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**The Relationship of Regret and  
the Negative Impact of Life Events on  
Life Satisfaction**

**A thesis presented in partial fulfilment of  
the requirements for the degree of  
Master of Arts in Psychology  
at Massey University**

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**Dedicated**

**to the memory of my late Father**

**Stheyeti Ramaswami Purushottam Naidu**

**and to my Mother**

**Jayaletchimy Singaravelu Govindasamy Naidu (Sarah)**

## ABSTRACT

The present study provided a comparative, descriptive account, across age and gender, of the content and incidence of regret along ten domains; namely, career, finance, leisure, health, family relationships, relationships with friends, intimate relationships, sexual relations, education, and spiritual or religious life. The relationships between regret and life satisfaction, negative impact of life events and life satisfaction, and regret and negative impact of life events were also investigated. The role of negative impact of life events as a mediator and moderator of the relationship between regret and life satisfaction was also explored. The questionnaire comprised an 11-item life satisfaction scale, a modified 46-item Life Experiences Survey, a specifically developed 83-item regret scale and a 20-item regret scale validity check. One hundred and sixty-one adults, comprising 71 males and 90 females, across an age range of 22 to 82 years, completed the questionnaire. Results showed that most respondents experienced some form of regret and these tended to cluster around Family Relationships, Health and Spiritual or Religious Life. Age and gender differences were found mainly at the domain level, with female and older adults reporting regret in more domains than males and younger adults. Overall levels of life satisfaction were clustered along a narrow band ranging from equally satisfied and dissatisfied, to pleased. The level of negative impact of life events showed no age or gender differences. Individuals experiencing greater regret and negative impact of life events, also reported lower life satisfaction. Individuals who reported greater negative impact of life events also reported experiencing higher levels of regret. Negative impact of life events was found to both moderate and partially mediate the relationship between regret and life satisfaction. The study also identified age and gender to be salient to regret research, especially at the domain level. It is suggested that future research focuses its efforts at the domain level, so that the relational complexities that exist

between regret and life satisfaction that have hitherto remained hidden in research conducted at a global level can be unmasked.

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# 1. INTRODUCTION

Is regret a universal experience? Must it, like the proverbial death and taxes, be the certainty that everyone must eventually face? James Baldwin, in his review of Elia Kazan's novel 'The Arrangement' seemed to think so: "Though we would like to live without regrets, and sometimes proudly insist that we have none, this is not really possible, if only because we are mortal" (Levinson, 1978, p. 250). Vast inroads have been made into our understanding of death, and these have resulted in significant extensions to our life spans. Similarly, tax structures have been rationalised to ameliorate their burden on our lives. By contrast, however, little is known about the psychology of regret. As little as a century ago, because western society had more clearly defined and rigid behavioural prescriptions, there were fewer decisions to be made, and therefore, less potential for regret (Gilovich & Medvec, 1994). Matrimony was organised along interfamilial negotiations, positions in life were inherited and material choices were narrowly confined to a few available goods (Lasch, 1979). The twentieth century, however, was marked by an unprecedented rate of change that led to a burgeoning of choices and a dismantling of social structures. Today, at the start of the twenty-first century, people are presented with more choice than ever before in human history. One of the difficulties of modern life is coping with all the available choices. And with this greater range of choice, comes increased opportunities for regret (Gilovich & Medvec, 1994). Hence, a related problem with modern life is how to minimise or cope with the experience of regret.

## 1.1 THE CONCEPT OF REGRET

The concept of regret is of Scandinavian and French origins. The Oxford English Dictionary (1989) attributes the source to the Old Norse word '*grata*', meaning, "to weep" (p.

782) and the Old French word '*regrat*', meaning, "lamentations, feelings or [the] expression of grief or sorrow at some injury, loss or event" (p. 782). Previous approaches to the study of regret have focussed on philosophical efforts to define the term (Bedford, 1957; De Sousa, 1987; Hampshire, 1960; Landman, 1987; Landman, 1993; Rorty, 1980; Taylor, 1985). They have explored the nature of the internal state that accompanies or constitutes the experience of regret, specified the occasions in which regret can be experienced, and attempted to distinguish regret from other emotional states; namely, disappointment, guilt, and remorse, (Gilovich & Medvec, 1995). Gilovich and Medvec (1995), however, assert that these philosophical efforts have not always met with success. In particular, defining and distinguishing the concept of regret from other emotional states has proved to be difficult, and resolution continues to be elusive.

On the other hand, there is general consensus that regret is an unusually cognitively-laden or -determined emotion (Hampshire, 1960). Hampshire (1960) noted that "the question of regret require[d] one to think practically about a decision, and not merely inspect one's feelings; [hence] judgement [was] more central to the experience of regret than the experience of jealousy and anger" (p.241). Alternatively, it was also regarded as more than a simple appraisal or judgement. It was loaded with a feeling and therefore qualified as a true emotion (Rorty, 1980).

Despite various attempts to define the concept, little consensus has been reached. For example, Hampshire (1960) asserted that "if a man continues to make the kind of decisions that he claims that he regrets, he could not properly continue to describe his distress as regret. He would be compelled to describe it as a vague sense of guilt or anxiety, or perhaps as an unhappy wish that he had great powers, or that he was placed in other circumstances" (p.

241). Similarly, economic theorists have operationally defined regret very narrowly. Hence, the applicability of their work is limited. They have conceptualised regret as the “difference in value between the assets actually received and the highest level of assets produced by other alternatives” (Bell, 1982: p. 963). While this difference is an important determinant of the amount of regret experience, Gilovich and Medvec (1995) argued that other elements were critical; for example, the path by which a particular alternative was decided could have a great impact on whether the choice was regretted. Similarly, the way that alternatives or outcomes were framed could have an impact on regret. As such, economic theories of regret were not enough to account for the fact that some rejected alternatives generated more regret than others; either because they were particularly salient, or because they were most chosen, or because they were the choices that others would most likely have made (Gilovich & Medvec, 1995).

In a related field of research within the psychology of regret, namely, counterfactual thinking, Gilovich and Medvec (1995) argue that two shortcomings of the economic models of regret have been overcome. In counterfactual thinking (or thoughts about unactualised states), it was observed that events were not evaluated in isolation, but rather, were compared to alternative events that ‘could have’, ‘might have’ or ‘should have’ happened (Kahneman & Miller, 1986; Kahneman & Tversky, 1982; Miller, Turnbull & McFarland, 1990). Firstly, according to their research, regret was not thought to be only restricted to those circumstances in which outcomes of rejected alternatives were known. Secondly, in contrast to economic models, the exact path by which a decision was made was seen as critically important. Hence, different paths to the same outcome could lead to the consideration of very different counterfactual alternatives and thus induce very different levels of regret.

In the light of such differences of what constitutes regret and the lack of any decisive definition of the concept, Gilovich and Medvec's (1995) proposal of Landman's (1993) definition will be used in the present study. They have described her definition as being sufficiently inclusive with respect to current research on the notion of regret: "Regret is a more or less painful cognitive and emotional state of feeling sorry for misfortunes, limitations, losses, transgressions, shortcomings or mistakes. It is an experience of felt-reason or reasoned-emotion. The regretted matters may be sins of commission as well as sins of omission; they may range from the voluntary to the uncontrollable and accidental; they may be actually executed deeds or entirely mental ones committed by oneself or by another person or group; they may be moral or legal transgressions or morally and legally neutral ..." (p. 36).

## **1.2 REVIEW OF THE REGRET RESEARCH**

### **1.2.1 Regret and Life Review**

While regret summons much strong emotion about its apparent dysfunctional nature (Carlson, 1984; Janis & Mann, 1977; Klinger, 1987; Peterson & Seligman, 1984), it is also merited with being essential to rational decision-making (Fiedler, 1988; Janis & Mann, 1977). As such, the role of regret in psychological processes remains unclear. Much of the research on regrets is guided by the early work on life review by Butler (1963). Butler proposed that elderly adults engaged in a process called life review, in which they reflected on unresolved conflicts of the past in order to come to terms with themselves, found new meaning and coherence in their lives, and made preparations for death. Butler (1963) stated that it was "the biological fact of approaching death, independent of, although possibly reinforced by, personal and environmental circumstances, that promotes the life review" (p. 67). It was

through the life review process that the elderly assessed their life regrets from a retrospective view (Butler, 1963; DeGenova, 1992; DeGenova, 1996).

By comparing Butler's (1963) theory of life review in later life with Erikson's theory of development, various consistencies between the two theories can be observed. For example, Butler's (1963) idea of life review is consistent with Erikson's (1963) theory of later stages of life, which proposed the adjustment to life, as being dependent on how well the person was able to reflect back on life in a meaningful way. Erikson referred to this stage as "ego integrity versus despair" (Erikson, 1963: p.268). If individuals were able to reflect on their past in a comfortable and contented manner, they were said to have achieved ego integration. If they reflected back with many regrets, they were said to live the final stage of their lives in despair. Similarly, like Erikson, Butler (1963) suggested that individuals had to come to terms with their past in order to adapt to later life. In addition, Carlson (1984) suggested that a correlation existed between the capacity to reminisce and the ability to achieve a sense of ego integrity. Carlson distinguished reminiscence from nostalgia, noting that the former was a healthy process of reflecting on the past while the latter was imbued with regret and longing for a past that could never be.

While psychologists are in agreement that there is a life review in old age (Butler, 1974; Coleman, 1974; Erikson, Erikson & Kivnick, 1986; Meacham, 1977), much less is known of mid-life reviews. Stewart and Vandewater (1999) proposed that a life review conducted in middle age may be one element of 'mid-life crisis'. Levinson (1978) argued that middle-aged adults experience an intense period of self-evaluation when "every aspect of their lives comes into question and they are horrified by much that is revealed" (p. 199). Similarly, Jung (1954) pointed that at around the age of 40, "one begins to take stock, to see

how one's life had developed up to this point. The critical survey of himself and his fate enables a man to recognise his peculiarities" (p. 193). Although some theorists have stressed the inward nature of this process of life evaluation (Jung, 1954; Levinson, 1978), Stewart and Vandewater (1999) noted that sometimes there was a more active element to the process; such as when some people were unable to proceed as they did before, but chose a new path or made modifications to an old one. In his later research among homemakers and career women, Levinson (1996, cited in Stewart & Vandewater, 1999) claimed that most homemakers in his research felt a sense of hitting an impasse with regard to their experience of marriage and life during the mid-life transition. As a result, they tried alternatives during this phase of their lives.

While less is known about mid-life reviews compared to old age reviews, there is an even greater dearth of research on the experience of regrets among young adults (Lata et al., 1997). In examining Erikson's young adult stage of development, Lata and colleagues suggested that it was plausible that reminiscence and thinking of regrets was experienced in the development of an identity of oneself due to the rapid change and uncertainty at that stage of development. Hence, while young adults were developing an identity, the experience of regret could profoundly influence the shaping and interpreting of this identity. This was comparable to the elderly, who used their identification of regrets as a predictor of success in life.

Theoreticians of human development such as Erikson (1963), Levinson (1986), Super (1957) and Vaillant (1977) agree that early adulthood was a time when people experienced issues of identity, career choices, mate selection, and starting their own families. Since these were issues of importance to young adults, it was argued that they should have regrets in these

areas if they feel that they have made wrong decisions or choices (Lata et al., 1997). Reminiscence about past experiences should then be one way of coping with or adapting to the choices made and the present situation (Merriam, 1980). Knowledge of what young adults regret could increase understanding of human motivation, needs and values. As in previous research with older adults, knowing others' regrets may be relevant knowledge for people who are confronted with difficult decisions (Kinnear & Metha, 1989).

### **1.2.2 Regret and Motivation**

Although there has been much interest in the cognitive features of regret, such as counterfactual thinking, there is also a great deal of interest in how regrets motivate changes in behaviour. Lecci, Okun and Karoly (1994) placed regret in the domain of motivation by defining it as “an unfulfilled or unattainable goal” (p. 731). In addition, Landman, Vandewater, Stewart and Malley (1995) suggested that acknowledging missed opportunities might sometimes permit the development of a plan for the future. In so doing, regretting served both an instructional and motivational purpose. This perspective is consistent with evidence that regrets may provide information about the standard to be exceeded in future performance (Karoly, 1993). Lecci et al. (1994) also discussed the way in which regret was likely to serve such a function; namely, when individuals were young or middle-aged, as opposed to when they were older, and when the focus of thought about regret included a sense of potential personal efficacy. Hence, Stewart and Vandewater (1999) proposed that when a mid-life review, as opposed to a life review in old age, included acknowledged regrets, it served to motivate life change. This relationship between regret and motivation is important in the context of the current study because it may help to explicate any potential age differences in the association between regret and life satisfaction.

### 1.2.3 Content of Regret

While the role of regret at various stages in human development has been the focus of some research, another area of interest has involved the content of regret. The earliest surveys that came closest to inquiring about regrets<sup>1</sup> were conducted through the Gallup Polls in 1949, 1953 and 1965 (Landman, 1993). In a national sample of American adults, the 1949 Gallup Poll reported that 69% of respondents specified at least one regret. In the 1953 Gallup Poll, 39% and 35% of male and female respondents respectively, said that they would live life differently in some way. In the 1965 Gallup Poll 64% of the respondents acknowledged regrets. In 1992, Landman and Manis, in their study of 44 undergraduates, reported that 54% of the sample acknowledged having regrets. In addition, the four surveys reported that education was the single most common source of regret. Work-related regrets were the second most common, while regrets related to marriage took either second or third place. Regrets related to parenthood and family were not investigated in the Gallup Polls of 1949, 1953 and 1965. However, Landman and Manis (1992) reported that in their study, 19% and 54% of their sample acknowledged regrets related to parenthood and family respectively. In these surveys, regrets were not specified by the researchers but respondents provided their own. Table 1 lists details of the previously mentioned surveys.

In another study, Kinnier and Metha (1989) surveyed men and women in three age categories (20 - 29, 30 - 55, 56 - 64+ years) about major regrets and priorities in life. The most frequently cited regrets were related to missed educational opportunities, similar to the Gallup Polls result and Landman and Manis's (1992) later study. On the basis of spontaneous choices provided by respondents, Kinnier and Metha's sample also reported regrets about not

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<sup>1</sup> Landman 1993, however, qualified this by reporting that while the survey questions did not directly inquire about regret, and that they did not appear to address the psychological state that is regret, they were better understood as having elicited counterfactual thought; that is,

being sufficiently assertive (25%), not being disciplined (17%) and not having taken more risks (17%). Younger subjects were more concerned about careers and romance than older subjects. Whereas older subjects rated family higher and expressed more regret about not having spent more time with family. More older men than younger men expressed regrets about not having spent more time with family. The only difference found between most and least satisfied subjects was that least satisfied subjects regretted not taking more risks in their lives.

Table 1  
Percentage of respondents indicating regrets in earlier research

Regrets	Gallup Polls			Landman & Manis
	1949	1953	1965	1992
Total Acknowledged	69.0	39.0 <sup>m</sup> 35.0 <sup>f</sup>	64.0	54.0
Education	22.0	13.5	45.0	69.0
Work-related	8.0	9.0	9.0	20.0
Marriage-related	10.0	2.0 <sup>m</sup> 6.0 <sup>f</sup>	7.0	20.0
Parenthood-related	<i>ni</i>	<i>ni</i>	<i>ni</i>	19.0
Family-related	<i>ni</i>	<i>ni</i>	<i>ni</i>	54.0

*ni* - not investigated

*m* - males

*f* - females

More recently, Gilovich and Medvec (1994) reported that people's biggest regrets involved inactions or things they failed to do in their lives, as opposed to actions. They also noted that people's regrets followed a systematic time course, in that their action regrets caused more pain in the short term, but their inaction regrets resulted in more pain over the longer term. Other findings in their 1994 study revealed that there were no gender differences

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thoughts about unactualised states, which would come close to regret, especially if the concept was defined in terms of "distress over a desire unfulfilled or an action performed or not performed" (p. 298).

in the tendency to report actions or inactions as their biggest regrets. In addition, they noted that there was some evidence that older subjects were more likely than younger subjects to mention things they failed to do (though this was not statistically significant).

Of their various findings, Gilovich and Medvec (1994) were noted for their proposition that inaction regrets were more prevalent than action regrets. Till then, the clearest and most frequently replicated finding on the psychology of regret was that people experienced more regret over negative outcomes that stemmed from actions taken than from equally negative outcomes that resulted from inactions (Gleicher et al., 1990; Kahneman & Tversky, 1982b; Landman, 1987). Gilovich and Medvec proposed that this finding conflicted with the common observation from everyday life that when people were asked about their biggest regrets in life, they focussed on things that they failed to do in their lives. They further proposed that as problematic as regrettable actions might be initially, when people reviewed their lives, it seemed that regrettable failures to act stood out and caused greater grief. Gilovich and Medvec (1995) noted that there was no research that directly examined the extent to which people's real-life regrets stemmed from actions versus inactions, though there was suggestive evidence from Erskine (1973), who obtained results from the 1953 and 1965 Gallup Polls. Similarly, Kinnier and Metha (1989) and Metha, Kinnier and McWhirter (1989) noted that across the life span, inaction regrets predominated. Hattiangadi, Medvec and Gilovich's (1995) examination of the data of Terman's geniuses (Terman et al., 1989) noted that 54% of the respondents reported regrets of inaction as opposed to 12% who reported action regrets.

Gilovich and Medvec (1994) suggested that these findings were indicative of a temporal pattern to the experience of regret over actions and inactions. They proposed the

operation of three mechanisms that could account for the existence of this pattern; first, factors that diminish the pain associated with the regret of action; second, factors that increase the pain associated with the regret of inaction; and third, factors that promote the cognitive availability of inaction regrets more than action regrets (also referred to as the Ziegarnik effect, whereby, regrettable failures to act tend to be more memorable and enduring than regrettable actions).

However, Kahneman (1995) offered an alternative interpretation of the temporal pattern associated with regrets of action and inaction. Kahneman coined the terms 'hot regret' and 'wistful regret' and suggested that these types of regret arise at different temporal distances from the actions or inactions to which they are attached. Kahneman described hot regret as that which could be evoked by relatively trivial adverse consequences such as a social embarrassment. It was often more intense for actions than for inactions, perhaps because actions were more abnormal than inactions (Kahneman & Miller, 1986). It was suggested that hot regrets normally become less intense over time, both for actions and inactions. On the other hand, wistful regret was also described as intense. But it was typically associated with large consequences that took a long time to be acknowledged; for example, one would have done better in life if one had gone to college. Kahneman (1995) argued that what increased over time was not the level of regret associated with the particular consequence, but rather the recognition that there was a large consequence to be regretted.

