that females emphasise the value of communication and participation in problem solving. Male transcripts tended to indicate that they sub-ordinated their views and thoughts in the decision making process, to those with more authority.

SUMMARY OF RESULTS FOR PART II

The purpose of this thematic analysis, was twofold. Its primary function was to gain insight into thought patterns regarding family that differ between Maori and NZ Europeans, while exploring the relationships between cultural orientation, family and ethnicity in greater detail. To this end, the analysis clearly demonstrated that the majority of Maori interviewees had strong tendencies towards both collectivism and individualism, whereas the NZ European interviewees did not appear to hold strong collectivistic beliefs, and only one presented an extremely individualistic view regarding the importance of family. The second purpose of the analysis was to uncover areas for future research. Several issues regarding the constructs of collectivism and individualism were raised in the report, namely the relationship between individualism and maturity and the strong possibility that family culture may play a more salient part in forming one's individual cultural orientation, than society. Both of these areas are fertile ground for future research. Consistent with predictions for the present study overall, this analysis showed that most of the Maori adolescents were highly collectivistic when it comes to family and whanau. Furthermore, the fact that most Maori interviewees in this study were strongly competitive as well as strongly family centred, raises the possibility that there may be multiple pathways for depression for Maori youths.

CHAPTER TEN

DISCUSSION

The present study explored the relationships between cultural orientation, family functioning and levels of depression among NZ adolescents. To the best of the author's knowledge, this study is the first piece of research to test a hypothesis of differential vulnerability to family dysfunction for Maori and NZ European adolescents, using the cultural dimensions of individualism and collectivism as moderating variables.

Unlike previous research that assumes depression risk factors are of equal importance among Maori and NZ European adolescents, the present study used a theory of cultural-vulnerability to demonstrate that cultural values can influence the salience of certain depression risk factors. A major strength of this research was the number of students who participated, and the variety of schools from which they were recruited. Another strength was its multi-method approach, which enabled the results from the quantitative analysis to be supported by the findings of thematic analysis of interview transcripts. Despite these strengths of the study's design, there were also various shortcomings that may have affected the accuracy of the hypothesis testing and the subsequent conclusions. This section reviews the study's major findings and addresses identified shortcomings. It concludes with a summary of the main findings, limitations, and recommendations for future research.

HYPOTHESIS 1: ETHNICITY AND DEPRESSION

The study's first hypothesis was that Maori students would report higher levels of depression than their NZ European peers. Although mean depression scores for the two groups were in the predicted direction, there was not a statistically significant difference in the proportion of Maori adolescents who were classified as depressed (41.2%) as compared with the proportion of NZ European adolescents who were depressed (40.1%), indicating that depression was unrelated to ethnicity. Thus, the study's first hypothesis was not supported.

The finding that depression scores were unrelated to ethnicity was consistent with previous research by Arroll et al., (2009), which found little difference in prevalence rates of major depressive disorder between Maori and non-Maori general practitioner patients. However, the present findings contrast with previous research with high school students, in which Maori adolescents were found to experience significantly higher rates of depression (16.2%) than non-Maori adolescents (11.7%) (Adolescent health research group, 2003; Clark, 2007). Those differences may in part, be accounted for by a number of factors that include sampling bias, inadequate sample size, and ethnicity classifications.

Sampling bias

Findings from the present study may reflect a sampling bias. Participants in the present study were volunteers aged 16 and over, and recruited from nine different high schools in New Zealand. Recent statistics show that in 2009, only 45.8% of Maori students stayed at school until at least 17.5 years of age (compared with 72.2% for non-Maori students) (Education counts, 2011). Thus, it is likely that participants in the present study were not representative of adolescents' aged 16-18 in the general population. Furthermore, research has shown that youths who leave school at a young age exhibit higher rates of overall distress (Adolescent health research group, 2003), therefore it is likely that the findings of this study overestimate the well being of Maori adolescents in New Zealand.