These differing viewpoints were subsequently put to a series of joint empirical experiments (Gilovich, Medvec & Kahneman, 1998) and the results were indicative of a narrowing of differences as well as a deepening of understanding as to how complex the psychology of regret was. Action and inaction regrets were reported to differ systematically

in the emotions they evoked. Three clusters of emotions differentially associated with regrets of action and inaction were noted, with the probability they would differ in the stage of life during which they would be most prevalent. In addition to hot and wistful regrets, a third emotional cluster was identified. This cluster comprised emotions that were neither hot nor wistful, but were more associated with inactions than actions and centred around feelings such as despair, emptiness and sadness. There was partial agreement about the distribution of regrets of action and inaction among immediate and delayed regrets. One mechanism suggested by Gilovich and Medvec (1994) which accounted for this distribution was that the occurrence of regret required the identification of regrettable consequences, and that adverse consequences of inaction often took longer to manifest themselves than the adverse consequences of actions. The relationship among types of regrets along the action-inaction and temporal dimensions were supported in one of the experiments. Evidence for Gilovich and Medvec's (1994) suggested mechanisms were circumstantial, with the effects having yet to be observed. Long term regrets were associated with pain more than Kahneman had suggested. Gilovich and Medvec acknowledged that many regrets were more wistful and less painful than their original research implied. However, there were also many painful regrets centred around feelings of despair. Finally, inaction regrets might either actually increase in intensity over time, or appear to intensify because the intensity of inaction regrets may diminish less over time than the intensity of action regrets, the nett result being that inaction regrets remain more potent compared to regrets of action.

#### **1.2.4 Regret and Life Satisfaction**

Despite the previously described research on regret, which has focussed on definition, typology and life review, research on action and inaction regrets, and their frequency and

relationship to other constructs have been limited (Lecci, Okun & Karoly, 1994). In this respect, some researchers extended the study of regret. They found that reminiscence frequency (which is an activity associated with regret) is inversely related to past life satisfaction, psychological well-being and social support, and is positively associated with mood disturbances (Fry, 1991; Murrell, Himmelfarb & Wright, 1983). These findings parallel with the findings of Klinger (1975, 1977, 1987), and Kuhl and Helle (1986), which suggest that greater negative attention to regrets related to unfulfilled goals were likely to be associated with greater feelings of dissatisfaction. In fact, Lecci et al. (1994), in their study of life regrets and current goals as predictors of psychological adjustment, noted that regret-based cognitive and affective associations (such as pessimism and disappointment) were predictive of problematic function more often in older than younger adults. In addition, ratings of regret accounted for 19.8% and 11.8% of variance in life satisfaction and depression scores respectively, for older and younger adults in their sample. While these results were not large, their study nevertheless illustrated that life regrets were salient even for young and middle-aged adults in predicting depression and life satisfaction. Their findings also suggested that the number of regrets recalled appeared to be an important variable for older adults. These regrets were reported to become more negative as the individual aged, such that sheer numbers of regrets for older individuals was associated with problematic adjustment (of which life satisfaction was the actual construct measured). Lecci et al. (1994) argued that as individuals became older, they had fewer opportunities to effect changes. As a result, at a later stage in life, regrets appeared to be more profound due to their relative permanence, with older adults having fewer opportunities to make any changes. In contrast, younger adults may have still felt capable of recapturing that which was lost or missing, as represented by regret. Additionally, older individuals would have had more time to consider their regrets, thus making them particularly troublesome. Cantor (1990) argued that "one

cannot underestimate the significance of post hoc cognitive work, the creative ways that people torture themselves after events with regretful ruminations that add substantially to the failed behaviour, and often serve to construct impediments to future life-task ventures” (p. 743). In this way, older adults could be seen as having more time to castigate themselves over now-regretted decisions.

Recently, Seiden (2001) replicated previous findings regarding the dominance of inaction regrets in personal life and suggested a similar pattern in work-related regrets. He examined the work and personal regrets among graduate school professionals, in relation to self-evaluations of quality of life. The study also profiled the quality of life experiences of men reporting different work and personal regrets, with action regrets reflecting the lowest quality of life for men in the personal domain, and inaction regrets reflecting the lowest quality of life for men in the work domain. The study also examined the direct impact of specific work and personal regrets on the quality of life across gender. While there were no gender differences with regard to work-related action regrets having the most severe impact on satisfaction in the work domain, personal regrets of the romantic and familial kind had a greater impact on the satisfaction of women’s personal lives than men’s.

### **1.2.5 Life Events, Life Satisfaction and Regret**

Bandura (1982) emphasised the potential importance of chance encounters for life paths. He reported that chance encounters were mentioned by individuals as leading to choices they had made; for example, meeting someone who eventually became a spouse, or falling out of a job opportunity because of a chance mistake. Hall, Mathews & Keeler (1984), studied the relationship among life events, affective disorders, stress symptoms and life

satisfaction among ambulatory visitors to a health screening. They reported that subjects in the youngest age group (20 - 35 years), compared to those in the oldest age group (56+ years), and with the highest level of life-changing events, also reported the lowest levels of satisfaction. More recently, Hilleras, Jorm, Herlitz and Winblad's (2001) study of the factors that influence life satisfaction among the very old, noted that 'personal illness' (a negative life event) did affect subjective assessments of life satisfaction. Similarly, Owen et al. (2002), in their research examining the relationship between life events and psychological distress, reported that life events were most predictive of depression and life satisfaction; with higher numbers of life events associated with lower levels of satisfaction. Clausen (1995) in his study of the importance of life events, noted that they serve as turning points in life whereby individuals are confronted with important choices, which may have implications for their future. The investment of personal energies in making these potentially fateful choices, within a climate of rapid socio-demographic change, makes the occurrence of life events a potential source of regret. Therefore, on the basis of Bandura's (1982) and Clausen's (1995) propositions, it is plausible that a positive relationship between life events and regret exists; more specifically, if individuals experience more negative impact from life events, they may have more to regret. While current research suggests there is a relationship between regret and life satisfaction, and between life events and life satisfaction, the question of any moderating or mediating effects of life events on the regret - life satisfaction relationship remains to be explored. The question of how regret affects life satisfaction has not received much research attention. Gilovich and Medvec (1995) suggested that counterfactual thinking (thinking about how things might have been different) may occur when individuals are confronted by negative life events. Gilovich and Medvec argued that if individuals' affective reactions to these events were negative, they were more likely to report lower satisfaction with life. In the light of previous research, the current study tests the prediction that

individuals experiencing higher levels of negatively impacting life events, would have higher levels of regret and lower levels of overall life satisfaction, than those experienced lower levels of negatively impacting life events. The negative impact of life events was also predicted to be a mediating mechanism linking regret to life satisfaction.

### **1.2.6 Regret Research in New Zealand**

At the time of the current research, only two New Zealand studies have very briefly explored regret among young and middle-aged adults. Barrington and Gray (1981) in their study of the attitudes, feelings and social conditions affecting 100 New Zealand women between the ages of 20 and 50 years, reported that 50% of their sample had no regrets. Of the other half who reported regrets, education-, leisure-, family- and relationship-related regrets predominated. Overall, the women were reported to be generally satisfied with their lives.

In a similar study conducted by Gray (1983) among 100 New Zealand men between the ages of 20 and 50 years, only a few men were reported as going through life without regrets (no actual figures were reported in the study). There was an association between age and the number of regrets, with younger men (those in their 20s) reporting fewer regrets and older men (those in their 40s) reporting more. Socio-economic status was also a factor, with upper middle class males (described as those employed in professional or managerial jobs) reporting more regrets (especially career-related regrets) than those in the middle and lower classes (described as those employed in sales or clerical jobs or as skilled tradesmen, and those employed as labourers or factory workers or as unskilled tradesmen respectively). The main domains of regret across age groups were in education and career, with education-related regrets being more prevalent in the middle class. Overall, one third of the men had

regrets related to career. The other reported domain of regrets was in relationships, especially lost opportunities for a relationship. While overall life satisfaction was not directly examined, 80% of the men in the study reported having an unfulfilled ambition, with 62.5% of them stating that fulfilment of ambition would bring them personal satisfaction. The Barrington and Gray (1981) and Gray (1983) studies have provided a brief, albeit tantalising glimpse into the psychology of regret among New Zealand adults, whose findings are suggestive of differences in regret across age, gender and socio-economic status.

### 1.2.7 Regret Research Summary

Table 2, summarises research findings pertinent to the present study of regret.

Table 2  
Chronological Overview of the Regret Research

Study	N	Major Findings
Klinger (1975)	<i>nr</i>	<ul style="list-style-type: none"> <li>• Greater negative attention to regrets associated with greater feelings of dissatisfaction</li> </ul>
Barrington & Gray (1981)	100 women	<ul style="list-style-type: none"> <li>• 50% of women had regrets</li> <li>• Main regrets – education, leisure, family, relationship</li> <li>• Qualitative report of overall satisfaction with life</li> </ul>
Kahneman & Tversky (1982a)	<i>nr</i>	<ul style="list-style-type: none"> <li>• Action regrets were more prevalent than inaction regrets</li> </ul>
Gray (1983)	100 men	<ul style="list-style-type: none"> <li>• Qualitative report of most men having regrets</li> <li>• Association between age &amp; number of regrets; with older men reporting more regrets than younger men</li> <li>• Association between socio-economic status and type of regrets: <ul style="list-style-type: none"> <li>- upper middle class men reported more career regrets than middle and lower class men</li> <li>- middle class men reported more education regrets than upper and lower class men</li> </ul> </li> <li>• Main regrets – education (33.3%), career, relationship</li> </ul>
Landman (1987)	96	<ul style="list-style-type: none"> <li>• Action regrets were more prevalent than inaction regrets</li> <li>• Intensity of feelings for action regrets was greater than inaction regrets</li> </ul>
Kinnier & Metha (1989)	316	<ul style="list-style-type: none"> <li>• Inaction regrets were more prevalent than action regrets</li> <li>• Most common regrets: <ul style="list-style-type: none"> <li>- Education (inaction), Career &amp; Romance (younger adults), Family (older adults)</li> </ul> </li> <li>• Least satisfied subjects' most common regret was not taking more risks</li> </ul>

Table 2 (cont'd)

Study	N	Major Findings
Metha et al. (1989)	178 women	<ul style="list-style-type: none"> <li>• Inaction regrets were more prevalent than action regrets</li> </ul>
Gleicher et al. (1990)	124	<ul style="list-style-type: none"> <li>• Action regrets were more prevalent than inaction regrets</li> </ul>
Fry (1991)	70	<ul style="list-style-type: none"> <li>• Reminiscence frequency (an activity associated with regret) was inversely related to past life satisfaction and psychological well-being</li> </ul>
Gilovich & Medvec (1994)	249	<ul style="list-style-type: none"> <li>• Inaction regrets were more prevalent than action regrets</li> <li>• Action regrets caused more short-term pain than inaction regrets</li> <li>• Inaction regrets caused more long-term pain than action regrets</li> </ul>
Lecci et al. (1994)	155	<ul style="list-style-type: none"> <li>• Number of regrets was more predictive of problematic function in older adults than in younger adults</li> <li>• Ratings of regret account for 19.8% of variance in life satisfaction scores</li> <li>• Ratings of regret account for 11.8% of variance in depression scores</li> </ul>
Lewis & Borders (1995)	152 women	<ul style="list-style-type: none"> <li>• Regrets regarding life circumstances was the third best predictor of life satisfaction</li> </ul>
Hattiangadi et al. (1995)	622	<ul style="list-style-type: none"> <li>• Inaction regrets were more prevalent than action regrets</li> <li>• Regrets produced by actions and inactions were reported to be equally intense</li> </ul>
Lata et al. (1997)	195	<ul style="list-style-type: none"> <li>• Young females (16 – 23 yrs) have significantly more regrets than young males regarding appearance</li> <li>• Junior students have more regrets about education and social life than senior students</li> </ul>
Feldman et al. (1999)	157	<ul style="list-style-type: none"> <li>• Inaction regrets were as prevalent as or more prevalent than action regrets</li> <li>• Regrets produced by actions and inactions were reported to be equally intense</li> </ul>
Seiden (2001)	<i>nr</i>	<ul style="list-style-type: none"> <li>• Male subjects had more inaction regrets than action regrets about personal life and career</li> <li>• Male subjects' action regrets were associated with lower quality of life reports in the personal domain</li> <li>• Male subjects' inaction regrets were associated with lower quality of life reports in the work domain</li> <li>• No gender differences were reported in the association between work-related action regrets and work satisfaction</li> <li>• Family-related and romance-related regrets have a greater impact on personal satisfaction among female subjects than male subjects</li> </ul>

### **1.3 THE PRESENT STUDY**

#### **1.3.1 Rationale for the Present Study**

The scientific investigation of regret is still very much in its infancy despite preliminary survey questions in the Gallup Polls of 1949, 1953 and 1965. While debates over conceptual and functional issues continue, there has been a growing, albeit limited exploration of the structure of regret (namely, frequency, intensity and content). In addition, some studies have suggested that relationships exist between regret and other constructs such as life satisfaction. These studies, though few, have been important in laying the foundation for much of current understanding of regret. However, their findings have produced disparate results. For example, while earlier research showed that action regrets were more prevalent than inaction regrets, later research showed the opposite. Furthermore, previous American research revealed education, career and to a lesser extent, marriage and parenthood, to be the domains with the most regrets. However, in two New Zealand studies, while women reported mainly education regrets (in addition to leisure, family and relationship-type regrets), career regrets did not feature among the four most common regrets. On the other hand, men reported education, career and relationship regret, similar to the American samples.

As for the relationship between regret and life satisfaction, even less is known. Only five published studies have explored this relationship, with Lecci et al. (1994) alone reporting that ratings of regret account for 19.8% of variance in life satisfaction scores. No studies have been published with regard to ratings of regret on satisfaction along the ten domains explored in the present study. Similarly, only three studies have suggested a relationship between life events and life satisfaction (e.g. Hall et al., 1984; Hilleras et al., 2001; Owen et al., 2002). To date, while a relationship between life events and regret has been proposed (Clausen, 1995),

the relationship has not been empirically tested. As for any mediation or moderation effects that may exist between the negative impact of life events and the regret – life satisfaction relationship, Gilovich and Medvec suggest it as a possible influence salient to our understanding of individuals' happiness and well-being. Again, this proposition has not yet been empirically tested.

In addition, New Zealand has a rapidly ageing demographic profile (Statistics New Zealand, 1996). By the year 2031, the number of elderly (those aged 65 years and above) is projected to rise to 13% of the total population, from the 8% in 1991 (Statistics New Zealand, 1996). If, as the research suggests, regrets are an important variable in assessments of life satisfaction among the elderly, then how this impacts on the lives of an ageing population is of considerable research interest. Notwithstanding an ageing population, research about regret in younger and middle-aged populations would help further understanding of any developmental, temporal, conceptual and functional features of regret.

### **1.3.2 An Exploration of the Structural and Relational Nature of Regret**

As outlined previously, the study of the structural issues related to regret continue to reveal new information that either validates previous research, or explicates existing complexities. In the area of relationships between regret and related constructs, such as life satisfaction and life events, there is a growing body of research in support of the regret - life satisfaction relationship, and an absence of research to test the propositions that life events, particularly negative life events, have an impact on the regret - life satisfaction relationship. These concerns have provided the impetus for the present study as an exploratory one using a convenience sample.

### 1.3.3 The Research Goals

The present study has two primary goals:

- Firstly, to provide a comparative, descriptive account, across age and gender, of the content of regret; namely, the level of action and inaction regret, and the incidence of regret along ten domains (namely, career, finance, leisure, health, family relationships, friend relationships, intimate relationships, sexual relations, education, and spiritual or religious life).
  
- Secondly, to replicate and extend research which has investigated the relationship of regret and life satisfaction, and of the negative impact of life events and life satisfaction. The extension involves examining, across age and gender, the relationship between regret and life satisfaction along ten domains (e.g. career, finance, leisure, family relationships, etc.), the relationship between regret and the negative impact of life events, and testing for any mediating and moderating influences of the negative impact of life events on the regret – life satisfaction relationship.

### 1.3.4 The Hypotheses

On the basis of the aforementioned goals, the following hypotheses were formulated:

- Firstly, participants who have higher levels of total regret will have lower levels of overall life satisfaction than those with lower levels of total regret.

- Secondly, participants with higher levels of regret according to ten domains will have lower levels of life satisfaction along corresponding domains than those with lower levels of regret.
  
- Thirdly, participants' report of total inaction regret will be higher than their report of total action regrets across the ten domains.
  
- Fourthly, participants who experience more negative impact from life events will have lower levels of life satisfaction than those who experience less negative impact from life events.
  
- Fifthly, participants who experience more negative impact from life events will have higher levels of regret than those who experience less negative impact from life events.
  
- Sixthly, participants experiencing more negative impact from life events would also have more total regret and lower overall life satisfaction than those experiencing less negative impact from life events. In addition, the negative impact of life events would be a mediator linking total regret and overall life satisfaction.

## **2. METHOD**

### **2.1 THE SAMPLE AND PROCEDURE**

One hundred and sixty-one adults participated in this study. There were 90 females (55.9%) and 71 males (44.1%). The sample was selected primarily on the basis of convenience so as to have access to large numbers of potential participants and to ensure a broad sampling across gender and a wide range of ages. For the present study, the need for such a sample was underscored by previous regret research, which has suggested differences along age and gender (Barrington & Gray, 1981; Gray, 1983; Kinnier & Metha, 1989; Lecci et al., 1994; Seiden, 2001).

Initial contact was made through an advertisement on the Massey University psychology graduate mailing list, telephone calls and emails to potential participants known to the researcher, visits to a local retirement village and through random contact with customers of two major shopping centres in Palmerston North, New Zealand. When responses of interest were received and consent to participate obtained, subjects were given a questionnaire package. The package consisted of a covering letter outlining consent procedures (Appendix A), a 20-page questionnaire entitled "The Life Satisfaction Survey" (Appendix D), a "Request for Feedback" form (Appendix B), for those who wished to receive a report of the salient findings of the survey, and two freepost envelopes to submit the questionnaire and feedback form separately. Randomly approached participants were encouraged to provide a mailing address, so that if a reminder letter needed to be sent, they could be contacted. Participants were given a month to complete the questionnaire. At the end of the month, 125 participants returned completed questionnaires. A reminder letter was then sent to all those participants who had provided a mailing address (Appendix C). They

were thanked for returning the completed questionnaires if they had already done so, and encouraged to return the completed questionnaires if they had not. This resulted in a final response rate of 80.5% (that is, out of 200 adults who had agreed to participate, 161 adults returned completed questionnaires). Table 3 provides demographic details of the sample.

Table 3  
Characteristics of the present sample

Age	Male		Female		Total	
	N	%	N	%	N	%
20 – 29 years	11	15.4	15	16.7	26	16.1
30 – 39 years	18	25.4	19	21.1	37	23.0
40 – 49 years	16	22.5	23	25.5	39	24.0
50 – 59 years	12	16.9	13	14.5	25	15.5
60 – 69 years	7	9.9	11	12.2	18	11.1
70+ years	7	9.9	9	10.0	16	9.9
Total	71	100.0	90	100.0	161	100.0

## 2.2 THE INSTRUMENT

Respondents completed a self-administered questionnaire entitled “The Life Satisfaction Survey” (Appendix D) that was divided into five sections and designed to compare self-reports of life satisfaction, life events and regret.

### 2.2.1 Life Satisfaction

Section One was designed to measure the construct of life satisfaction. This construct is one of the earliest and most investigated concepts in the study of adults (George, 1979), and refers to the “assessment of the overall conditions of existence as derived from a comparison of one’s aspirations to one’s actual achievements” (p. 210). Various researchers have

identified components of life satisfaction among adults. Giele (1982) suggested that in order to obtain objective information about key dimensions of adult life experiences, an integration approach, in which the researcher asks about the combination of factors related to a sense of well-being and life satisfaction, was crucial. In addition, Andrews and Withey (1976), in their research on social indicators of well-being, drew distinctions between satisfaction with life as a whole and satisfactions expressed along various domains.

Accordingly, various researchers have attempted to identify components of life satisfaction. These factors include: being married (Haring-Hidore, Stock, Okun & Witter, 1985), job satisfaction (Bearon, 1989; Crohan, Antonucci, Adelman & Coleman, 1989; Rice, Near, & Hunt, 1980), social support (Cockrum & White, 1985; Ishii-Kuntz, 1987 cited in Lewis & Borders, 1995; Ward, 1979), health (Mitchell & Helson, 1990; Notman, 1979; Palmore & Kivett, 1977; Ward, 1979), gender identity (Frank, Towell & Huyck, 1985; Whitley, 1983), locus of control (Bell, 1984), sexual enjoyment (Palmore & Kivett, 1977), social activity (Palmore & Kivett, 1977) and regrets about life circumstances (Metha, Kinnear & McWhirter, 1989). Lewis and Borders (1995), in their review of the life satisfaction literature, concluded that previous studies of life satisfaction among adults have provided moderately consistent views about the constituents of life satisfaction. Thus, in the light of previous research findings, Section One was designed to require participants to rate their level of satisfaction along ten domains, namely, career, finance, leisure, health, family relationships, relationships with friends, intimate relationships, sexual relations, education, and spiritual or religious life. In addition, an eleventh question related to overall life satisfaction was also included. Participants rated their levels of satisfaction along a well-developed seven-point scale derived from the work of Andrews and Withey (1976), ranging

from 'terrible' [1], 'unhappy' [2], 'mostly satisfied' [3] and 'mixed' (equally satisfied and equally dissatisfied)[4], to 'mostly satisfied' [5], 'pleased' [6] and 'delighted' [7].

The domain involving spiritual or religious life was included in the present study for several reasons. Previous literature on the study life satisfaction has made scant reference to the role of religion or spirituality. However, Ellison, Gay and Glass (1989) suggested that personal devotion and public participation in aspects of religiosity had small but positive relationships with life satisfaction. In another study, which examined the relationship between religious involvement and subjective well-being, the influence of religious certainty was reported to be direct and substantial; with subjects professing strong religious faith reporting higher levels of life satisfaction, greater personal happiness, and fewer negative psychosocial consequences of traumatic life events (Ellison, 1991). In a related development, a study by Pargament et al. (1990) examined the role of religious coping effects in dealing with negative life events. Pargament and colleagues reported that religious beliefs, involvement in rituals, and religious support were associated with positive outcomes; thereby underscoring the importance of the religious dimension in coping with negative life events. Previous research cited in studies of life satisfaction has among other domains explored the role of social support. However, more recently, Fiala, Bjorck and Gorsuch (2002) developed a religious support measure based on Cutrona and Russell's (1987) social support model. In their study involving 249 participants, three types of religious support (namely, from God, the congregation and the church leadership) were found to be related with greater life satisfaction. Their study suggested that religious support could provide unique resources for religious persons above and beyond those furnished by social support alone (Fiala et al., 2002). Hence, the inclusion of a spiritual or religious life domain in the present study was considered salient to the investigation of life satisfaction. The term, 'spiritual' was intended to elicit responses

from those who might subscribe to general ethical or moral principles and who might have been left out of the survey because they do not subscribe to traditional religious belief systems.

### **2.2.2 Negative Impact of Life Events**

Section Two aimed to measure the construct of life events. A well-known instrument in the measurement of stress arising from life changes is the Social Readjustment Rating Scale (SRRS) by Holmes and Rahe (1967). However, several researchers have questioned its adequacy as a measure of the impact of life change. They argue that the SRRS assumes that life changes are stressful regardless of the desirability of the events experienced (Rabkin & Struening, 1976). Brown (1974), Mechanic (1975) and, Sarason, De Monchaux and Hunt (1975, cited in Sarason et al. 1975) questioned the logic of combining the effects of both positive and negative effects. They argued that undesirable events may have differential effects on the individual when compared to desirable events, and highlighted the importance of conceptualising life stress primarily in terms of an event's negative impact.

Accordingly Sarason et al. (1978) developed The Life Experiences Survey (LES), a two-part, 57-item self-report measure that allows respondents to indicate events that they had experienced during the previous year. For the purposes of the present study, the LES was used in modified form. Only the first part was incorporated, as this was designed for use among adults (the second part, consisting of 10 questions were for students only). Secondly, only events in the past 12 months were required to be indicated (the original required respondents to list events in the previous 6 months as well). In addition, some of the items were reconstructed to reflect social changes that have occurred since the instrument was

developed 24 years ago. As a result, the original 47 items of the first part were reduced to 46, terms such as 'defacto relationships' were introduced, and the monetary value of loans was increased, to reflect exchange rates and inflationary changes. In addition to the list of 46 items, four blank spaces in which respondents could indicate other events that they may have experienced, were included.

The format of the LES requires respondents to indicate the perceived impact of a particular event in their life at the time of occurrence and whether the event was perceived as negative or positive. The ratings are on a seven-point scale ranging from extremely negative (-3) to extremely positive (+3). The positive change score is then obtained by summing the impact ratings of those events designated as positive by the subject. Similarly, a negative change score is obtained by summing the impact ratings of those events experienced as negative by the subject. By adding these two scores, a total change score can be obtained, which represents the total amount of change, both desirable and undesirable. Reliability tests of the LES indicate it to be a moderately reliable instrument, insofar as negative and total change scores are concerned (Sarason et al., 1978). The reliability coefficients for the positive change score were .19 ( $p < .001$ ) and .53 ( $p < .001$ ); for the negative change score they were .56 ( $p < .001$ ) and .88 ( $p < .001$ ); and for the total change score they were .63 ( $p < .001$ ) and .64 ( $p < .001$ ).

For the purposes of this study, only negative change scores will be examined because research evidence from Mueller, Edwards and Yarvis (1977), Sarason, Johnson and Siegel (1978), and Vinokur and Selzer (1975), suggest life stress to be most accurately conceptualised in terms of negative life changes rather than in terms of positive or total change. Since then, numerous studies have attested to the relative saliency of the negative

change score. In a study of negative change and psychological symptomatology, Kale and Stenmark (1983) reported that in comparison with the Social Readjustment Rating Scale (SRRS; Holmes & Rahe, 1967), the negative change score of the LES was a better predictor of psychological symptoms. Weiten (1998), in his study of life stress, major life events and psychological symptoms, reported a similar correlation between measures of psychological symptoms and the negative change scores. In a South African study that examined the validity of the LES, the negative change score was found to be the only significant predictor of psychological symptoms and life satisfaction (Pretorius, 1998). More recently, Dixon and Reid (2000) reported that the negative change score of the LES was found to correlate significantly with various predictors of psychological well being.

### **2.2.3 Regret**

The objective of Sections Three and Four was to measure the frequency and intensity of action and inaction regrets. Action regrets were defined as regrets for having done certain things in life, while inaction regrets were defined as failing to have done them, as determined by Gilovich and Medvec (1994). Previous scientific research on regret has focused heavily on the frequency of regret, with scant attention given to the notion of intensity. However, Gilovich and Medvec (1994) claimed that the intensity of action regrets was higher over the short term than inaction regrets, and that inaction regrets became more intense in the long term. As such, in the present study, measures of both frequency and intensity were included.

Developing a measurement instrument for regret has nonetheless been problematic. The scientific investigation of regret is recent and methods of measurement are still in development (Baum, 1999). While a variety of regret measures have been adopted, there

appear to be no published studies that have investigated the psychometric properties of these regret measures. Klein and Gotti (1992) developed the Regret Self Inventory (RSI) as a self-report index of 40 items, with space provided for additional items. Similarly, the Life Revision Index (LRI) developed by DeGenova (1992), has little, if any, psychometric support. It consists of 35 questions dealing with what people would do differently if they had their life to live over. The questions were divided into seven sub-domains; namely, family, friends, work, spirituality, health care, education and leisure.

Ruuska (1993) attempted to develop an internally consistent and valid Regret Scale on the basis of the Minnesota Multi-phasic Inventory – 2<sup>nd</sup> Edition (MMPI-2; Graham, 1990) for use among substance abusers. A 30-item scale was produced on the basis of consensus achieved by four psychologists. Results promisingly indicated that a Regret Scale, rationally developed from items on the MMPI-2, could be developed, and that it was significantly correlated with the Regret Self-Inventory (RSI; Klein & Gotti, 1992). However, Ruuska (1993) also advised caution with the scale's application, as specifically targeted regrets could not be identified with the scale, but rather a pervasive sense of regret.

Gilovich and Medvec (1994) adopted forced-choice and free-response methods of measurement. The forced-choice method netted a 75% response from 60 respondents that they had more inaction regrets than action regrets. The free-response method conducted with 77 respondents, resulted in a mean of 2.76 regrets per subject, with 63% indicating more inaction regrets than action regrets.

In another study of life satisfaction among single middle-aged professional women, Lewis & Borders (1995) measured the relationship between regrets regarding life

circumstances and life satisfaction using an instrument derived from questions concerning common regrets. These questions were drawn from studies by Baruch, Barnett and Rivers (1983), and Metha, Kinnear and McWhirter (1989). Examples of the questions included, “I would have saved more money”, “I would have had children”, “I would have worked less and enjoyed my life more”. Respondents were then asked to rate the intensity of the regrets on the basis of a categorical score, ranging from low to moderate to high regret.

In the absence of any definitive measurement instrument for regret and the recency of empirical research in this field, a regret scale incorporating elements of the previously described measures was developed for the present study. The regret items for these sections (namely, Section Three and Four), were drawn from the more common responses derived from a regret study involving data from Terman’s geniuses (Hattiangadi et al., 1995; Terman et al., 1989). Hattiangadi and colleagues’ study unveiled the various ways in which the regrets of the intellectually gifted were just like the rest of the general population. “They have the same regrets and would make the same changes as nearly everyone else if they could live over again. In general, they, like the population as a whole, would choose to undo those things that they have not done but wish they had, rather than those things they have done but wish they had not” (p. 182).

Additional items were also generated to tap information from the Spiritual or Religious Life domain. The items were then grouped to match the ten domains of life satisfaction in Section One. Spaces were provided at the end of Sections Three and Four, for respondents to indicate other regrets not captured by the items in these sections. These other regrets were subsequently collated according to the ten domains. Regrets that could not be classified in this way were put into an ‘others’ category.

In Section Three, participants were asked to examine a list of 42 statements that described actions they might have taken in the course of their lives. They were then asked to indicate the level of regret they associated with each of the statements that applied to them. Four possible levels of regret were provided; namely, 'no regret' (0), 'slightly regret' (1), 'moderately regret' (2) and 'strongly regret' (3). If a statement did not apply to them, they were advised to leave it blank. In a similar way, in Section Four, a list of 42 statements that were the antithesis of those in Section Three was provided for completion. For example, if the statement in Section Three was "I have chosen a different career", in Section Four it read, "I have not changed my career". Therefore in this section, they were asked to rate their level of regret for inactions in their lives. The regret score generated for each individual was the product of the number of regret items for which they indicated and the level of intensity they ascribed to each regret. For example, if an individual indicated a total of 20 regret items and the average level of regret intensity was 2, their regret score would be 40 (i.e.  $20 \times 2$ ).

#### **2.2.4 Validity of the Regret Scale**

Finally, Section Five was developed to verify the validity of Sections Three and Four, in measuring the level of action and inaction regret along the ten domains. This was deemed to be important, on the basis of feedback obtained from a pilot study conducted in the course of developing the questionnaire. The pilot study involved 15 postgraduate college students, mental health professionals and older adults from the general population. Contrary to the finding that respondents were "not stymied or ... concerned" about the philosophical distinction that distinguishes an action from an inaction regret (Gilovich & Medvec, 1995: p. 381), feedback indicated that some respondents in the pilot study had difficulty mentally manipulating the action and inaction statements with the concept of regret. Hence, the

inclusion of twenty general statements about regret requiring the respondents to state their level of agreement or disagreement with them. Each of the statements tapped into action and inaction regret in the ten domains investigated in Sections Three and Four. It was hypothesised that agreement or disagreement with a statement in Section Five would provide both convergent and divergent validity for the items in Section Three and Four. For example, if a respondent had a high action regret score in the career domain, it would be reasonable to expect that they would either agree or strongly agree with the statement in Section Five that read “I can think of one or more career decisions that I have regretted”. Similarly, if a respondent indicated very low levels or no inaction regret in the domain of health, for example, it would be reasonable to expect that they would disagree or strongly disagree with the statement in Section Five that read “I can think of one or more instances when I regret not having taken better care of my health”. The agreement and disagreement responses to the statements were then correlated with the regret scores of Sections Three and Four.

### **3. RESULTS**

#### **3.1 OVERVIEW OF THE ANALYSES**

In correspondence with the goals outlined in the current study, the analyses are presented in three stages. Stage one provides a descriptive account of the occurrence of action and inaction regret in the sample. To recapitulate, action regret relates to actions one has done in one's life, while inaction regrets refer to actions one has failed to do. In addition, the description also investigates the occurrence of these regrets across age and gender, and along the following ten domains identified in the literature as being salient in research on life satisfaction: Career, Finance, Leisure, Health, Family Relationships, Friend Relationships, Intimate Relationships, Sexual Relations, Education and, Spiritual or Religious Life). The descriptive account also describes the level of life satisfaction and the level of negative impact of life events experienced by respondents across age and gender. Stage two of the analyses describes the replication of previous research, which has investigated the relationship between regret and life satisfaction, and between negative impact of life events and life satisfaction. Stage three of the analyses is an account of the present extension of research on regret and life satisfaction. This stage tests for the moderating and mediating influences of negative impact of life events on the relationship between regret and life satisfaction. The statistical analyses used in the present study were performed using SPSS for Windows Version 11.0.0 (SPSS Inc., 2001).

Prior to analysis, an inspection of univariate descriptive statistics revealed some outliers. However, given the size of the sample, and the relative similarity of scores between the original means and the trimmed means, it was decided to retain these cases in the analyses (Pallant, 2001). Homogeneity of variance assumptions were tested using Levene's test for equality of variance and were found to be met. Assessments of normality of the distribution

of scores for life satisfaction, regret and negative impact of life events, revealed significantly skewed distributions. Results of the Kolmogorov-Smirnov statistic, a test of normality, were significant for all three variables ( $p < .001$ ). Despite the violation of the assumption of normal distribution, parametric tests were favoured in the analysis of data for three reasons. Firstly, Cone and Foster (1993) argue that most parametric approaches are robust enough to tolerate violations of assumptions, especially if the sample size is moderate or large (i.e., 40 – 100 or more). In the case of the current study the sample size was large ( $n = 161$ ). Secondly, the suggestion by some (Box & Cox, 1964; Mosteller & Tukey, 1977), to transform data statistically so as to resemble a more normal distribution is fraught with controversy (Tabachnik & Fidell, 2001). They argued that data transformation for failure of normality was not a universal recommendation because of interpretational difficulties associated with transformed variables, and also because in some cases, especially when variables were skewed to the same extent, improvements of analysis with transformation were often marginal. Thirdly, the option of using non-parametric alternatives to parametric ones would be at the expense of using a less powerful statistic; one that would be less sensitive at detecting relationships or differences between variables or groups (Pallant, 2001). To compensate for the violation of the normal distribution assumption, the level of statistical significance used in the analyses was increased to  $p < .01$  and above, so that only very significant differences or relationships were reported.

Nevertheless, in one instance, where the means of action and inaction regrets were being compared, the kurtosis values were sufficiently positive ( $>6$ ) as to warrant the adoption of a non-parametric test, the Wilcoxon Signed Rank Test, that does not require an assumption of normal distribution.

### 3.2 CHARACTERISTICS OF THE PRESENT SAMPLE

The mean age for the total sample was 45.73 years ( $SD = 15.39$ ) and they ranged in age from 22 to 82 years. For males, the mean age was 45.73 years ( $SD = 15.36$ ) and they ranged in age from 22 to 82 years. For females, the mean age was also 45.73 years ( $SD = 15.49$ ) and they ranged in age from 22 to 80 years. The difference between males and females was non-significant [ $t(159) = 0, p = 1.00$ ].

### 3.3 THE CONTENT OF REGRET

Of the 161 respondents, 97.5% reported one or more regrets. The three most commonly reported regrets were associated with Family Relationships, Health, and Spiritual

Table 4  
Percentage of respondents' report of regret along ten domains

Domain	Total N=161 %	Male N=71 %	Female N=90 %	Younger <sup>a</sup> N=85 %	Older <sup>b</sup> N=74 %
Career	37.8	31.8	42.9	44.8	44.6
Finance	56.8	59.2	54.8	63.2	52.7
Leisure	63.7	60.0	66.7	66.7	62.2
Health	75.3	76.1	74.7	80.5	70.3
Family Relationships	77.3	73.1	80.7	80.5	77.0
Friend Relationships	48.7	52.2	45.8	50.6	52.7
Intimate Relationships	47.0	47.8	46.3	51.7	48.6
Sexual Relations	57.2	67.2	48.7	69.0	52.7
Education	52.9	57.1	49.4	47.1	63.5
Spiritual or Religious Life	66.8	59.2	72.9	66.7	68.9
Total	97.5	95.8	98.9	98.1	95.9

a younger adults  $\leq 45$  years

b older adults  $\geq 46$  years

or Religious Life. The three least commonly reported regrets were associated with Career, Intimate Relationships, and Friend Relationships (Table 4).

Details of the regrets reported by males and females are reported in Table 4. Among male respondents, the most commonly reported regrets were associated with Health, Family Relationships and Sexual Relations. Among female respondents, the most commonly reported regrets were associated with Family Relationships, Health, and Spiritual or Religious Life. The least commonly reported regrets among male and female respondents were associated with Career, Intimate Relationships and Friend Relationships.