Inadequate sample size

Incongruous findings between the present study (N = 299) and Clark's (2007) study, which employed a nationally representative sample of secondary school students (N = 9570), may reflect inadequacies in the size of the present sample. To demonstrate how sample size may magnify or obscure research results, an exploration of findings from the Arroll et al., (2009) study is warranted. Arroll et al., (2009), surveyed 7432 general practitioner patients aged 16-82 and found that the difference in prevalence rates of depression between Maori (11.5%) and non-Maori (10.1%) was not statistically significant. An earlier study with only 81 patients from the same geographic region however, showed that the

disparity in depression rates between Maori (46.4%) and non-Maori (15.4%) was statistically significant - a contrast that was later attributed to differences in sample size. Given the similarities in gender composition, location and decile range between Clark's (2007) study and the present study, it is similarly posited that the difference in ethnicity-related depression rates between the two studies is largely attributable to differences in sample size.

Ethnicity classifications

Differences in depression prevalence rates between the Adolescent health research (2003) study and the present study may also reflect over-classification of Maori participants. According to Statistics New Zealand (2001), use of the 1996 New Zealand Census ethnicity question in which participants were given the option of choosing any number of ethnic groups, from a list that included 'NZ Maori' (presented first) followed by 'NZ European or Pakeha', and 'Other European', may have resulted in increased 'Maori' ethnicity statistics for the Adolescent health research (2003) study. As the present study did not give participants the option of choosing more than one ethnicity, but did list the option of 'Maori' before 'NZ European', it is possible that the classification of Maori influenced the accuracy of data collections. For instance, participants who considered themselves to be of both Maori and NZ European ethnicity in the Adolescent health research (2003) study, would have likely chosen both options and thus been classified as 'Maori'. However, when forced to choose only one ethnic group, those same participants may have only chosen the NZ European option.

HYPOTHESIS 2: GENDER AND DEPRESSION

The study's second hypothesis posited that there would be a gender difference in participants' depression scores, such that females would report experiencing more depressive symptoms than males. Although mean depression scores for males and females were in the predicted direction, there was not a statistically significant difference between the proportion of female adolescents who were classified as depressed (42.7%) and the proportion of male adolescents who were depressed (36.9%), indicating that depression was unrelated to gender for this sample. Thus, the study's second hypothesis was not supported.

The finding of a statistically non-significant relationship between male and female adolescents, contradicts much of the literature on adolescent depression. Meta-analyses have widely shown that female prevalence rates for depression are 2-3 times higher than those of males (Sadock & Sadock, 2007). In addition, findings from the Adolescent research group (2003) study reported that female depression rates (18.3%) were more than double those of their male peers (8.9%). In line with predictions, a comparison between schools in the present study (see Appendix K), showed that single-sex Girls College participants reported the highest mean scores for depression ($M = 18.44$, $SD = 9.10$) of any group. Whereas single-sex Boys College participants reported the fourth lowest overall mean depression scores ($M = 15.77$, $SD = 10.80$). Comparisons within each ethnic group however, showed a reverse pattern. For Maori adolescents, the percentage rates of depressed males (42.0%) and females (40.4%) were near identical, but male rates were slightly higher than female rates. Conversely, for NZ European adolescents the percentage of depressed females (43.6%) was much greater than that of males (32.8%), and followed the predicted pattern.

Comparisons between depression rates by gender within Maori and NZ European ethnic groups, are rarely reported in the New Zealand literature, thus it is difficult to compare the present findings. However, the gender pattern difference that emerged between Maori and NZ European adolescents in the present study is consistent with Baxter's (2008) report on the mental health of New Zealanders in general. Baxter (2008) examined rates of hospitalization due to mental disorder for the years 2003-2005 and similarly found that Maori male rates were higher than Maori female rates, and that non-Maori female rates were higher than non-Maori male rates. Given the congruousness between these patterns, it is reasonable to suggest that the statistically non-significant relationship between gender and depression found in the present sample may reflect gender pattern differences located within Maori and NZ European groups in the general population.

For Maori adolescents in particular, this finding supports a cultural vulnerability hypothesis, for it implies that either psycho-socio-cultural factors or ethnicity factors account for a larger amount of variance in depression scores, than

biological (i.e. gender) factors. Given that the present study did not find a statistically significant relationship between ethnicity and depression, it is reasonable to suggest that psycho-socio-cultural factors may more accurately explain the present findings.

HYPOTHESIS 3: MAORI AND COLLECTIVISM

The purpose of the third hypothesis was to determine whether or not Maori adolescents in the current sample were culturally more collectivistic than NZ European adolescents. This results showed that there was a statistically significant difference in collectivism scores between Maori (M = 98.80, 16.05) and NZ European adolescents (M = 92.11, SD = 16.02). This finding was consistent with previous literature examining the cultural orientation of Maori youths (e.g. Tassell et al., 2010; Jose & Schurer, 2010; Harrington & Liu, 2002). Thus, the third hypothesis was supported.

Comparisons with the Tassell et al., (2010) research showed that Maori university students reported lower levels of collectivism than Maori secondary school students in the present study. However, it must be acknowledged that differences in I-CS scores between the studies may be attributed to differences in the Likert scale points used to measure the collectivism construct (e.g. 7-points and 9-points respectively). Another potentially problematic threat to comparisons between these two studies concerns the age of participants. Almost half (45%) of the students in the Tassell et al., (2010) sample were over the age of 40. In contrast, the mean age of participants in the present study was 16.4 years. The literature on cultural orientation states that collectivism tends to increase with age therefore one would expect to see higher collectivism scores among Tassell, Flett, & Gavala's (2010) participants (Triandis, 1995). However, incongruities between the Likert scale points make it difficult to accurately interpret whether or not this is the case. In light of these difficulties, comparisons between the rank orders of preference given to each sub-scale of the I-CS were made. As expected, the rank order of preference for items on each sub-scale of the I-CS, were the same for Maori students in both studies (see Appendix J). However, contrary to expectations given the high levels of collectivism reported by Maori participants, the sub-scale most highly endorsed

by Maori students in both studies, was horizontal individualism. This was closely followed by horizontal collectivism, vertical collectivism, and lastly, vertical individualism.

Metge (1995), states that traditional Maori societies endorsed a strongly hierarchical (i.e. vertical) structure, and encouraged collectivistic values, particularly in the domain of family. When considered in conjunction with the fact that modern New Zealand society is classified as predominantly horizontal individualistic in orientation, the findings from Tassell et al., (2010) and the present study both imply, that Maori students may have assimilated the values of the dominant culture. This conclusion is supported by findings in both Harrington & Liu (2002) and Jose & Schurer's (2010) research, and by the qualitative analysis undertaken in the present study. However, further explanations for this finding are explored in the next section.

HYPOTHESIS 4: NZ EUROPEANS AND INDIVIDUALISM

The fourth hypothesis stated that NZ European adolescents would report higher levels of individualism than Maori adolescents. Contrary to expectations, mean score comparisons between the two ethnic groups, indicated that Maori students ($M = 94.86$, $SD = 14.45$) reported higher scores on the individualism scale than NZ European students ($M = 93.61$, $SD = 13.44$). However, no statistically significant difference between the scores was found. Thus, the fourth hypothesis was not supported.

The findings are largely consistent with previous research by Harrington & Liu (2002), Tassell et al., (2010), and Jose & Schurer (2010), which also reported a non-statistically significant difference in individualism/idiocentricism scores between Maori and NZ European students. However, to the author's knowledge, this is the first study to report that Maori mean individualism scores were higher than NZ European mean scores. Inspection of the range of individualism scores reported within each ethnic group, showed that the maximum score for Maori participants was 135 and the maximum score for NZ European participants was 142. However, 6.7% of the Maori participants scored higher than 115 points on the individualism scale, compared with only 2.9% of

NZ European participants, which indicates that the overall mean score for Maori participants was likely to have been elevated by the scores of only eight students (6.7%).