Details of regrets reported by younger and older adults are also reported in Table 4. The most commonly reported regrets among younger adults were Health, Family Relationships and Sexual Relations. Older adults' most commonly reported regrets were also associated with Health and Family Relationships, but included Spiritual or Religious Life as well.

The least commonly reported regrets among younger adults were associated with Career, Education and Friend Relationships. While older adults also reported the least amount of regret around Career and Friend Relationships, they also had fewer regrets than younger adults around Intimate Relationships, Sexual Relations and Finance.

The mean total regret score and regret scores in the ten domains were also calculated and analysed for gender and age differences. The mean total regret score (TR) is the sum of the overall regret scores in the ten domains and include action as well as inaction regret scores. The regret score is a composite of both the number of reported regrets and the degree of intensity of feelings of regret. Therefore, a high regret score would not only indicate the

number of regrets an individual has, but also indicate the level of intensity associated with the regrets. The purpose of including such a frequency/intensity-type score, as outlined previously in Chapter 2, was to address the lack of attention in previous research on intensity levels, despite it being critical in understanding the temporal pattern to the experience of regret over actions and inactions that Gilovich & Medvec (1994) suggested.

The mean TR of the whole sample was 19.50 ( $SD = 15.38$ ). Independent-samples  $t$ -tests were conducted to compare the mean TR scores for males and females. There was no significant difference in scores for males and females [ $M_{\text{males}} = 17.79$ ,  $SD = 12.71$ ;  $M_{\text{females}} = 20.88$ ,  $SD = 17.18$ ;  $t(115.8) = 1.84$ ,  $p = .7$ ]. The magnitude of the differences in the means was small (eta squared = .01). Males and females were therefore no different in the level of regret they experienced.

Separate independent-samples  $t$ -tests were also conducted to compare the mean regret scores for each of the ten domains, as well as a Levene's test of homogeneity of variances. Three significant gender differences were noted. Two of the differences were of medium magnitude, while the other was of small magnitude (Table 5).

Table 5  
Means, standard deviations and effect sizes by gender of regret scores

Domain	Male			Female			eta <sup>2</sup>
	N	Mean	SD	N	Mean	SD	
Family Relationships (Action regret only)	53	0.64***	0.96	63	1.51	1.55	.10
Spiritual or Religious Life	71	1.87**	2.60	85	3.85	4.97	.06
Spiritual or Religious Life (Inaction regret only)	47	2.26**	2.10	69	3.61	3.35	.05

\*\*  $p < .01$  (2-tailed significance)

\*\*\*  $p < .001$  (2-tailed significance)

Guidelines for qualitative descriptions of magnitude were proposed by Cohen (1988).

Gender differences in regret scores centred around Family Relationships, and Spiritual or Religious Life. Female respondents reported higher levels of regret than male respondents in the domain of Spiritual or Religious Life [ $t(131.3) = -3.18, p < .01$ ]. In addition, female respondents also reported higher levels of action regret than male respondents with regard to Family Relationships [ $t(105.3) = -3.67, p < .001$ ]<sup>2</sup> and higher levels of inaction regret with regard to Spiritual or Religious Life [ $t(113.7) = -1.54, p < .01$ ]. Therefore females were more likely than males, to have regrets of a spiritual or religious nature, especially regrets for not doing things they feel they should have done. They were also more likely to have regretted some of their actions in their relationships with family members.

A one-way between groups analysis of variance (ANOVA) was conducted to explore the impact of age (as a continuous variable) on levels of regret. Only 5 variables yielded statistically significant age differences at the  $p < .01$  and  $p < .001$  level. Older adults reported more Friend Relationship action regret [ $F(54, 85) = 2.3, p < .001$ ], more Spiritual or Religious Life action regret [ $F(53, 84) = 5.1, p < .001$ ], more Leisure inaction regret [ $F(44, 47) = 2.3, p < .01$ ], more Intimate Relationship regret [ $F(54, 96) = 2.0, p < .01$ ], especially Intimate Relationship action regret [ $F(52, 78) = 2.5, p < .001$ ], than younger adults. The effect sizes of these significant differences between younger and older respondents (calculated using eta squared) were large (Cohen, 1988), and ranged from .53 to .76.

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<sup>2</sup> When two groups of participants are compared, depending on the error term selected (ie. unpooled or pooled) the  $t$  test either computes an error term based on the standard error of the mean provided separately by each

### 3.4 VALIDITY OF THE REGRET RESPONSES

In the absence of any empirically validated Regret scales available to the researcher at the time of the survey, Section Five of the questionnaire was developed as an additional measure of regret. This section consisted of twenty general statements about action and inaction regret that respondents were asked to either agree or disagree with. For example, respondents were asked whether they could think of one or more career decisions that they might have regretted. If they agreed with this statement, the agreement score thus generated (i.e., the agreement with statements recalling regret), would be compared with any action regret items they may have indicated in Section Three. Positive correlations between the agreement score and the total regret score (TRS) could be reasonably expected to be more likely if the TRS actually measured regret, thereby validating the measure. Similarly, disagreement scores (i.e., disagreement with statements recalling regret scores) were also generated for positive correlations with the inaction TRS of Section Four.

There was a significant and large positive correlation between the agreement score in Section Five and TRS in Section Three, which was a measure of action regret ( $r = .72$ ,  $n = 71$ ,  $p < .01$ ). Similarly, there was a significant and large positive correlation between disagreement score in Section Five and TRS in Section Four, which measured inaction regret ( $r = .62$ ,  $n = 94$ ,  $p < .01$ ). Therefore there was convergent validity between the measure of agreement or disagreement with regret statements in Section Five and the measure of action regret (Section Three) and the measure of inaction regret (Section Four). In the light of these significantly large positive correlations, the validity of the Regret scale was empirically verified.

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sample or computes an error term based on two samples combined, respectively. Either of these computations can result in decimals in df values (Tabachnik & Fidell, 2001).

### 3.5 LIFE SATISFACTION

Respondents were asked to rate their levels of life satisfaction along a well developed seven-point scale, ranging from 'terrible' to 'delighted', derived from the work of Andrews and Withey (1976). The mean total life satisfaction (TLS) score of the 161 respondents was 5.57 ( $SD = 15.38$ ). This corresponds with a rating of 'mostly satisfied' in Section One of the questionnaire. The TLS score is not the sum of the life satisfaction scores in each of the ten domains explored, but rather, the respondents' assessment of overall life satisfaction. Respondents were mostly satisfied in all but two domains. They were equally satisfied and dissatisfied in the domains of Leisure ( $M = 4.97$ ,  $SD = 1.16$ ) and Finance ( $M = 4.54$ ,  $SD = 1.37$ ).

Table 6  
Means and standard deviations by total sample and gender of life satisfaction scores

Domain	Total			Male			Female		
	N	Mean	SD	N	Mean	SD	N	Mean	SD
Career	157	5.31	1.13	71	5.35	1.20	86	5.28	1.0
Finance	161	4.55	1.37	71	4.72	1.46	90	4.41	1.29
Leisure	161	4.97	1.16	71	5.03	.99	90	4.92	1.28
Health	161	5.43	1.03	71	5.44	.91	90	5.43	1.12
Family Relationships	160	5.58	1.11	70	5.49	1.11	90	5.64	1.11
Friend Relationships	161	5.64	.92	71	5.51	.94	90	5.74	.89
Intimate Relationships	138	5.75	1.11	64	5.80	.98	74	5.72	1.21
Sexual Relations	146	5.18	1.36	69	5.25	1.25	77	5.12	1.45
Education	161	5.57	1.13	71	5.59	1.06	90	5.54	1.19
Spiritual or Religious Life	124	5.22	1.01	56	5.09	.96	68	5.32	1.04
Total Life	161	5.57	.98	71	5.53	.91	90	5.60	1.04

One of the goals of the current research was to investigate any possible age or gender differences that might exist with regard to life satisfaction. Separate independent *t* tests for each of the domains revealed no significant gender differences in report of life satisfaction

(Table 6). Therefore, males and females were mostly satisfied in all domains of their life, with any differences being only slight and nonsignificant.

However, when a one-way between groups analysis of variance (ANOVA) was conducted to explore the impact of age (as a continuous variable) on levels of life satisfaction, significant and large differences were noted in two domains. Younger adults reported higher levels of satisfaction in Education [ $F(55, 105) = 2.7, p < .001$ ] than older adults. Similarly, younger adults also reported higher levels of Total Life Satisfaction [ $F(55, 105) = 2.1, p < .01$ ] than older adults. The effect size of the difference between younger and older respondents (calculated using eta squared) was large (Cohen, 1988), and ranged from .58 for Education, to .52 for Total Life Satisfaction. Therefore younger adults were significantly more satisfied than older adults, but only with regard to Education and Total Life Satisfaction.

### **3.6 NEGATIVE IMPACT OF LIFE EVENTS**

The mean negative impact of life event (NILE) scores of the 161 respondents was -7.06 ( $SD = 7.12$ ). The NILE score was derived from the modified Life Experiences Survey (Sarason et al., 1978), which is a measure of the perceived impact of a particular event on one's life. The ratings are on a seven-point scale ranging from 'extremely negative impact' to 'extremely positive impact'. The NILE score is the sum of all the impact ratings of those events experienced as negative by the respondent. These scores range from slightly negative impact [1], to moderately negative impact [2], to extremely negative impact [3]. A higher NILE score would indicate a higher level of negative impact on one's life from life events on one's life.

In keeping with the exploratory aims of the current research, independent-samples *t*-tests were conducted to compare the mean NILE scores for males and females, and according

to age (as a continuous variable). There were no significant gender differences [ $M_{\text{males}} = -6.34$ ,  $SD = 6.03$ ;  $M_{\text{females}} = -7.63$ ,  $SD = 7.86$ ;  $t(159) = 1.2$ ,  $p = .25$ ]. One-way between groups analysis of variance (ANOVA) was conducted to explore the impact of age (as a continuous variable) on negative impact of life events. There were no significant age differences for NILE [ $F(55, 105) = 1.39$ ,  $p = .08$ ]. The magnitude of the difference for gender was small (eta squared = .01), while the differences for age were large (eta squared = .42). Therefore, males and females, as well as younger adults and older adults did not differ in terms of the level of negative impact from life events over the previous 12 months.

### **3.7 HYPOTHESES 1 TO 6 ON ALL RESPONDENTS**

#### **3.7.1 Hypothesis 1: The Inverse Relationship Between Regret and Total Life Satisfaction**

The basic parametric assumptions having been met, the hypothesis that respondents with higher levels of regret would have lower levels of life satisfaction was investigated using Pearson's product-moment correlation. There was a medium, negative correlation between total regret scores (that is, the sum of action and inaction regret in all ten domains) and total life satisfaction scores (that is, respondents' overall assessment of life satisfaction) [ $r = -.49$ ,  $n = 159$ ,  $p < .01$ ]. Therefore, the hypothesis that higher levels of regret would be correlated with lower levels of life satisfaction was supported. In other words, individuals' who have more regret (both for actions they have done or not done) are likely to report that they are less satisfied with life overall.

In addition, Pearson product-moment correlation coefficients were also calculated for Total Regret (TR) and Total Life Satisfaction (TLS) relationships along age and gender. Such an investigation was deemed useful as part of the overall exploratory purpose of the present study. There was a negative correlation between TR and TLS for male respondents ( $r = -.61$ ,  $n$

= 71,  $p < .01$ ) and for female respondents ( $r = -.44$ ,  $n = 88$ ,  $p < .01$ ). The difference in correlation coefficients were then tested for statistical significance, by converting the  $r$  values into  $z$  scores and calculating the observed value of  $z$  (McCall, 1990 cited in Pallant, 2001). The observed value of  $z$  ( $z_{obs} = 1.45$ ) was between  $-1.96$  and  $1.96$ , and therefore, the null hypothesis could not be rejected. Hence, the difference in the strength of the correlation between total regret and total life satisfaction for males and females was not statistically significant. Total regret did not explain significantly more of the variance in total life satisfaction for males, than for females.

In terms of age, there was a large, negative correlation between total regret and total life satisfaction among younger adults ( $r = -.71$ ,  $n = 85$ ,  $p < .01$ ) while among older adults, there was a moderate, negative correlation between total regret and total life satisfaction ( $r = -.36$ ,  $n = 74$ ,  $p < .01$ ). The difference in correlation coefficients of both younger and older respondents were then tested for statistical significance, by converting the  $r$  values into  $z$  scores and calculating the observed value of  $z$  (McCall, 1990 cited in Pallant, 2001). The observed value of  $z$  ( $z_{obs} = 2.28$ ) was beyond the range of  $-1.96$  and  $1.96$ , and therefore, the null hypothesis was rejected. Hence, the difference in the strength of the correlation between total regret and total life satisfaction for younger and older respondents was statistically significant. Total regret explained significantly more of the variance in total life satisfaction for younger respondents, than for older respondents.

In general, the hypothesis that Total Regret would be negatively correlated to overall Life Satisfaction was supported universally across gender and age, with the strongest support coming from among younger adults.

### 3.7.2 Hypothesis 2: The Inverse Relationship Between Regret and Life Satisfaction along Ten Domains

The hypothesis that respondents with higher levels of regret along ten domains would have lower levels of life satisfaction along corresponding domains was investigated using Pearson's product-moment correlation coefficient. Significant negative correlations at the alpha level of .001 were found in all but two domains, namely, Spiritual or Religious Life, and Sexual Relations. The results are reported in Table 7.

Table 7  
Pearson product-moment correlations between regret and life satisfaction along ten corresponding domains

Domain	Total Sample		Male		Female	
	r	n	r	n	r	n
Career	-.40***	140	-.41**	66	-.42**	74
Finance	-.41***	155	-.43**	71	-.40**	84
Leisure	-.37***	157	-.44**	70	-.33**	87
Health	-.52***	158	-.45**	71	-.58**	87
Family Relationships	-.26***	150	-.50**	67	-.15	83
Friend Relationships	-.39***	152	-.38**	69	-.41**	83
Intimate Relationships	-.57***	131	-.53**	62	-.59**	69
Sexual Relations	-.19	136	-.41**	65	-.07	71
Education	-.47***	155	-.28	70	-.51**	85
Spiritual or Religious Life	-.04	155	-.02	56	-.09	67

\*\*\* p<.001 (2-tailed significance)

\*\* p<.01 (2-tailed significance)

Large negative correlations were found between regret and life satisfaction in the domains of Health and Intimate Relationships. Medium negative correlations between the two variables were found in the domains of Education, Finance, Career, Friend Relationships and Leisure. In addition, a small, negative correlation was found between Family Relationship

Regret and Family Relationship Satisfaction. No significant negative correlations were evident in the domains of Sexual Relations and Spiritual or Religious Life.

The hypothesis that regret scores along the ten domains would vary inversely with life satisfaction scores in corresponding domains was generally supported. However, the overall picture that emerged was that the relationship between life satisfaction and regret depended on the domain. Regrets had a greater negative association with satisfaction in the health and intimate relationship domains. The correlations in these two domains were higher than even the relationship between Total Regret and Total Life Satisfaction. On the other hand, satisfaction with family relationships, sexual relations and, spiritual or religious life were less affected by regrets in these domains, indicating the possible existence of factors that make satisfaction in these domains resilient to feelings of regret.

Pearson product-moment correlation coefficients were also calculated for regret and life satisfaction relationships according to ten corresponding domains along gender, with the alpha level set at .01 (Table 7). Among males, the negative association between regret and life satisfaction was greatest in the domains of Intimate and Family Relationships. On the other hand, no significant negative correlations between regret and life satisfaction were noted in the domains of Education and Spiritual or Religious Life among males. Among female respondents, large negative correlations between regret and life satisfaction were noted in the domains of Intimate Relationships, Health and Education. No significant negative correlations were found between regret and life satisfaction in the domains of Family Relationships, Sexual Relations and, Spiritual or Religious Life.

The difference between the correlation coefficients of both male and female respondents was then tested for statistical significance, by converting the  $r$  values into  $z$

scores and calculating the observed value of  $z$  (McCall, 1990 cited in Pallant, 2001). Significant differences were found in only two domains; namely, Family Relationships ( $Z_{obs} = 2.58$ ) and Sexual Relations ( $Z_{obs} = 2.25$ ). As these two observed values were beyond the range of  $-1.96$  and  $1.96$ , the null hypothesis in both cases was rejected. Hence, among males, regret explained significantly more of the variance of satisfaction in the domains of Family Relationships and Sexual Relations than for females.

Pearson product-moment correlation coefficients were also calculated for regret and life satisfaction relationships according to ten corresponding domains by age (Table 8). Among younger adults there was a large negative correlation in the domain of Intimate Relationships, whereas no significant correlations were found between regret and life satisfaction in the domains of Sexual Relations, and Education. Among older adults, large, negative correlations were found in the domains of Intimate Relationships, Health, Leisure and Career, while no significant correlations were found in the domains of Family Relationship, Sexual Relations and Spiritual or Religious Life.

Table 8

Pearson product-moment correlations between regret and life satisfaction along ten domains and according to age

Domain	Younger Adults		Older Adults	
	r	n	r	n
Career	-.41**	78	-.50**	62
Finance	-.43**	83	-.46**	72
Leisure	-.28	83	-.50**	74
Health	-.49**	84	-.55**	74
Family Relationships	-.42**	81	.16	69
Friend Relationships	-.33**	81	-.46**	71
Intimate Relationships	-.59**	71	.55**	60
Sexual Relations	-.19	76	.23	60
Education	-.18	83	-.48**	72
Spiritual or Religious Life	-.38**	61	-.09	62

\*\* p<.01 2-tailed significance

The difference between the correlation coefficients of both younger and older adults was then tested for statistical significance, by converting the  $r$  values into  $z$  scores and calculating the observed value of  $z$  (McCall, 1990 cited in Pallant, 2001). No significant differences were found in all domains but one; namely, Education ( $z_{\text{obs}} = -2.10$ ). As this value was beyond the range of  $-1.96$  and  $1.96$ , the null hypothesis was rejected. Hence, regret explained significantly more of the variance of life satisfaction in the domain of Education for older respondents than for younger respondents.

The overall pattern that emerged was that respondents' report of satisfaction was negatively associated with regret in varying degrees, with Intimate Relationship and Health satisfaction being most vulnerable to regret in these domains. This pattern of variable association was largely the same across gender and age, with the exception of three domains (namely, Education, Family Relationships and Sexual Relations). In these domains, Education-related satisfaction was more sensitive to feelings of regret among older adults, while Family Relationship- and Sexual Relations-related satisfaction were more vulnerable to regret among males. While no specific prediction was made about possible gender and age differences in this exploratory study, the findings nevertheless appear to indicate that these two variables are salient to the investigation of the relationship between regret and life satisfaction.