There are several ways in which to interpret those findings. Harrington & Liu (2002) have speculated, that before European contact, Maori culture already held the blueprints for individualism, because they were a hunter-gatherer population. As noted in chapter one, cultural theorists posit that hunter-gatherer societies encouraged their members to be self-reliant and competitive (i.e. individualistic). Therefore, it is plausible that the values of the dominant majority in New Zealand (i.e. NZ Europeans) have simply accentuated the values that Maori originally placed on the individual, and not introduced those values to the culture (Harrington & Liu, 2002; Triandis, 1995). It is also noteworthy to consider that Maori youths in New Zealand have non-Maori ancestors, therefore if the biological perspective regarding the origins of culture is accurate (see chapter one), then Maori would be genetically predisposed towards both collectivistic and individualistic orientations.

A third possibility is that that there was a flaw in the measurement of individualism, as Maori students who scored very highly on the individualism sub-scale of the I-CS, also tended to score very highly on the collectivism sub-scale of the I-CS - a result that is implausible given Triandis' (1995) claim that individualism and collectivism represent opposite constructs on a unipolar spectrum. Supporting this interpretation, the Schimmack et al., (2005) report, that individuals in traditional cultures show a tendency to agree with all items on a measure regardless of their content, raises the possibility that Maori students responses were favourably biased. Regarding the mutual exclusivity of cultural dimensions, the Oyserman et al., (2002), meta-analysis re-conceptualised the individualism and collectivism dimensions as world-views that simply emphasized different issues, for there are a number of cultures that appear to endorse both individualistic and collectivistic values. Thus, the high individualism and collectivism scores of Maori in the present study, are not necessarily invalid. Furthermore, the findings from the thematic analysis support the claim that the Maori adolescents were both highly individualistic and highly collectivistic, as do the results from two previous quantitative studies (e.g.

Harrington & Liu, 2002; Jose & Schurer, 2010). Therefore, it is possible that the present study's findings reflect a real effect.

HYPOTHESIS 5: FAMILY DYSFUNCTION AND DEPRESSION

The fifth hypothesis in this study stated that family dysfunction would correlate with depression scores for all adolescents. As expected, the findings were statistically significant and indicated that there was a positive correlation between family dysfunction and depression scores, however the strength of the correlation was relatively small ($r^s = .229$).

Subsequent analyses revealed further, that the correlation between family dysfunction and depression was statistically significant for both male and female participants, but the strength of the correlation was almost twice as great for male adolescents ($r^s =. 363$) than for female adolescents ($r^s =. 186$). In addition, the correlation between family dysfunction and depression was highly significant for NZ European adolescents ($r^s =. 263$), but statistically non-significant for Maori adolescents ($r = .189$). A statistically non-significant and weak negative correlation between family dysfunction and depression was found for Maori females ($r^s = .-111$), but the correlation for Maori males was statistically significant, and moderately positive ($r^{s =} .406$). Furthermore, the correlation between family dysfunction and depression was statistically significant and positive for both NZ European males and females, but the strength of the correlation was greater for males ($r^s =. 357$) than females ($r^s =. 275$). Multiple regression analysis (MRA) revealed that family functioning and gender accounted for a statistically significant 12% of the variance in depression scores among NZ European adolescents. However, the same variables accounted for a statistically non-significant 1% of the variance in Maori adolescents depression scores.

From a cultural-vulnerability perspective, the findings from the MRA indicate that NZ European adolescents are overall more sensitive to the deleterious effects of family dysfunction than Maori adolescents. One explanation for such a finding is that, for NZ European adolescents, high levels of collectivism buffer against the depressogenic effects of family dysfunction, but low levels of collectivism

increase their sensitivity to family problems. In other words, it is possible that NZ European collectivists place a high value on social support, and when they perceive family dysfunction they actively engage with other forms of social support (e.g. friends, extended family), thus mitigating some of the effects of family problems. Accordingly, it is possible that individuals who are not at all collectivistic are less willing to seek out or be part of social support networks, and subsequently bear the burden of family problems alone. Support for this interpretation can be found by examining the differences in collectivism scores between males and females. Across both ethnic groups, male mean scores on the collectivism sub-scale of the I-CS were lower than they were for females. As expected, the correlation between family dysfunction and depression was also higher for males in both groups. Thus, consistent with cultural vulnerability theory, the findings demonstrate that those individuals, who scored lowest on the collectivism scale, were most likely to become depressed if they perceived their family to be dysfunctional.