In addition, there was no support for the hypothesis in the domain of Spiritual or Religious Life, in terms of the total sample, and especially among males and females and older adults. There was also no support for a negative correlation between regret and satisfaction in the domain of Sexual Relations among females and younger adults. Education Regret among males and younger adults, and Family Relationship Regret among females and older adults did not significantly vary inversely with levels of satisfaction in these domains.

### 3.7.3 Hypothesis 3: The Predominance of Inaction Regrets over Action Regrets

The hypothesis that respondents would report more inaction regrets than action regrets was tested with the Wilcoxon Signed Ranks test, which is the appropriate nonparametric alternative of the paired-samples t-test. The use of a nonparametric test was deemed necessary as the distributions of the scores of both action and inaction regret were wildly skewed and kurtosis levels were high. Data transformation failed to result in a more normal distribution of values.

There was a statistically significant difference between total action regret scores (that is, the combined scores of all reported action regrets along the ten domains) [ $M = 7.08$ ,  $SD = 6.61$ ] and total inaction regret scores (that is, the combined scores of all reported inaction regrets along the ten domains) [ $M = 12.42$ ,  $SD = 10.02$ ;  $z = -8.01$ ,  $p < .001$ ]. Therefore, the hypothesis was supported, with respondents on the whole reporting the presence of significantly more regrets for inactions than for actions (Table 9).

Similarly, action and inaction regrets along the ten domains were tested using the Wilcoxon Signed Ranks tests. Of the ten domains, respondents reported higher levels of inaction regrets than inaction regret in the domains of Finance, Leisure, Health, Family Relationships, Friend Relationships, Intimate Relationships, Education and, Spiritual or Religious Life (Table 9). Therefore, the pattern of respondents reporting more inaction regret than action regret was replicated in most domains, with the exception of Career and Sexual Relations.

Table 9  
Means, standard deviations and z values of action regret (AR) and inaction regret (IAR)

Domain	AR	IAR	z
	Mean(SD)	Mean(SD)	
Career	1.15(1.29)	.89(1.58)	-1.03
Finance	.77(1.80)	1.78(1.76)	-5.05***
Leisure	.45(.79)	1.97(1.44)	-5.83***
Health	1.82(2.05)	2.56(2.45)	-3.41***
Family Relationships	1.37(1.52)	2.73(2.38)	-4.56***
Friend Relationships	1.00(1.83)	2.61(1.98)	-4.75***
Intimate Relationships	.73(1.26)	1.31(1.61)	-2.64**
Sexual Relations	.86(1.39)	1.02(1.10)	-1.00
Education	.84(1.10)	1.33(1.99)	-2.02*
Spiritual or Religious Life	.99(2.15)	2.71(2.79)	-7.22***
Total	7.08(6.61)	12.42(10.02)	-8.01***

\* p<.05 Asymp. Sig. (2-tailed)  
 \*\* p<.01 Asymp. Sig. (2-tailed)  
 \*\*\* p<.001 Asymp. Sig. (2-tailed)

Wilcoxon Signed Rank tests were also conducted to investigate any significant differences between action and inaction regrets along gender (Table 10) and age (Table 11). Among male respondents, significantly more inaction regrets than action regrets were reported in six of the domains; namely, Finance, Leisure, Family Relationships, Friend Relationships, Sexual Relations, and Spiritual or Religious Life. Among female respondents, however, inaction regrets outweighed action regrets in all but two domains; namely, Career and Sexual Relations. Hence, while there was a general trend of both males and females reporting more inaction regret than action regret, the domains in which this difference occurred varied according to gender. In addition, males had equal levels of inaction and action

regret in more domains than females. Therefore, while there is strong support for the hypothesis in terms of the whole sample, it appears that this was more evident among females than males.

Table 10

Means, standard deviations and z values of action regret (AR) and inaction regret (IAR) along ten domains among males and females

Domain	Male			Female		
	AR	IAR	z	AR	IAR	z
	Mean(SD)	Mean(SD)		Mean(SD)	Mean(SD)	
Career	1.09(1.22)	.64(.81)	-.65	1.19(1.38)	1.06(1.95)	-.36
Finance	.88(2.09)	2.00(1.64)	-3.57***	.69(1.56)	1.61(1.84)	-3.69***
Leisure	.37(.63)	1.96(1.48)	-3.83***	.50(.89)	1.97(1.42)	-4.44***
Health	1.85(2.06)	2.17(2.20)	-1.24	1.80(2.06)	2.95(2.63)	-3.38***
Family Relationships	.77(1.10)	2.47(2.00)	-3.35***	1.79(1.64)	2.91(2.62)	-3.12**
Friend Relationships	.73(1.25)	2.08(1.70)	-3.42***	1.28(2.28)	3.16(2.14)	-3.37***
Intimate Relationships	.92(1.69)	1.46(1.22)	-1.80	.63(.93)	1.23(1.82)	-2.02*
Sexual Relations	.71(1.17)	1.27(1.21)	-2.22*	.97(1.53)	.85(1.00)	-.72
Education	1.04(1.11)	1.04(1.26)	.00	.73(1.10)	1.49(2.30)	-2.44*
Spiritual or Religious Life	.54(1.12)	2.12(2.05)	-4.71***	1.32(2.61)	3.14(3.17)	-5.49***
Total	6.66(5.98)	11.10(8.01)	-5.27***	7.41(7.08)	13.47(11.31)	-6.05***

\* p<.05 Asymp. Sig. (2-tailed)  
 \*\* p<.01 Asymp. Sig. (2-tailed)  
 \*\*\* p<.001 Asymp. Sig. (2-tailed)

Wilcoxon Signed Rank tests also revealed significant differences between action and inaction regrets according to age. Among younger adults, more inaction than action regret was reported in terms of Total Inaction Regret and in seven domains. Older adults, however, reported more inaction than action regrets in only five domains. Therefore, the hypothesis that respondents would have more inaction regrets than action regrets does not have strong support

among older adults as compared to younger adults. Older adults were more likely than younger adults to have equal inaction and action regrets.

Table 11

Means, standard deviations and z values of action regret (AR) and inaction regret (IAR) along ten domains among younger and older adults

Domain	Younger Adults			Older Adults		
	AR	IAR	z	AR	IAR	z
	Mean (SD)	Mean(SD)		Mean(SD)	Mean(SD)	
Career	1.11(1.41)	.90(1.79)	-.78	1.25(1.04)	.88(.99)	-.68
Finance	1.21(2.44)	1.57(1.78)	-1.70	.39(.83)	1.96(1.73)	-5.05***
Leisure	.63(1.01)	2.38(1.61)	-3.69***	.34(.62)	1.73(1.29)	-4.55***
Health	1.84(1.93)	3.11(2.64)	-3.53***	1.81(2.16)	2.13(2.20)	-1.34
Family Relationships	1.69(1.78)	3.09(2.78)	-3.19***	1.08(1.19)	2.40(1.91)	-3.23***
Friend Relationships	1.30(2.01)	3.39(2.21)	-3.55***	.75(1.67)	1.96(1.53)	-3.17**
Intimate Relationships	.55(1.45)	1.28(1.73)	-2.40*	.89(1.08)	1.34(1.53)	-1.45
Sexual Relations	.56(1.31)	.88(1.28)	-1.31	1.09(1.42)	1.19(.95)	-.22
Education	1.07(1.17)	2.10(2.48)	-2.46*	.65(1.01)	.65(1.07)	.00
Spiritual or Religious Life	1.53(2.87)	3.26(3.40)	-4.74***	.49(.93)	2.22(1.98)	-5.53***
Total	7.71(7.81)	14.29(12.22)	-5.79***	6.53(5.35)	10.81(7.35)	-5.50***

\* p<.05 Asymp. Sig. (2-tailed)

\*\* p<.01 Asymp. Sig. (2-tailed)

\*\*\* p<.001 Asymp. Sig. (2-tailed)

Of the various domains investigated, individuals universally reported no differences between their level of Career inaction regrets and action regrets. The hypothesis that inaction regrets would outnumber action regrets also did not receive support in the domain of Sexual Relations, especially among the sample as a whole and among specific groups such as younger and older adults, and females. Intimate Relationship Inaction Regret and Education Inaction Regret also did not outweigh action regret in their corresponding domains among males and older adults. Younger adults' report of Finance Inaction Regret, and older adults'

report of Health Inaction Regret, were not significantly greater than their report of action regrets in their respective domains.

#### **3.7.4 Hypothesis 4: The Inverse Relationship Between Negative Impact of Life Events and Life Satisfaction**

The hypothesis that respondents who experienced more Negative Impact of Life Events (NILE) in the previous twelve months would have lower levels of life satisfaction along the ten domains was investigated using Pearson's product-moment correlation coefficient. To recall, the NILE score was the sum of all the impact ratings of those events experienced as negative by the respondent.

A significant large negative correlation between NILE and Intimate Relationship Satisfaction was found. In addition, significant medium negative correlations were found between NILE and Total Life Satisfaction and in the domains of Career, Sexual Relations, Finance, Health, Leisure and Family Relationships. However, the correlation between NILE and life satisfaction in Education and, Spiritual or Religious Life Satisfaction domains was not significant at the alpha level of .01. Details of the correlations between Negative Impact of Life Events and Life Satisfaction are reported in Table 12.

Therefore the hypothesis that NILE would be negatively correlated to Life Satisfaction was generally supported in all but two domains. In other words, the greater the negative impact of life events on individuals, the lower their satisfaction with life. This association, however, did not operate with regard to Education and Spiritual or Religious Life.

Table 12

Pearson product-moment correlations between negative impact of life events, total life satisfaction and life satisfaction along ten domains

Domain	r	n
Career	-.42**	157
Finance	-.38**	161
Leisure	-.36**	161
Health	-.37**	161
Family Relationships	-.31**	160
Friend Relationships	-.21**	161
Intimate Relationships	-.57**	138
Sexual Relations	-.40**	146
Education	-.18	161
Spiritual or Religious Life	-.17	124
Total Life Satisfaction	-.41**	161

\*\* p<.01 2-tailed significance

In keeping with the exploratory aims of investigating possible gender and age differences with regard to the hypothesis, Pearson product-moment correlation coefficients were also calculated for Negative Impact of Life Events (NILE) and Total Life Satisfaction (TLS), and for life satisfaction associations along ten domains according to gender (Table 13).

Among male respondents, significant moderate negative correlations between NILE and TLS, as well as life satisfaction in the domains of Intimate Relationships, Leisure, Health, Career and Family Relationships were noted. There was no significant negative correlation between NILE and life satisfaction in the domains of Friend Relationship, Sexual Relations, Education and, Spiritual or Religious Life. Therefore the hypothesis that NILE would be negatively correlated with life satisfaction received less support among males than it did with

the whole sample. Males' report of life satisfaction was less likely to be affected by the negative impact of life events.

Table 13

Pearson product-moment correlations between negative impact of life events, total life satisfaction and life satisfaction along ten domains and according to gender and age

Domain	Males		Females		Younger Adults		Older Adults	
	r	n	r	n	r	n	r	n
Career	-.34**	71	-.48**	86	-.41**	87	-.46**	70
Finance	-.24	71	-.47**	90	-.40**	87	-.42**	74
Leisure	-.39**	71	-.35**	90	-.40**	87	-.34**	74
Health	-.37**	71	-.38**	90	-.45**	87	-.34**	74
Family Relationships	-.31**	70	-.33**	90	-.40**	87	-.23	73
Friend Relationships	-.17	71	-.27**	90	-.23	87	-.21	74
Intimate Relationships	-.42**	64	-.65**	74	-.60**	75	-.56**	63
Sexual Relations	-.21	69	-.50**	77	-.39**	81	-.41**	65
Education	-.13	71	-.21	90	-.15	87	-.25	74
Spiritual or Religious Life	-.20	56	-.19	68	-.36**	62	-.02	62
Total Life Satisfaction	-.44**	71	-.41**	90	-.52**	87	-.32**	74

\*\* p<.01 2-tailed significance

Among female respondents, significant large negative correlations between NILE and Intimate Relationship and Sexual Relations Satisfaction respectively were found. In addition, significant moderate negative correlations were found between NILE and TLS, as well as life satisfaction in the domains of Career, Finance, Health, Leisure and Family Relationships. There was no significant relationship between NILE and satisfaction in Spiritual or Religious Life, for females. Consequently, females' report of life satisfaction in the various domains were more likely to be negatively affected by the negative impact of life events.

Testing of the difference between the correlation coefficients of both male and female respondents for statistical significance revealed no significant differences in all but one domain; namely, Sexual Relations ( $z_{obs} = -2.01$ ). As this value was beyond the range of  $-1.96$  and  $1.96$ , the null hypothesis was rejected. Hence, NILE explained significantly more of the variance in Sexual Relations Satisfaction for female respondents than for male respondents.

Pearson product-moment correlation coefficients were also calculated for Negative Impact of Life Events and Total Life Satisfaction, and for life satisfaction relationships along ten domains according to age (Table 13). Among younger respondents, there was a significant large negative correlation between NILE and Total Life Satisfaction and Intimate Relationship Satisfaction. In addition, there were significant, moderate negative correlations between NILE and satisfaction in the domains of Health, Career, Leisure, Family Relationships, Finance and Sexual Relations. No significant correlation existed between NILE and Education Satisfaction scores among younger respondents. Thus the prediction that those impacted more negatively by life events would report lower levels of life satisfaction found broad support among younger adults, with the exception of the Education domain, where satisfaction appeared to be resistant to the negative impact of life events.

Among older respondents, there was a significant large negative correlation between NILE and Intimate Relationship Satisfaction scores. In addition, significant moderate negative correlations were found between NILE and TLS, as well as satisfaction in the domains of Career, Finance, Sexual Relations, Leisure and Health. No significant correlations at the alpha level of .01 were found between NILE and satisfaction in the domains of Family Relationship, Friend Relationship, Education and Spiritual or Religious Life, among older respondents.

Overall, among older adults, there was less evidence of confirmation for the negative association between NILE and assessments of life satisfaction among the various domains.

No significant difference between the correlation coefficients of both younger and older respondents were found in all domains. As all the observed values of  $z$  were within the range of  $-1.96$  and  $1.96$ , the null hypothesis was accepted for each domain. Therefore, NILE did not explain significantly more of the variance in correlation coefficients between younger and older respondents.

Overall, support for the hypothesis that Negative Impact of Life Events would be negatively correlated to individuals' report of satisfaction in various domains was not universally found. Education satisfaction was particularly resistant to the variances in the Negative Impact of Life Events for the whole sample, as well as across gender and age. Similarly, Spiritual or Religious Life satisfaction appeared to be unaffected by Negative Impact of Life Events, except among younger adults. Younger and older adults, and males' report of satisfaction in the domain of Friend Relationships were also not significantly negatively correlated with Negative Impact of Life Events. Negative Impact of Life Events also failed to account for any significant variances in Finance and Sexual Relations satisfaction among males. Finally, among older adults, variances in Family Relationship satisfaction could not be accounted for by variances in Negative Impact of Life Events.

### **3.7.5 Hypothesis 5: The Positive Correlation Between Negative Impact of Life Events and Regret**

The hypothesis that respondents who experienced more negative impact from life events in the previous twelve months would also have higher levels of regret along the ten domains was investigated using Pearson's product-moment correlation coefficient.

There was a significant large positive correlation between Negative Impact of Life Events and Total Regret. In addition, there was also a significant moderate positive correlation between Negative Impact of Life Events and Regret in the domains of Intimate Relationships, Leisure, Finance, Career, Health, Family Relationships and Friend Relationships (Table 14).

Table 14

Pearson product-moment correlations between negative impact of life events, total regret and regret along ten domains

Domain	r	n
Career	.39**	143
Finance	.39**	155
Leisure	.46**	157
Health	.35**	158
Family Relationships	.33**	150
Friend Relationships	.30**	152
Intimate Relationships	.46**	151
Sexual Relations	.14	145
Education	.06	155
Spiritual or Religious Life	.23**	156
Total Regret	.50**	159

\*\* p<.01 2-tailed significance

There was overall moderate support for the hypothesis that Negative Impact of Life Events would be positively correlated with Total Regret. Therefore, individuals experiencing higher levels of negative impact from life events in the previous 12 months, were more likely to have higher levels of regret than those who were experiencing lower levels of negatively impacting life events. However, this relationship was not common to all the ten domains. For example, in the Sexual Relations and Spiritual or Religious Life domains, no significant association between Negative Impact of Life Events and Regret existed at the alpha level of .01.

While there was no specific hypothesis related to gender and age, the hypothesis was also explored along these variables. Pearson product-moment correlation coefficients calculated for Negative Impact of Life Events (NILE) and Total Regret (TR), and for regret relationships along ten domains according to gender (Table 15) revealed that among male respondents, there was a significant large positive correlation between NILE and TR. In addition, significant moderate positive correlations between the two variables were noted in only half of the domains; namely, Career, Family Relationships, Leisure, Health, and Spiritual or Religious Life. No significant correlations were found between NILE and regret in the domains of Finance, Friend Relationships, Intimate Relationships, Sexual Relations and Education. Therefore, among males there was much less support for the hypothesis, with only half the number of domains displaying an association between NILE and regret. In other words, for males, the presence of high levels of negative impact from life events only selectively accounted for increases in regret in some domains.

Among female respondents, there was a significant large positive correlation between NILE and Intimate Relationship Regret. In addition, significant moderate positive correlations were found between NILE and TR, as well as the domains of Leisure, Finance, Friend Relationships, Career and Health. No significant correlations were found between NILE and regret in the domains of Sexual Relations, Education and Spiritual or Religious Life. Thus among females, the NILE association with regret was found in more domains than among males. Therefore, NILE appeared to have more of an impact on their domains of regret than males.

When the difference between the correlation coefficients of both male and female respondents was tested for statistical significance, no significant differences were found in all but one domain; namely, Intimate Relationships ( $z_{\text{obs}} = -2.64$ ). As this value was beyond the

range of  $-1.96$  and  $1.96$ , the null hypothesis was rejected. Hence, NILE explained significantly more of the variance in Intimate Relationship Regret scores for female respondents than for male respondents.

Table 15

Pearson product-moment correlations between negative impact of life events, total regret and regret along ten domains and according to gender

Domain	Male		Female		Younger Adults		Older Adults	
	r	n	r	n	r	n	r	n
Career	.43**	66	.36**	77	.20	78	.48**	65
Finance	.29	71	.47**	84	.43**	83	.36**	72
Leisure	.38**	70	.49**	87	.30**	83	.57**	74
Health	.37**	71	.33**	87	.33**	84	.36**	74
Family Relationships	.40**	67	.29**	83	.33**	81	.33**	69
Friend Relationships	.10	69	.40**	83	.20	81	.36**	71
Intimate Relationships	.27	69	.62**	82	.50**	82	.44**	69
Sexual Relations	.15	67	.14	78	.30**	80	.00	65
Education	.15	70	.02	85	.15	83	.01	72
Spiritual or Religious Life	.32**	71	.17	84	.34**	83	.19	73
Total Regret	.50**	71	.49**	88	.59**	85	.49**	74

\*\* p<.01 2-tailed significance

Pearson product-moment correlation coefficients were also calculated for NILE and TR, and for regret relationships along ten domains according to age (Table 15). Among younger respondents, there was a significant large positive correlation between NILE and TR, and Intimate Relationship Regret. In addition, there was a significant moderate positive correlation between NILE and regret in the domains of Finance, Spiritual or Religious Life, Health, Family Relationships and Sexual Relations. No significant correlations were found

between NILE and regret in the domains of Career, Friend Relationships and Education among younger respondents.