HYPOTHESIS 6: MODERATION ANALYSES

The final hypothesis stated that cultural orientation would moderate the relationship between family dysfunction and depression for New Zealand high school adolescents. Hierarchical multiple regression analyses (HMRA) showed that for NZ European female adolescents, collectivism moderated the relationship between family functioning and depression to a statistically significant degree, however, it only accounted for 1% of the variance in depression scores. No statistically significant moderating effects were found for either NZ European males or Maori females, however, for Maori male adolescents in the individualistic regression model only, family functioning accounted for a statistically significant 20% of the variance in depression scores. Thus, the sixth hypothesis was partially supported.

These findings can also be interpreted in terms of cultural-vulnerability theory. For NZ European females the above findings imply, that being collectivistic increases the likelihood of becoming depressed, if one perceives that their family is dysfunctional. An inspection of the mean cultural orientation scores for this group (Appendix J) shows that NZ European females scored the lowest of

any group on the individualism sub-scale of the I-CS, but their mean collectivism score was among the highest. This suggests that participants in the NZ European female group tended not to view themselves as isolated beings, who were separate and independent from those around them, but were likely to view themselves as interconnected with others, and part of one or more in-groups (Triandis, 1995). Cultural-vulnerability theory posits that those who have strongly allocentric or collectivistic tendencies are most likely to experience psychological distress if there is disharmony within their family relationships, because their personal welfare is inextricably linked to the wellbeing of those around them (Mak, Law, & Teng, 2011). Thus, this finding is highly consistent with a cultural-vulnerability theory.

For Maori male adolescents on the other hand, the moderation findings imply that being highly individualistic tends to increase the likelihood of becoming depressed, if one perceives their family to be dysfunctional. Given that Maori males scored more highly on the individualism sub-scale of the I-CS ($M =$ 97.04, $SD = 15.20$), than on the collectivism sub-scale (95.77, $SD = 15.17$), this finding is only partially consistent with Mak, Law, & Teng's (2011) cultural-vulnerability theory. However, it is highly consistent with Scott, Ciarrochi, & Deane's (2004) research. Scott, Ciarrochi, & Deane (2004) found that people who were highly idiocentric or individualistic, and lived in individualistic societies were at high risk of experiencing psychological distress if they experienced social relationship problems, because they tended to perceive that they were fundamentally alone and lacked social support. Given that adding the GF-FAD to step two of the Maori male individualism regression model explained 20% of the variance in depression scores, it would appear that the Maori males in this sample were differentially sensitive to the effects of family dysfunction, as compared with NZ Europeans and Maori females. As such, the findings of the present research imply that Maori males are particularly vulnerable to the deleterious effects of family dysfunction, and that this sensitivity increases with an individualistic orientation.

In sum, the major finding of this research was that family functioning was strongly related to the depression scores of most adolescents in the sample.

However, Maori males and NZ European females were differentially sensitive to the effects of this correlation.

IMPLICATIONS FOR CULTURAL-VULNERABILITY THEORY

The findings of the present study provide additional support for the theory of cultural-vulnerability and suggest that Maori and NZ European male and female adolescents are differentially sensitive to the effects of family functioning, as a result of differences in cultural orientation. The implications of these findings are that cultural orientation may account for a much greater percentage of the variance in depression scores for Maori and NZ European adolescents, than has previously been documented. In light of recent statistics (2004-2006) which indicated that Maori males aged between 15-24 were almost three times more likely to commit suicide than Maori females, and more than twice as likely to commit suicide compared to non-Maori the same age, the present findings imply that family dysfunction may be a particularly salient risk factor for Maori boys, particularly those who hold highly individualistic values (Suicide and intentional self-harm, 2010). Given the present findings, it is perhaps no coincidence that Maori males and NZ European females had the highest mean depression scores of any group.

SUMMARY OF LIMITATIONS AND FUTURE RECOMMENDATIONS

Several of the study's limitations have already been noted. Namely, the modest sample size and the fact that all of the participants were student volunteers, who had been in high school for at least four years. Most of the results obtained in the present study need to be verified through testing a larger sample group that it is more representative of adolescents in the general population. Future studies should also adopt a longitudinal design so that the direction of causality can be confirmed.

Study design

One major limitation of the present study was its cross-sectional design. Because most of the results obtained were correlational, it cannot be assumed that family dysfunction had a causal influence on levels of depression for participants, despite the fact that much of the previous literature in this area

indicates a causal relationship in that direction. The only way to obtain a definitive result regarding causality would be to conduct a longitudinal study. It is thus recommended that future studies in this area follow adolescents over time to ascertain whether or not changes in cultural orientation during the life span (e.g. as a function of having children, moving from an urban centre to a rural centre, or growing older) result in changes in the relationship between family dysfunction and depression. It is further recommended that future studies ascertain whether or not the findings of the present study are generalisable to adolescents in other countries and other cultures by replicating the study. Future studies would also need to explore the relationship between familism and collectivism in greater detail (e.g. Oyserman et al., 2002).

Biases

In terms of instrumental limitations, Shulruf et al., (2011) have noted that few studies to have applied the I-CS (Singelis et al., 1995) report an acceptable level of reliability ($a = .70$). As the present study reported a Cronbach's alpha of .76, it is unlikely that low reliability affected the individualism and collectivism scores obtained. Furthermore, the present study's cultural orientation findings were highly consistent with those of previous study's that used Maori and NZ European participants, and most of the present study's findings regarding cultural orientation were in the expected direction. Therefore, it is unlikely that instrumental limitations regarding the I-CS had a large effect on the validity of the present findings.

To the best of the author's knowledge, this study was the first to apply the GF-FAD to a sample of Maori adolescents. A further limitation of this study is that the measure was not piloted with a sample of Maori adolescents beforehand, to assess its face validity and external validity - especially given multiple interpretations of the word 'family' among Maori (e.g. Metge, 1995). However, as reported in chapter four, the composition of the modern Maori family bears striking similarities to the composition of the modern NZ European family. In addition, perceptions of dysfunction and wellbeing between family and whanau groups are highly comparable. Thus, it is unlikely that limitations regarding the

applicability of this instrument to Maori adolescents had a significant effect on the validity of the present findings.

Future directions

The present study identifies several issues that warrant further investigation. Primarily, a replication of the moderation findings with a larger sample and/or a sample with adolescents in other nations would enable comparisons to be made and provide more conclusive results. It is recommended that future studies include an examination of the differential impact of other variables such as socio-economic status and educational achievement (e.g. rural or urban) for Maori and NZ European adolescents. Replication of the present study with a clinically depressed sample of adolescents would increase the clinical implications for the theory of cultural-vulnerability in particular, and differential sensitivity to depression risk factors generally. Furthermore, refinement of the constructs of individualism and collectivism and use of a more modern instrument for capturing those constructs, might increase the validity and comparability of the present findings.

CONCLUSION

To the best of the researcher's knowledge, this is the first study to have examined whether Maori and NZ European adolescents were differentially sensitive to the effects of family dysfunction. Unfortunately, the design of the present study does not allow for definitive causal interpretations to be made, thus it is unclear whether perceived family dysfunction increases the likelihood of developing depression, or whether depression increases the likelihood of perceived family dysfunction. However, consistent with previous literature, the present findings clearly indicate that the strength of the correlation between those two variables differs depending on one's ethnicity, gender and cultural orientation. Moreover, the findings indicate that collectivism may act as a moderating variable in the relationship between family dysfunction and depression for NZ European female adolescents, but overall, culture accounts for a very small amount of the variance in depression scores when compared with family dysfunction. Contrary to expectations, cultural orientation was not found to moderate the relationship between family dysfunction and depression

for Maori adolescents overall. However, for Maori males who were individualistic, family dysfunction appeared to account for a large percentage of the variance in depression. Consistent with the moderation findings, both Maori males and NZ European females reported higher depression scores than either Maori females or NZ European males, suggesting that family dysfunction and cultural orientation may be salient risk factors for individuals in those particular groups. In sum, this study presents some findings that support the validity of a cultural-vulnerability hypothesis in explaining some of the difference in depression scores between Maori and NZ European high school adolescents, and identifies a number of areas for future research.