Among older respondents, a significant large positive correlation between NILE and Leisure Regret was found. In addition, there was a significant moderate positive correlation between NILE and TR. There was also a significant moderate positive correlation between NILE and regret in the domains of Career, Intimate Relationships, Finance, Friend Relationships, Health and Family Relationships. No significant correlations were found between NILE and regret in the domains of Sexual Relations, Education and Spiritual or Religious Life.

When the difference between the correlation coefficients of both younger and older adults was tested for statistical significance, no significant differences were found in all but one domain; namely, Leisure ( $Z_{obs} = -2.06$ ). As this value was beyond the range of  $-1.96$  and  $1.96$ , the null hypothesis was rejected. Hence, NILE explained significantly more of the variance in Leisure Regret scores for older respondents than for younger respondents.

The overall picture that emerged with regard to the hypothesis that NILE would be positively correlated to regret, was that apart from the domains of Family Relationships, Leisure and Health, there was limited support in varying degrees for the hypothesis in the other domains. Individuals' Education regret, in particular, showed no significant relationship with NILE, neither in terms of the total sample nor according to gender or age. Sexual Relations Regret among both males and females, and especially among older adults, were also not affected by NILE. Males' and younger adults' report of Friend Relationship Regret and females' and older adults' report of Spiritual or Religious Life Regret did not increase as NILE increased.

### **3.7.6 Hypothesis 6: Negative Life Events as a Mediator and Moderator in the Relationship between Total Regret and Total Life Satisfaction**

In order to investigate the hypothesised mediating and moderating effects of Negative Impact of Life Events (NILE) on the relationship between Total Regret (TR) and Total Life Satisfaction (TLS), it is necessary to conceptually clarify the differences between these two possible effects. In this regard, Holmbeck's (1997) critique of the inconsistencies in the way the terms 'moderator' and 'mediator' were used in mental health literature have provided useful differential definitions for the current study. Holmbeck described a moderator variable as affecting the relationship between two variables, so that the level of the impact that the independent variable has on the dependent variable changes according to the level of the moderator. A mediator variable, however, was described as showing how an independent variable influenced changes in a dependent variable, by means of a mediator. Thus in the present study, if the impact TR has on TLS changes according to the level of NILE, the effect would be described as moderating. On the other hand, if it is shown that TR works through NILE before influencing TLS, the effect would be described as mediating.

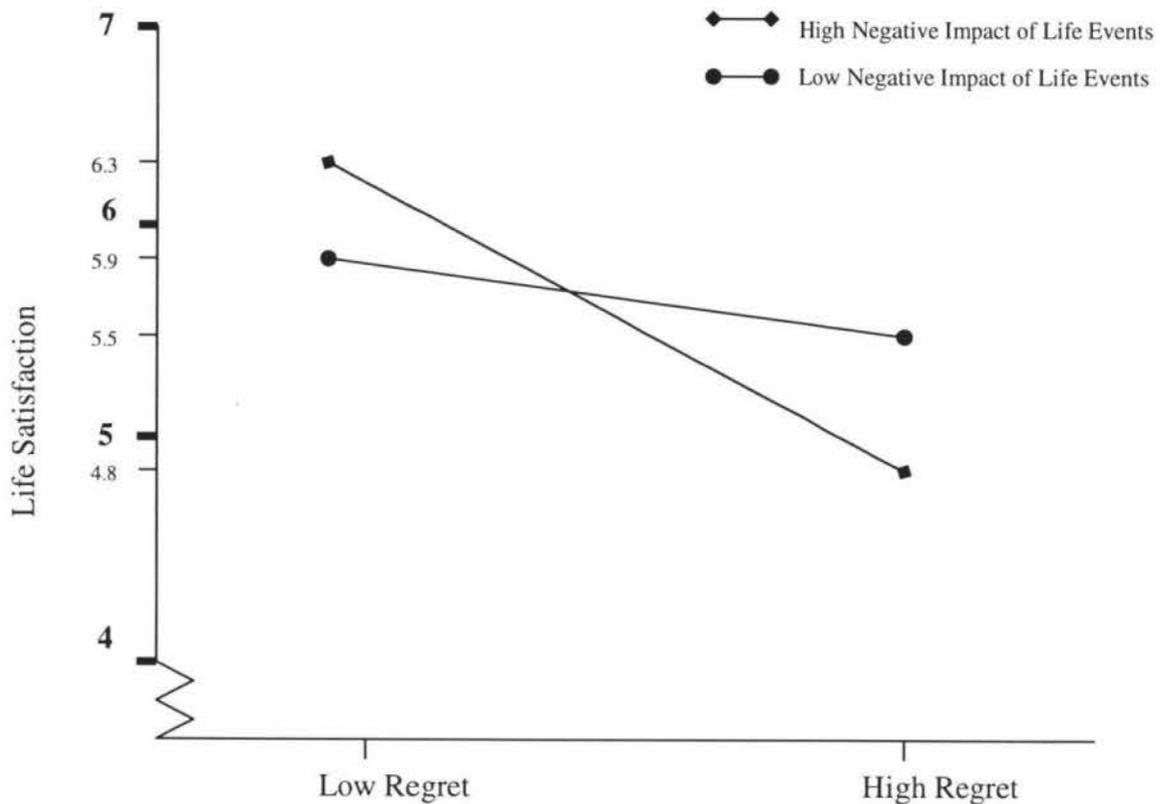
In order to test whether NILE exerts a moderating effect, Holmbeck (1997) suggested firstly, that variables be used in continuous form, and secondly, that multiple regression techniques be used. The predictor (TR) and moderator (NILE) main effects were then to be entered into the regression equation first. Then the interaction of the predictor and moderator variables, represented in the current study by the product of TR and NILE were to be entered. Cohen and Cohen (1983) suggested that the main effects could be entered in a hierarchical, stepwise or simultaneous way depending on the conceptual framework of the investigation. However whichever entry method was used, the main effects were to be entered before the interaction term. Nevertheless, because of the way in which the interaction was computed, Holmbeck cautioned that the main effects would be highly correlated to the interaction term.

Aiken and West (1991, cited in Holmbeck, 1997) thus recommended that the predictor and the moderator be 'centred'. This was done by creating a deviation score, which is derived by subtracting the sample means from all respondents' scores on the variable and producing a revised sample mean of zero. Statistically significant interactions could then be interpreted by plotting simple regression lines for high or low values of the moderator variable.

In the present study, NILE was tested for whether it operated as a moderator of the effect of TR on TLS. To test this hypothesis, a hierarchical multiple regression analysis, with TLS as the dependent variable, was carried out. Three regression equations were estimated, one for TR, the second for NILE, and the third for a TR  $\times$  NILE interaction term as predictors. The conceptual framework of the current study favoured a stepwise entry of the main effects as opposed to a hierarchical or simultaneous entry, because the main relationship being investigated was that of overall regret and life satisfaction, with the negative impact of life event construct as an added condition under which this relationship might operate.

With TR scores entered into the equation in step one,  $R^2 = .175$ ,  $F(1,157) = 33.27$ ,  $p < .001$ . With TR and NILE scores entered into the predictive equation in step two,  $R^2 = .242$ ,  $F(2,156) = 24.92$ ,  $p < .001$ . In step three, when a vector formed by calculating the cross product term of the TR and NILE deviation scores was added,  $R^2 = .333$ ,  $F(3,155) = 25.84$ ,  $p < .001$ . In this way, the variance accounted for by the interaction term was assessed after controlling for the main effects of TR and NILE. The interaction between TR and NILE was found to be significant ( $t = 4.6$ ,  $p < .001$ ). The addition of the interaction term to the equation resulted in a significant increment in  $R^2$  ( $R^2$  change = .091,  $p < .001$ ). The form of this interaction was such that an increase in TR was associated with a steeper decline in TLS for those with higher NILE (that is, a higher level of negative impact from life events), compared

to those with lower NILE. A schematic representation of this interaction is presented in Figure 1.



**Figure 1.** Schematic representation of Regret  $\times$  Negative Impact of Life Events interaction in the prediction of Life Satisfaction.

The data in Figure 1 were derived by conducting a median split on the Regret and Negative Impact of Life Events measures. This classification was for purposes of illustration and the variables were treated as continuous in all statistical analyses. The figure suggests that NILE moderates the effect of TR on TLS. Under conditions of low NILE, the difference in levels of satisfaction between conditions of low TR and high TR is slight (from 5.9 to 5.5), being equivalent to remaining within a Life Satisfaction report of 'mostly pleased'. However, under conditions of high NILE, those with high TR report lower levels of TLS than those with low

NILE. This represents a larger difference in TLS level from 6.3 to 4.8, being equivalent to a change in Life Satisfaction report from 'pleased' to being 'equally satisfied and dissatisfied'.

The current study then explored the mediating role of NILE in explaining TR effects on TLS. Baron and Kenny (1986, cited in Eckenrode, Rowe, Laird & Brathwaite, 1995) suggested that three regression equations had to be run and four conditions had to be met for a variable to be considered a mediator. Using the variables in the present study, the three equations are:

- Negative Impact of Life Events = Total Regret ( $B_1$ )
- Total Life Satisfaction = Total Regret ( $B_2$ )
- Total Life Satisfaction = Total Regret ( $B_3$ ) + Negative Impact of Life Events( $B_4$ )

Using these equations, the four conditions to be met are:

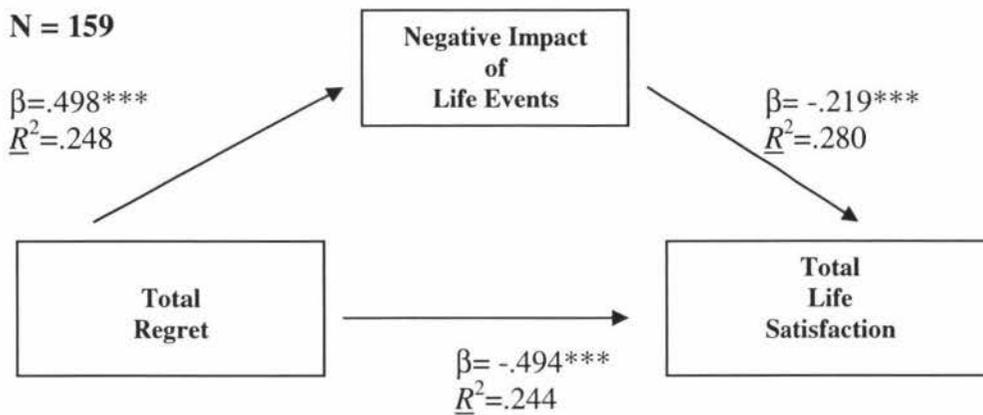
- $B_1$  must be significant.
- $B_2$  must be significant.
- $B_4$  must be significant.
- $B_3$  must be smaller than  $B_2$ .

If  $B_3$  is reduced to nonsignificance, full mediation is demonstrated.

If  $B_3$  is reduced but still significant, then partial mediation is demonstrated.

In the first step of testing the mediating effects of NILE, it was necessary to show that TR was significantly correlated to higher levels of NILE. This condition was met ( $\beta = .498$ ,  $R^2 = .248$ ,  $p < .001$ ;  $t = -7.19$ ,  $p < .001$ ). In the second step, it was necessary to show that TR was significantly correlated to TLS. This condition, too, was met ( $\beta = -.494$ ,  $R^2 = .244$ ,  $p < .001$ ;  $t = -7.12$ ,  $p < .001$ ). In the third step, the third condition was met, with NILE being significantly correlated to TLS ( $\beta = -.219$ ,  $R^2 = .280$ ,  $p < .001$ ;  $t = 2.79$ ,  $p < .01$ ). In addition, the fourth condition was met, with TR in the third step of the equation being smaller than TR in

the second step and still being significant ( $\beta = -.385$ ,  $R^2 = .148$ ,  $p < .001$ ;  $t = -4.92$ ,  $p < .001$ ). Therefore, in accordance with the conditions set out earlier, partial mediation was demonstrated. The percentage of overall TR effect that was indirect through NILE was calculated by multiplying the two corresponding paths linking TR to NILE, and NILE to the outcome (i.e., TLS), and dividing the product by the overall effect of TR and NILE on TLS ( $R = .577$ ,  $F(1,155) = 21.22$ ,  $p < .001$ ) (Eckenrode et al., 1995).



\*\*\*  $p < .001$

**Figure 2.** Path model depicting the role of Negative Impact of Life Events in mediating the effects of Total Regret on Total Life Satisfaction.

Figure 3 presents the path model to show schematically the evidence for mediation. In the current study, as a mediator, NILE accounted for 18.9% of the effect of TR on TLS  $[(.498 \times .219) \div .577]$ . From the model, it can be seen that TR was significantly associated with higher levels of NILE and that higher levels of NILE are associated with lower TLS (ie. the first and third conditions). Where TLS was regressed on TR, TR was significantly associated with lower levels of TLS (ie. the second condition). The addition of NILE to the equation resulted in a reduction in the size of the TR effect (ie. the fourth condition).

To conclude, the hypothesis that Negative Impact of Life Events would moderate and mediate the relationship between Regret and Life Satisfaction was supported. Individuals with higher levels of negative impact from life events were more likely to report lower levels of overall life satisfaction than individuals with lower levels of negative impact from life events. In addition, the mechanism through which total regret influenced an individual's report of overall life satisfaction was partially explained by the negative impact of life events.

## **4. DISCUSSION**

### **4.1 THE CONTENT OF REGRET**

A major goal of the present study was to explore the prevalence and types of regret reported by adults. In the present study, 97.5% reported having experienced one or more regrets. This was much higher than the number of regrets acknowledged in previous studies, which ranged from 35% to 69% (1949, 1953, 1965 Gallup Polls cited in Landman, 1993; Landman & Manis, 1992). However, the prevalence of regret was comparable to Kinnier and Metha's (1989) study, which reported 97% of their 300-adult sample as having acknowledged regrets. One possible reason for this was the similarity in the composition of the two samples. Both consisted of a convenience sample largely comprising graduate students, and the researchers' friends and relatives. Another methodological reason for the higher rate of regret response in the current study could involve the forced-choice nature of the questionnaire. Previous research on regret in real life situations has called upon participants to provide examples of regrets and these were then categorised and summed. In the present study, participants were provided with a total of 83 possible regrets from ten different domains and encouraged to provide other examples if those provided were not relevant to their life situations. As a result, participants were helped to examine more closely, various domains of their life for possible regrets. In doing so, they may have become more aware of the presence of regrets than if they were left on their own to think of regrets in their lives.

In the present analysis, the most commonly reported regrets involved Family Relationships, Health, and Spiritual or Religious Life. This differed from the Gallup Poll surveys of 1949, 1953 and 1965, Landman and Manis' (1992) study, and Kinnier and Metha's (1989) sample, which identified education-related regrets to be the most commonly reported.

However, while education-related regret may not have ranked highly in the current research, just over half (52.9%) of the present sample who did acknowledge education regrets were within the range of percentages reported in the other studies (ie., 13.5% - 69%). Examples of these education-related regrets include regrets over not pursuing higher education, delaying going to university, and emphasizing academic achievements. The prevalence of family relationship-related regret was also comparable to the Landman and Manis (1992) study, which reported 54% of their sample as having acknowledged regrets about family. In addition, Lecci et al. (1994) also reported family-related regrets to be one of the most frequently endorsed regret domains. In the present study, respondents reported family-relationship-related regrets involving such issues as starting a family earlier or later than they would have liked, having not made their families the most important aspect of their lives, or not having spent a lot of time developing relationships with their relatives.

Health regret was the second most commonly reported regret in the present study, with three-quarters (75.3%) of the sample acknowledging some form of regret in this domain. Landman's (1993) review of the literature reports a growing field of research on regret concerning medical decisions. However, to date, these studies have focussed on regret among females who have elected to undergo voluntary sterilisation, and they report relatively low rates of regret, ranging from two to ten percent. More recently, Lecci et al. (1994) also reported health and self-care regrets to account for 4.7% of all regrets reported. The fact that health regret levels were so commonly reported could be related to methodological factors. The present study looked at the percentage of respondents who reported one or more Health-related regrets, whereas other studies reported health regrets as a percentage of all regrets. Another possible reason for the large percentage endorsing health regrets could involve the timing of the survey. There had been extensive coverage in the local and national media

about health-related issues such as the funding problems of the District Health Boards and the repercussions for consumers who were not covered by medical insurance. This may have sensitised respondents to health issues. In addition, there were differences in the way health issues were questioned in the current study. Regrets over specific medical procedures were not the focus of the present study, though participants could have included them if they had wanted to. Instead, the forced-choice questions focused on general health concerns such as smoking, drinking, recreational drug use, exercise and dieting.

Spiritual or Religious Life regrets were the third most commonly reported regret. This domain was included in the present study because research in the last decade has suggested the saliency of the religious dimension in understanding the predictors of life satisfaction and the effect this dimension has on negative life events (Ellison et al., 1989; Ellison, 1991; Fiala et al., 2002; Pargament et al., 1990). To accommodate responses from those who may not subscribe to a religious faith, the concept of religion was widened to also include questions about spirituality and intrapersonal functioning, such as assertiveness, honouring of the self and attitude to life. Understood in terms of this broader context, the 66.8% who acknowledged regrets within this domain were to some extent comparable to the 49% in Kinnier and Metha's (1989) sample that reported regrets related to a lack of assertiveness and discipline, and courage in taking risks in life. Nevertheless, the present higher level of regret in this domain could be the result of cohort effects due to the sampling procedure (i.e. convenience) consisting of a higher than average number of religiously-inclined or spiritually-focussed individuals. Also, in retrospect, it may have been preferable if the domain of "Spiritual or Religious Life" had been categorised into "Spiritual Life" and "Religious Life" domains. By combining the two concepts, it became problematic to interpret findings:

specifically, whether the findings were more related to regrets over belief with God, choice of religion or religious beliefs, than to do with self-belief and self-actualisation.

Previous research on regret has largely measured regret in terms of the total number of regrets (Landman, 1993). Measuring regret only in terms of quantity presumes that each unit of regret elicits the same level of feeling. This excludes the dimension of intensity as a salient indicator of feelings of regret, which has been shown to be important to an understanding of the temporal nature of regret. For instance, Gilovich and Medvec (1994) noted that the intensity of action regrets was higher over the short term than inaction regrets, and that over the long term, inaction regrets became more intense. Thus in developing a regret measure for the present study, the regret score was a composite of both frequency and intensity. On the basis of such a regret score, no significant age or gender differences in the level of overall regret were found. To date, only a few studies have compared male and female levels of overall regret. There was some exploration in the 1953 Gallup Polls, but this only indicated the percentage of males and females who acknowledged having regrets, rather than any differences in their mean levels of regret (Landman, 1993). Nevertheless, these polls showed no overall gender difference. The Kinnear and Metha (1989) sample also showed no overall gender difference in the reporting of regrets. In contrast, comparisons of the samples from the two previous New Zealand studies (Barrington & Gray, 1981; Gray, 1983) indicated that men reported more regret than females.

Investigations into specific regrets within the ten domains revealed, gender and age differences. Females reported more action regret in Family Relationships and more regret (especially inaction regret) in their Spiritual or Religious Life, than males. These findings are consistent with four studies identified in the literature that also report significant gender

differences in terms of regret in the various domains. Lecci et al. (1994) reported that family-related regret was reported more frequently by females than males. Seiden (2001) reported males to have more inaction career- and personal-life-related regrets than females. The New Zealand study by Barrington and Gray (1981) also noted the predominance of family-related regret among females. Family-related regrets did not feature in a similar study done among New Zealand males (Gray, 1983). Landman (1984), in reviewing the regret literature reported that family-related regrets were most commonly reported by women.

Overall, these gender differences appear to support the stereotypical notion in contemporary literature that women, being the more emotional gender, might also be expected to be the more regretful gender (Landman, 1993). Indeed, this would be consistent with the literature that documents women as reporting more depression and other negative emotions than men (Boyd & Weissman, 1981; Nolen-Hoeksema, 1987; Weissman & Klerman, 1977). However, Shimanoff (1985), in her study of emotionality in married couples, questioned this notion. Using self-reports of perceived frequency of, attitude toward and expression of regret, and measurements of actual expression of regret in daily conversations, she reported that there was no gender difference in the expression of regret. Instead, women were reported to have a more positive attitude toward regret than men. This seems to be borne out in the present study, for it appears that in general, men's and women's regrets are more alike than different. However, in some specific domains, notably Family Relationships and Spiritual or Religious Life, gender does play a significant role in the experience of regret.

Despite the portrayal of regret as associated with middle and old age in romantic and contemporary literature (Landman, 1993), the empirical question of whether regret is more common later in life lacks support in the current sample. The literature provides strong

arguments for the occurrence of regret at any stage, from late adolescence through to adulthood. Firstly, from a developmental perspective, Butler (1963) argued that the task of coming to terms with regret was a near universal aspect of life review among the aged. His formulation was consistent with Erikson's (1963) theory of development, which viewed the conflict between despair and integrity as being central to old age. According to Erikson, individuals' intrapersonal development remained incomplete until they acknowledged and integrated the less agreeable and more agreeable aspects of their lives. In his view, regret would remain a predominant concern for them until they reconciled these aspects. Secondly, Jung (1954) pointed that at around the age of 40, individuals undertook a midlife review, whereby they examined how their lives had developed up to that point and made decisions about their future. Thirdly, theoreticians of human development such as Erikson (1963), Levinson (1986), Super (1957) and Vaillant (1977) also agreed that early adulthood was a time when people experienced issues of identity, career choices, mate selection, and starting their own families. Since these were issues of importance to young adults, they argued that they should have regrets in these areas if they felt that they had made wrong decisions or choices. Reminiscence about past experiences then became one way of coping with or adapting to the choices made and the present situation (Merriam, 1980).

At the domain level, the current study reported that older adults felt more regret about Friend and Intimate Relationships, and more action regret related to Intimate Relationships and Spiritual or Religious Life, and more inaction regret related to Leisure. Age-related differences in the regret have been reported in the literature. Kinnier and Metha (1989) noted that younger adults reported more career- and romance-related regret than older adults, and older adults had more family-related regrets than younger adults. In a study among youth aged between 16 and 23 years, Lata et al. (1997) reported that younger respondents had more

education- and social-life-related regrets than older respondents. In addition, Gray's (1983) study also described older men as having more regrets than younger men. This is consistent with the research literature that suggests that regret does not so much as increase with age but that it changes with age (Gutmann, 1975 cited in Landman, 1993).

In general, the preliminary descriptive analysis of the current study revealed that most adults in the present study, experienced some form of regret and that these regrets tended to cluster around Family Relationships, Health and, Spiritual or Religious Life. There were no significant age or gender differences in the level of overall regret experienced. However, age differences were noted in two domains (namely, Family Relationships, and Spiritual or Religious Life), and gender differences were identified in four domains (namely, Friend and Intimate Relationships, Spiritual or Religious Life, and Leisure).

## **4.2 HYPOTHESIS 1:**

### **The Inverse Relationship Between Total Regret and Total Life Satisfaction**

The hypothesis that respondents with higher levels of overall regret would report lower levels of overall life satisfaction was supported by the findings. The current research confirmed the findings of previous studies that reported a negative correlation between overall regret and reports of overall life satisfaction. Klinger (1975) reported that greater negative attention to regrets were associated with greater feelings of dissatisfaction. Fry (1991) reported that reminiscence frequency, an activity associated with regret was inversely related to reports of past life satisfaction and psychological well-being. In a study of 152 single middle-aged women, Lewis and Borders (1995) reported that the lower the frequency of regret, the higher life satisfaction was for these women. Seiden's (2001) study also showed a

negative correlation between regrets and self-evaluations of the quality of life. Lecci et al.'s (1994) study reported the relationship between the number of regrets and life satisfaction to be non-significant except among older adults. However, they provided empirical support for other dimensions of regret to be salient in establishing a relationship between regret and life satisfaction. They noted that when regret-based cognitive and affective associations were considered (e.g. disappointment, pessimism, and emotional distress over goals not achieved), regret accounted for 27.6% of the variance in life satisfaction scores. In a similar vein, the current research included the dimension of regret intensity to the regret score and noted that regret accounted for 24% of the variance in overall life satisfaction. This underscored the importance of using measures that attempt to capture the complexity of the regret construct, rather than only examining regret frequencies, as many previous studies have focussed on.

Support for the hypothesis was also found across gender and age. Although there were no significant gender differences, one age difference was noted. Among younger adults, overall regret explained significantly more of the variance in overall life satisfaction than among older adults. This implied that life satisfaction among younger adults was more vulnerable to the effects of regrets than among older adults. This suggests the operation of a temporal dimension to the effect of regret on life satisfaction. Such a dimension was the crux of Kahneman's (1995) argument that 'hot regret' (i.e., the intense feelings of regret evoked by an action) diminished in intensity over time to become a 'wistful regret'. Older adults may be more accepting of regret than younger adults and therefore less likely to feel its effects with the passing of time. Alternatively, older adults may be in the process of achieving integrity, according to Erikson's ego analytic theory of adult development (Erikson, 1963), and as a result, experience greater life satisfaction. In two studies, Ryff and Heincke (1983), and Orwoll (1989, cited in Landman, 1993), older adults were found to have higher integrity

scores than younger adults, and these scores were associated with lower levels of regret. A focus of future research could be to investigate whether these higher integrity levels are positively correlated with life satisfaction.

### 4.3 HYPOTHESIS 2:

#### **The Inverse Relationship Between Regret and Life Satisfaction Along Ten Domains**

The hypothesis that regret and life satisfaction would be negatively correlated in each of the ten domains was supported in eight of ten domains. In particular, the negative correlation between Health and Intimate Relationship Regrets and life satisfaction in their corresponding domains was especially strong. On the other hand, no support for the hypothesis was found in the domains of Sexual Relations and, Spiritual or Religious Life.

The lack of universal support for the hypothesis suggests that the relationship between regret and life satisfaction is dependent upon the type of domain. The absence of a relationship between regret and life satisfaction in the domain of Sexual Relations led to speculations that such a comparison may have been too simplistic for a construct like sexual relations. In this regard, post hoc inquiries were made comparing satisfaction in this domain to regrets in other domains. Regrets in three domains were found to be moderately negatively correlated to sexual relations satisfaction; namely, Intimate Regret<sup>3</sup>, Spiritual or Religious Life Regret<sup>4</sup>, and Health Regret<sup>5</sup>. Additional hierarchical regression analyses suggest that sexual relations satisfaction, while being unassociated with Sexual Relations Regret, was negatively correlated to regrets about Intimate Relationships, Spiritual or Religious Life and Health. A large proportion of the sample had indicated regrets of a spiritual or religious

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<sup>3</sup>  $r = -.54, n = 140, p < .001$

<sup>4</sup>  $r = -.46, n = 143, p < .001$

nature, and it is possible they may have had a broader conceptualisation of what sexual relations involved. They may have viewed it as an essentially physical expression of an intimate relationship that was imbued with spiritual meaning and affected at the physical level by health concerns. Hence, future research into the relationship of regret and life satisfaction at the domain level could benefit from broadening the scope of investigation to look beyond simple comparisons of regret and life satisfaction within domains. For example, life satisfaction in the domain of Health could be compared with regrets in the domains of Leisure, Finance and Sexual Relations, rather than just health regrets. These types of investigations are likely to reveal a more comprehensive understanding of the regret – life satisfaction relationship at the domain level.

Some gender differences emerged in the level of support for the hypothesis. Significant relationships between regret and life satisfaction at the domain level were found among eight domains for males, and seven domains for females. There was no significant relationship between regret and life satisfaction in two domains; namely, Education and Spiritual or Religious Life. Among females, in addition to the domain of Spiritual or Religious Life, there was also no relationship between regret and life satisfaction in the domains of Family Relationships and Sexual Relations. In addition, among males, regret explained significantly more of the variance in satisfaction in the domains of Family Relationships and Sexual Relations than for females.

A review of the literature revealed only one study that examined the relationship between regret and life satisfaction at the domain level. Seiden (2001) investigated the relationship between work-related regrets and work satisfaction, and like the present study,

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<sup>5</sup>  $r = -.43, n = 144, p < .001$

reported the two variables to be negatively correlated. Seiden also noted that there were no significant gender differences in this relationship, a finding that was replicated in the present study, when Career Regret was compared with Career Satisfaction. Another similarity between Seiden's study and the current research, was that she reported romance-related regret to have a greater negative impact on life satisfaction among females than among males.

In addition, Seiden (2001) reported that family-related regrets had a greater impact on personal satisfaction among females than among males. This contrasted with the findings of the current study that not only showed an absence of a negative correlation between Family Relationship Regret and Family Relationship Satisfaction among females, but also showed that among males, Family Relationship Regret explained more of the variance in Family Relationship Satisfaction than for females. Another finding in the current study that was at variance with Seiden's findings was that of the relationship between work-related inaction regrets and work satisfaction. Seiden reported a negative correlation between these two variables but no significant relationship was found in the current study. Instead, there was a negative correlation between career-related action regrets and work satisfaction. The differences between the two studies could have resulted from the dissimilarities in the composition of the respective samples. Seiden used a sample of 140 professionals who were postgraduates of a graduate school of management, and who were specifically directed to focus on work related issues, whereas the current sample was based on convenience, included fewer postgraduates and required participants to consider regrets over a broad range of domains. Another reason for the difference could be that in the current study, gender was treated as relatively homogenous categories. Perhaps if the groups were divided into various dimensions of marriage, for example, with its variations of children, divorce, widowhood, employment and ethnicity, then regret and life satisfaction differences may have begun to

emerge. However, the current study did not provide these data and so they may remain an interesting speculation for future research.

A review of the literature failed to identify any previous research that examined age differences in the relationship between regret and life satisfaction at the domain level. Hence, the findings of the present study need to be viewed with caution, on account of its convenience sample. Any significant relationships discussed would require replication with a more representative sampling. Nevertheless, some post hoc findings warrant discussion. Support for the hypothesis showed a slight differential pattern according to age. Among younger and older adults, there was a negative correlation between regret and life satisfaction in seven domains. Support for the hypothesis was lacking in the domain of Sexual Relations among both groups. Differences however, emerged in four domains. Among younger adults, no relationship between the two variables was noted in Leisure, and Education. A possible reason for this could be that because younger adults were found to be significantly more satisfied with life overall and with education in particular, than their older counterparts, the impact of regret was ameliorated in these domains. Among older adults there was no relationship in the domains of Family Relationships and Spiritual or Religious Life. Coincidentally, older adults' reports of satisfaction in these domains were clustered in the 'mostly satisfied' category. Hence, once again the possibility of ameliorative effects on regret. In addition, among older adults, Education Regret had a greater impact on life satisfaction in the domain of Education, than for younger adults. Older adults' ratings of satisfaction in this domain clustered in the 'equally satisfied and dissatisfied' category, compared to younger adults' ratings that clustered in the 'pleased' category. Therefore it is possible that the impact of regret on life satisfaction, in this case, was exacerbated by the lower ratings of satisfaction indicated by older adults. These speculations, however, are

confined to the present convenient sample because prior research has tended to report either older adults as having higher levels of life satisfaction than younger adults (e.g. Hamarat et al., 2001) or age having no effect on life satisfaction (Lucas & Gohm, 2000; Wissing & van Eeden, 2002).

#### **4.4 HYPOTHESIS 3:**

##### **The Predominance of Inaction Regrets over Action Regrets**

The hypothesis that respondents would report more inaction regrets than action regrets was supported when overall regret was considered. Previous studies that compared differences between these two variables initially found that the frequency of action regrets outnumbered inaction regrets (Gleicher et al., 1990, Kahneman & Tversky, 1982; Landman, 1987a). Specifically, when participants were presented with hypothetical vignettes and asked to predict feelings of regret, predictions of action regret were greater than predictions of inaction regret. Subsequent to this previous research, surveys of actual regrets found that inaction regret outnumbered action regrets (Gilovich & Medvec, 1994; Kinnier & Metha, 1989; Metha et al., 1989; Hattiangadi et al., 1995; Seiden, 2001), a finding in line with the present results. A possible reason for this phenomenon of inaction regrets outnumbering action regrets could be that participants might have been biased not to report embarrassing events. In other words, they may have engaged in self-censorship in their selection of regrets to endorse in the survey.

The present hypothesis that inaction regret would be greater than action regret, received broad but not universal support, when tested at the domain level. For instance, reports of Career and Sexual Relations Inaction Regrets did not significantly outweigh action

regrets in these domains respectively. Only one previous study (Seiden, 2001) noted that individuals reported more personal life and career inaction regrets than action regrets. The dearth of similar research comparing action and inaction regrets at the domain level emphasises the need for more research among different samples to establish whether the hypothesis holds true.

Investigations of gender and age differences revealed a differential pattern of support for the hypothesis. Females reported more inaction regrets than action regrets in eight domains, while males reported this difference in only six domains. In addition, females differed from males, in that they reported significantly more inaction regrets than action regrets in the domains of Health, Intimate Relationships and Education, while males did not. On the other hand, males reported significantly more inaction regrets than action regrets in the domain of Sexual Relations, while females did not. This is consistent with some research that suggests that because men are often seen as desirous of sexual activity and initiators of that activity, they are more likely to feel regretful if sexual activity is not carried out (e.g. Harvey, Beckman, Browner & Sherman, 2002). Females, on the other hand, have been shown to have stronger preferences for activities reflecting romanticism (e.g. Purnine, Carey & Jorgensen, 1994) and hence, may be more prone to regrets about Intimate Relationships rather than Sexual Relations. In addition, research has shown females to report higher levels of health-related distress (e.g. Kandrack, Grant & Segall, 1991). It is possible that part of this distress is expressed as regret; and especially inaction regret surrounding issues of diet maintenance and weight control, which is often a common subject of female discourse and concern (e.g. Jeffery, Hennrikus, Lando, Murray & Liu, 2000).

There was stronger support for the hypothesis among younger adults than older adults. Younger adults reported more inaction regrets than action regrets in seven domains, while among older adults, such a difference was reported in only five domains. In addition, younger adults differed from older adults, in that they reported significantly more inaction regrets than action regrets in the domains of Health, Intimate Relationships and Education, while older adults did not. On the other hand, older adults reported significantly more inaction regrets than action regrets in the domains of Finance, while younger adults did not.

In the absence of any gender- or age-based theory in regret research, any attempt to explain such differences is obviously speculative. A plausible explanation for the gender difference in the domain of Health regrets is that females are more likely than males to have health concerns and to consume health services (Bernard, Hayward, Rosevear & McMahon, 1993; Kandrack et al., 1993). As a result they are more likely to make health-related choices, for which the potential for regret exists. On the other hand with regard to Intimate Relationships, Buss (1995) reported that women displayed more traits of intimacy, such as empathy and expressiveness in their relationships, than men. Shimanoff (1985) also reported that women tended to have a more positive attitude to regret and believed that they expressed more regret than men. Hence it is entirely possible that they are more likely to express regrets related to intimacy than males. Therefore, present results are in harmony with a larger body of research that shows women to have more health concerns than men, use health services more frequently and express more regret.

The pattern of differential support also highlights the difficulty involved in the study of real life regret. In vignette research, it can be argued that the same level of negative outcome is produced irrespective of whether it was caused by an action or an inaction. Under

these controlled conditions, Kahneman and Tversky (1982), Gleicher et al. (1990) and Landman (1987) found that people anticipated more action regrets than inaction regrets. However, in real life, conditions are difficult to control, and actions and inactions may produce different negative outcomes (Feldman et al., 1999). For example, if someone indulged in recreational drug use<sup>6</sup> and was arrested, the outcome could most probably be attributed to the taking of drugs (an action). On the other hand, if someone did not have a deep enough relationship with their partner<sup>7</sup> and subsequently faced a relationship break-up - and one that could have been avoided if they had seen a counsellor - the resultant regret could probably have been attributed to an inaction. A further instance involves the attribution of negative outcomes to either actions or inactions. For example, not pursuing higher education<sup>8</sup> could be attributable to either a failure to study (an inaction), or the pursuit of other activities that precluded study (an action). These examples show that outcomes can most seemingly be attributable to either an action or an inaction, and that sometimes, some outcomes are attributable to both. Therefore in real life, attempts to understand the reasons why real life inactions are regretted more than actions would be difficult to implement in a survey research design.

In addition, previous studies have focused largely on differences based on the frequencies of regret. However, the current study suggests that when the intensity of regret is also considered, the difference in the report of inaction and action regret is not as clear-cut, especially among older adults, for whom there were no significant differences in half the domains examined.