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APPENDIX A

Information Sheet

APPENDIX B

Individualism and Collectivism Scale

APPENDIX C

General Functioning Sub-Scale of the McMaster Assessment Device

APPENDIX D

Center for Epidemiological Studies - Depression Scale for Children

APPENDIX E

Parental consent and Ipod entry form

Demographic data sheet

APPENDIX F

Demographic composition of sample

Demographic composition of sample

	Maori n=	NZE n=	Male n=	Female n=	Maori male n=	Maori female n=	NZE male n=	NZE female n=
Decile <6	52 (17.4%)	23 (7.7%)	13 (4.3%)	64 (21.4%)	10 (3.3%)	41 (13.7%)	3 (1.0%)	20 (6.7%)
Decile >=6	62 (20.7%)	159 (53.2%)	108 (36.1%)	112 (37.5%)	45 (15.1%)	16 (5.4%)	63 (21.1%)	86 (28.8%)
Rural	39 (13.0%)	35 (11.7%)	22 (7.4%)	54 (18.1%)	8 (2.7%)	30 (10.0%)	14 (4.7%)	21 (7.0%)
Urban	75 (25.1%)	147 (49.2%)	99 (33.1%)	122 (40.8%)	47 (15.7%)	27 (9.0%)	52 (17.4%)	95 (31.8%)
Christ-ian School	2 (0.7%)	44 (14.7%)	11 (3.7%)	35 (11.7%)	0 (0%)	2 (0.7%)	11 (3.7%)	33 (11.3%)
State Co-ed	63 (21.1%)	89 (29.8%)	48 (16.1%)	107 (35.8%)	18 (6.0%)	44 (14.7%)	27 (9.0%)	60 (20.1)
State Single Sex	49 (16.4%)	51 (17.1%)	65 (21.7%)	34 (11.4%)	38 (12.7%)	11 (3.7%)	28 (9.4%)	22 (7.4%)
<17 years	72 (24.1%)	71 (23.7%)	60 (20.1%)	92 (30.8%)	40 (13.4%)	30 (10.0%)	20 (6.7%)	61 (20.4%)
>=17 years	42 (14.1%)	101 (33.8%)	61 (20.4%)	84 (28.1)	15 (5.0%)	27 (9.0%)	46 (15.4%)	55 (18.4%)
Total	114 (38.1%)	182 (60.9%)	121 (40.5%)	176 (58.9%)	55 (18.4%)	57 (19.1%)	66 (22.1%)	116 (38.8%)

(%) of total sample n = 299

APPENDIX G

Parental consent form - Interview

APPENDIX H

Interview schedule

INTERVIEW SCHEDULE

The interview schedule consisted of three parts: (I) opening, (II) body and (III) closing. Part I involved establishing rapport with the participants by making light conversation and re-introducing the topics for discussion. During this part, participants were made aware of the relevant research objectives, their contribution to the overall research purpose was discussed and the researcher ensured that the ethical obligations for conducting the research as outlined on page 47 were met.

Part II involved inviting the participant to answer the following 12 questions in the order in which they were presented.

Topic: Family Functioning

1. Could you please tell me a little about how your family operates/ makes decisions? ind/coll?
2. What happens for you, when a major decision is made by your family, that you don't agree with
3. How supportive do you think your family is of decisions you make that they don't agree with?
4. Could you talk a little about how you and you family work problems out?
5. When your family has a problem, does it affect you, and if so, how?
6. If a person in your family has a problem, does it affect everyone – or just them?

(Transition to the next topic)

Topic II: Cultural Orientation
7. What do you think about the importance of competition and succeeding at all costs?
8. What are your thoughts about the importance of putting your family or groups' needs before your own?
9. How would you feel if someone in your family or group was in trouble and asked you for money?

10. What would you think if you were offered a job opportunity that took you away from your family or group and meant you wouldn't be able to see them for a long time?

(Transition to next topic)

Topic III: Mood

11. How often would you say you felt really down, sad, lonely, or upset?
12. Are you able to talk about whether or not you think your family's wellbeing impacts your moods?

Part III consisted of thanking the participant for their time and involvement, and offering them a gift as described on page 48.

APPENDIX I

Massey University Human Ethics Committee (MUHEC) Approval

APPENDIX J

HI, VI, HC, & VC, score comparisons between studies

HI, VI, HC, & VC, score comparisons between studies

Study	HI	VI	HC	VC
INDIVIDUALISTS Current sample, 2011 NZ Europeans 9-point n=182	6.73 (0.96)	4.97 (1.27)	6.38 (1.08)	5.14 (1.16)
NZE females, n=111 IND=5.63 COLL=5.93	6.68 (.93)	4.61 (1.10)	6.53 (1.00)	5.33 (1.05)
NZE males, n=65 IND=6.21 COLL=5.45	6.82 (1.02)	5.59 (1.32)	6.11 (1.17)	4.81 (1.23)
Soh & Leong, 2002 Americans 9-point n=180	6.91 (1.25)	5.46 (1.64)	7.14 (1.15)	7.15 (1.20)
Kurman & Sriram, 2002 Urban Israeli 9-point n=144	5.58 (1.00)	4.92 (1.34)	4.87 (0.98)	4.86 (1.58)
COLLECTIVISTS Gouveia et al., 2003 Spanish 9-point n=526	5.23 (0.91)	3.21 (1.22)	5.48 (0.91)	4.6 (1.07)
Kurman & Sriram, 2002 Singaporean 9-point n=130	5.30 (1.15)	4.19 (1.00)	5.32 (0.84)	5.80 (1.01)
Tassell et al., 2010 Maori 7-point n=71	3.91 (0.71)	2.45 (0.55)	5.38 (0.76)	3.38 (0.66)
Current sample, 2011 Maori 9-point n=114	6.90 (0.90)	4.94 (1.37)	6.65 (1.21)	5.71 (1.05)
Maori females, n=55 IND=5.82 COLL=6.34	6.98 (.83)	4.62 (1.35)	6.96 (1.23)	5.82 (1.03)
Maori males, n=51 IND=6.07 COLL=5.99	6.85 (.94)	5.28 (1.33)	6.36 (1.13)	5.64 (1.08)

For ease of comparison mean sub-scale scores from the present study were divided by the number of items they comprised to produce average HI, VI, HC, & VC scores.

APPENDIX K
Depression score comparison

Depression score comparison

	Mean score	Percentage depressed	N
Maori	16.21 (9.66)	41.2%	102
NZ Europeans	15.97 (9.59)	39.8%	171
Maori males	16.70 (10.98)	42.0%	50
Maori females	15.73 (8.28)	40.4%	52
NZ European males	14.51 (9.80)	32.8%	61
NZ European females	16.78 (9.41)	43.6%	110
Single-sex Boys School	15.78 (10.79)	41.4%	58
Single-sex Girls School	18.44 (9.09)	50.0%	32
State Co-ed	15.82 (9.38)	37.3%	142
Christian School	14.95 (8.91)	39.0%	41
Rural	15.26 (8.69)	34.3%	70
Urban	16.30 (9.88)	42.4%	205
Decile <6 Maori	16.06 (9.08)	38.3%	47
Decile>=6 Maori	16.32 (10.20)	43.6%	55
Decile <6 NZ European	14.64 (9.75)	40.9%	22
Decile>=6 NZ European	16.17 (9.58)	39.6%	149
Male	15.49 (10.36)	36.9%	111
Female	16.40 (9.04)	42.7%	164