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<sup>6</sup> Appendix D: Section 3, Question 17 of the Life Satisfaction Survey

<sup>7</sup> Appendix D: Section 4, Question 26 of the Life Satisfaction Survey

#### 4.5 HYPOTHESIS 4:

##### **The Inverse Relationship Between Negative Impact of Life Events and Life Satisfaction**

The hypothesis that Negative Impact of Life Events would be negatively correlated with overall life satisfaction was supported. Previous research on the impact of life events on psychological well-being have consistently shown a negative correlation between the two variables (Suh, Diener & Fujita, 1996). Grob (1995) in a Swiss study that investigated the relationship between life events and subjective well-being among 280 adults, found that across life span, the more negative life events individuals experienced, the lower their level of overall life satisfaction. More recently, Owen et al.(2002) in their study of the association between life events and life satisfaction among 415 dementia caregivers in the USA, reported that negative life events was the strongest predictor of life satisfaction. Similarly, Kitamura et al. (2002) investigated the correlates of quality of life among 200 adults in a rural Japanese community. They reported that the more negative life events experienced during childhood the poorer were the current assessments of life satisfaction. The present research confirms the findings of these studies; namely, across age and gender (and cross-culturally), negative life events is a salient predictor of overall life satisfaction.

Notwithstanding the present findings, support for the hypothesis was not universal at the domain level. Reports of life satisfaction in the domains of Education and Spiritual or Religious Life did not significantly decrease when the negative impact of life events increased. A possible reason for lack of support for the hypothesis in the domain of Education, could be that a large proportion of the current sample were drawn from postgraduate students, whose satisfaction in their pursuit of further education was unlikely to

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<sup>8</sup> Appendix D: Section 4, Question 32 of the Life Satisfaction Survey

have been affected by the negative impact of life events. In the case of the domain of Spiritual or Religious Life, it is feasible that because a large proportion had indicated satisfaction in this domain, they may have relied on spiritual or religious coping strategies to overcome the deleterious effects of negative life events. Faulkner (1995) alluded to the possibility of the mitigating effects of coping strategies in his examination into the associations among religiosity<sup>9</sup>, life satisfaction, negative life events and other related variables. The study was conducted among a random American sample of 3617 adults who were between the ages of 24 years and 96 years. Faulkner reported that self-reported religious coping (a factor of religiosity) was positively correlated to stress resulting from negative life events, as well as reports of overall life satisfaction.

Investigations of gender and age differences revealed a differential pattern of support for the present hypothesis. There was stronger support for the hypothesis among females and younger adults, than among males and older adults. This result was contrary to recent findings of Nolen-Hoeksema and Ahrens (2002), whose research into the relationship between life events, and life satisfaction in the domains of career and relationships, revealed negative correlations, but no significant age differences. Education satisfaction showed the least association to the negative impact of life events across gender and age, probably for the same reasons described previously when Education regret and satisfaction were discussed. Support for the hypothesis was found in the domains of Friend Relationships and, interestingly, in Spiritual or Religious Life only among females and younger adults respectively. It could be that females and younger adults shared a similar reliance upon social contacts among their peers than their respective counterparts. Additionally, the higher levels of Spiritual or Religious Life regret that females reported may have played a role in making them more

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<sup>9</sup> Religiosity was conceptualised in the study to include religious attendance, the importance of religious beliefs, self-reported religious coping, and the degree of belief that God influences the direction of one's life.

vulnerable to the negative effects of life events. Alternatively, among younger adults, it may be that they possessed fewer coping strategies on account of their relative lack of life experience.

On the other hand, the Family Relationships and Sexual Relations domains failed to provide evidence for a relationship between Negative Impact of Life Events and life satisfaction among males and older adults, possibly due either to sampling effects, or because older adults may already be in stable family relationships. As a result, they might have found support in these stable relationships to overcome the stressors of negative life events. In addition, Negative Impact of Life Events explained significantly more of the variance in Sexual Relations satisfaction for female respondents than for male respondents. This is consistent with the research that reports women's sexual satisfaction compared with men's, was more affected marital stress (e.g. Andrews, Abbey & Halman, 1991). In another study of the effects of life events and stress among college students, Albuquerque, Rao, Subbakrishna & Rao (1990) reported that women were more likely than men to experience greater subjective distress concerning sexual relations than men.

Overall, the investigation into the relationship between the negative impact of life events and life satisfaction revealed that there are gender and age differences that warrant further study. Explaining these differences lies beyond the scope of the present study but could be usefully investigated particularly in research on counterfactual thinking. As Gilovich and Medvec (1995) pointed out, some people who experience life events react negatively at an emotional level (and given over to an endless tormented cycle of "what if's"), while others react positively; and that the determinants of which path an individual takes is often "mysterious" (p. 279). Nevertheless, there appears to be a general pattern of correlation

between the negative impact of life events and overall life satisfaction. The support for this hypothesis was yet another crucial step towards the overall goal of the current study; achieving a deeper understanding of the role negative impact of life events plays in the relationship between regret and life satisfaction.

#### **4.6 HYPOTHESIS 5:**

##### **The Positive Correlation Between Negative Impact of Life Events and Regret**

Previous research has not empirically investigated the relationship between the negative impact of life events and regret, however, the current study has shown its saliency in regret research. The hypothesis that those who report higher levels of negative impact from life events would also report higher levels of overall regret was supported. This support extended across gender and age. Bandura (1982) wrote of the possibility that in the course of life, individuals were likely to encounter chance events. Indeed, research has shown such events to be an important factor in the study of life choices (Clausen, 1995). Clausen argued that the points at which chance life events intercepted individuals' life paths were often characterised as turning points in their lives. At these turning points, significant life choices were made by individuals that accounted for their present situation. The potential for subsequent regret because of perceived poor choices made at these turning points has salience for the present research. Clausen proposed that the outcomes of the turning points were pertinent to the understanding of the concomitants of life satisfaction. He noted that life events (characterised as turning points) were associated with adult life satisfaction; a finding consistent with the present study, especially in terms of negative life events. Therefore, since regrets were hypothesised to be present where life choices were made (especially where turning points occurred), they would be positively correlated with life events (especially

negative life events). The present study found the correlation to be moderately positive. Therefore individuals who experienced higher levels of negative impact from life events were also likely to report higher levels of regret.

At the domain level however, weak to moderate positive correlations between Regret and Negative Impact of Life Events were found in eight domains. Moderate correlations were found in the domains of Leisure and Intimate Relationships. These domains also showed significant negative relationships between regret and life satisfaction. The Education and Sexual Relations domains showed no positive correlation between the Negative Impact of Life Events and Regret. This was similar to the present finding described earlier; namely, Education satisfaction was unaffected by regret in that domain. Hence, in the current sample, education appeared equally unaffected by both Negative Impact of Life Events and Regret; possibly because of the large proportion of postgraduate students in the sample who were satisfied with their current situation. The lack of a relationship between regret and Negative Impact of Life Events in the domain of Sexual Relations may be due possibly to the lack of a relationship between regret and life satisfaction in this domain reported earlier in the study.

Analysis of gender and age differences revealed a differential pattern of support for the hypothesis at the domain level. Education regrets, like Education satisfaction, was the least likely to be affected by the Negative Impact of Life Events. Males report of regret was less associated with the negative impact of life events than females. Among males, Negative Impact of Life Events was positively correlated with regret in only five domains. Regrets related to Finance, Friend Relationships, Intimate Relationships, Sexual Relations and Education did not significantly increase when the Negative Impact of Life Events increased. Among females, however, there was lack of support for the hypothesis in only three domains

(viz., Sexual Relations, Education, and Spiritual or Religious Life). In addition, Negative Impact of Life Events was found to explain significantly more of the variance in Intimate Relationship regret among females than among males. These gender differences are largely consistent with the research that shows females report higher levels of psychological distress than males (Kandrack, Grant & Segall, 1991). Perhaps, women, as the stereotypically considered more emotional gender (Landman, 1993) and as the gender more likely to report negative emotions (Weismann & Klerman, 1977), and who see themselves as more likely to express regret (Shimanoff, 1985), are more likely than males to be regretful as a result of increased negative impact from life events.

Results for younger and older adults showed equally strong support for the hypothesis in seven of the domains. However, their report of regret in the domain of Education showed no significant relationship with Negative Impact of Life Events; possibly due to cohort effects because of the large number of postgraduate students in the sample. Results also differed in a lack of support for the hypothesis in terms of Career and Friend Relationships (younger adults), and Sexual Relations and Spiritual or Religious Life (older adults) domains respectively. It is possible among younger adults, careers and friendships are important developmental activities that are less susceptible to negative evaluation because of an acceptance that they are undergoing change and growth. On the other hand, it may also be that among older adults, by virtue of their life experience, or the fact that they may be in more stable relationships, have resolved some of their issues concerning Sexual Relations and Spiritual or Religious Life. In addition, Negative Impact of Life Events was found to explain more of the variance in Leisure regret for older adults than for younger adults. This could partly be explained by the present finding that regret and life satisfaction in the domain of Leisure were not significantly associated among younger adults. In addition, older adults,

possibly having more disposable income with which to pursue leisure activities such as travelling, but having greater family and career responsibilities were prevented from achieving their desires. Hence rather than attribute their regret to these more noble responsibilities, they found it easier to blame external events for their regret.

Overall, the findings provided weak to moderate support for the hypothesis that those who reported greater negative impact from life events were also likely to report higher levels of regret. More research is needed to explicate the differential pattern of support for the hypothesis along gender and age, and support for the present hypothesis provides the basis for examining the role of negative impact of life events in the relationship between regret and life satisfaction.

#### **4.7 HYPOTHESIS 6:**

##### **Negative Impact of Life Events as a Mediator and Moderator in the Relationship between Total Regret and Total Life Satisfaction**

The current study investigated the relationship between total regret and total life satisfaction under conditions of low and high Negative Impact of Life Events. To examine the process by which total regret affected total life satisfaction, it was hypothesised that regret would be affected by the Negative Impact of Life Events, which in turn would have a negative impact on total life satisfaction. As such, the level of Negative Impact of Life Events was a potential mediator of the total regret - total life satisfaction relationship. The findings of the present study indicate that adults who have higher levels of regret are less satisfied with their lives overall, compared to their peers who have lower levels of regret, partly because they have been impacted more negatively by life events. Evidence for this process was found in

the measure of total life satisfaction that was examined, with the Negative Impact of Life Events measure accounting for 18.9% of the regret effect on total life satisfaction.

The current research also predicted that the Negative Impact of Life Events would affect the relationship between total regret and total life satisfaction, so that the nature of the impact of total regret on total life satisfaction would vary according to the level of the Negative Impact of Life Events. Evidence for the Negative Impact of Life Events interacting with total regret in such a way as to have an impact on total life satisfaction was found in the present study. For adults who experienced a greater Negative Impact of Life Events, the differences between adults high and low on total regret, in terms of life satisfaction was greater than for those who experienced a lesser Negative Impact of Life Events. Therefore, the present study found evidence that the Negative Impact of Life Events moderated the effects of regret on life satisfaction. The interaction between the Negative Impact of Life Events and overall regret significantly enhanced the explanation of overall life satisfaction above levels already explained by the respective contributions of overall regret and Negative Impact of Life events.

In prior regret research, attention has not focused on the Negative Impact of Life Events on the relationship between total regret and total life satisfaction. The present study has extended the scope of regret research by providing empirical evidence to show that the Negative Impact of Life Events strengthens the association between total regret and life satisfaction on the whole.

These findings also provide empirical support for the literature on the lower rates of life satisfaction among individuals who have experienced greater negative impact from life

events (Suh et al., 1996; Grob, 1995; Kitamura et al., 2002; Nolen-Hoeksema & Ahrens, 2002; Owen et al., 2002). The data also support findings from other studies that have shown higher levels of regret to be associated with lower levels of life satisfaction (Fry, 1991; Klinger, 1975; Lecci et al., 1994; Lewis & Borders, 1995; Seiden, 2001).

In the present study, adults with higher levels of negative impact from life events also had higher levels of regret than those with lower levels of negative impact from life events. In the absence of normative data comparing the present results with prior research findings, the question of why regret is higher among those who have experienced greater negative impact from life events remains unanswered. It is possible that the nature of the negative life events experienced by those who indicated higher levels of negative impact might be clustered around events that required them to make significant life choices (for example, falling in love and getting married or changing a job because of a job opportunity that arose). Making these choices then increases the potential for future regret, on account of outcomes that may be perceived poor choices. This would be consistent with the propositions of Bandura (1982), who argued about the importance of chance encounters in life that lead people to make choices, and Clausen's (1995) proposition that life events serve as "turning points" (p. 383) around which life choices are made, and which later affect assessments of life satisfaction.

#### **4.8 CONCLUSION**

One of the strengths of the present study is its attempt to utilise a within-subjects design. Respondents' ratings of regret, life satisfaction and negative impact of life events for ten domains were compared. Few, if any previous studies have made these sorts of

comparisons. These comparisons are important because the relationships between the constructs investigated have revealed complexities at the domain level that previous studies at the global level have not revealed. For example, there was an inverse relationship between total regret and overall life satisfaction, but at the domain level, Sexual Relations regret was not associated with Sexual Relations satisfaction.

The present study is also one of few that have attempted to investigate the pathway between regret and life satisfaction. This was important because much of previous research has focused on identifying relationships that exist between these two variables and has not attempted to empirically verify how these relationships occur. In this regard it is probably the first that has analysed the role of Negative Impact of Life Events on the relationship between regret and life satisfaction, and in doing so, tentatively probed the relationship between negative life events and regret. In addition, prior research has tended to focus independently on either the relationship between regret and life satisfaction or the relationship between negative life events and life satisfaction.

The inclusion of 20 validity-check items in Section Five of the questionnaire also sets the present study apart. In the absence of easily accessible and empirically-valid regret measures, these items not only helped in validating the current measure, they provided potential for areas to be followed up in future research. Several limitations of the present design, however, prevent firmer conclusions regarding the findings.

#### 4.9 LIMITATIONS OF THE PRESENT STUDY

The present study relied on self-report and retrospective data, which is vulnerable to bias. Respondents provided information on their current levels of life satisfaction and also responded to questions about more distant events, such as the impact of negative life events that occurred over the previous 12 months, and their current feelings of regret based on assessments about their whole life until the present. Research on human memory indicates that when individuals provide information about their experiences retrospectively, they could be subject to unintentional influence by non-memory-based but plausible explanations for those experiences (e.g., Ross, McFarland & Fletcher, 1981). Other research has shown that people's memories for events are not reproductions of past experience, but reconstructions that accommodate current knowledge and concerns (Loftus & Loftus, 1980; Loftus & Zanni, 1975). A solution to this problem might be to use methodologies that are more reliable in recording regrets, such as the longitudinal method whose strength is its systematic gathering of information from respondents at the time the regret was first experienced. Respondents could then have recorded this information in diaries at periodic intervals, including additional information about their regretful feelings, as well as the prevailing circumstances.

The present study also relied on a convenience sample. This precluded generalisability of the results to the population, on account of the sampling being distorted. The presence of a relatively high degree of Spiritual or Religious Life regret may indicate a bias towards a level not normally found in the general population, as regrets of this nature have not featured in previous regret research. A plain solution to this would be to obtain a representative sampling of the population that takes into account gender, age, ethnicity and socio-economic status. The inclusion of ethnicity would be important because it would be

consistent with the large body of evidence documenting the role of culture in determining behavioural and emotional expression (Berry, Poortinga, Segall & Dasen, 1992). Socio-economic status was previously suggested in a New Zealand study (Gray, 1983) as a predictor of domain regret among men. It is possible that the current sample may have included a significantly higher number of lower-income full-time postgraduate students and upper-middle income professionals, who were friends and family of the researcher.

The present study used a measure of regret that was a composite of both frequency and intensity. While frequency and intensity was argued to be a more comprehensive measure of regret, it made comparisons with previous research problematic. Much of previous research had focused solely on regret frequency, with relatively few studies examining regret intensity. Although the present research has suggested the importance of the frequency and intensity dimensions in explicating the relationship among regret, life satisfaction and negative impact of life events, it raised further questions about whether an interactive relationship may have existed between frequency and intensity. Hence, in retrospect, it may have been better to have utilised three measures of regret, each tapping separately into frequency, intensity and a frequency-intensity composite. In this way, more direct comparisons could have been made with earlier research, in addition to the claims that the current measure was more comprehensive.

Another limitation of the present study involved the items in the Life Experiences Survey (LES; Sarason et al., 1978) not matching the ten domains being investigated in regret and life satisfaction. For example, there were no questions about the impact of changes in Education, Leisure, and Spiritual or Religious Life. On the other hand, of the 46 items in the survey, 13 items were related to Intimate Relationships and eight items were about Family

Relationships. In addition, the LES is a global measure of the impact (negative or positive) of life events. Hence, it allowed only for investigations to be made into the global effect of life events on specific domains of regret and life satisfaction. If the LES items had been categorised into domains (e.g. Family Life Events, Career Life Events, Education Life Events, etc.), it might have been possible to explicate more clearly why Negative Impact of Life Events was not correlated with life satisfaction and regret in a significant number of domains. For example, Negative Impact of Life Events was not significantly correlated with either Spiritual or Religious Life satisfaction, or Sexual Relations regret. However, if it were possible to examine the negative impact of spiritual or religious life events or sexual relations life events on life satisfaction and regret in these domains respectively, perhaps a relationship might have been established. Thus a global measure of life events such as the LES may not have been a sensitive enough instrument with which to measure effects on regret and life satisfaction at the domain level.

#### **4.10 SUMMARY OF FINDINGS**

The present study noted that most respondents experienced some form of regret. The level of overall feelings of regret was higher than that reported in most previous regret research. The most commonly experienced regret involved Family Relationships, Health and Spiritual or Religious Life. This differed significantly from much of previous research that identified education-, career- and marital-related (equivalent to the intimate-relationship domain) regrets. By contrast, levels of regret for education and career were relatively lower in the current sample. No age or gender differences in overall feelings of regret were noted. However, at the specific domain level, gender and age differences emerged, with females

reporting more regret than males in two domains, and older adults reporting more regret than younger adults in four domains.

Levels of overall life satisfaction clustered around a narrow band ranging from mixed (equally satisfied and dissatisfied) to pleased, with no gender differences. An age difference was noted, however, with younger adults being more satisfied with their lives on the whole than older adults. In addition, the level of negative impact from life events showed no age or gender differences.

Further evidence supporting previous research of the association between regret and life satisfaction is provided by the confirmation that among present respondents, their feelings of regret appeared to have a negative impact on their assessments of overall life satisfaction. While there were no gender differences in this association, evidence suggested that younger adults' assessment of overall life satisfaction was more vulnerable to the effects of regret than older adults.

The present study also found strong support for an association between regret and life satisfaction in most of the ten domains investigated. However, a differential pattern of support was found according to gender and age.

Baum (1999) noted that two dominant themes had emerged fairly consistently in regret research; namely, that inactions generated more regret than actions and that regrets of omission (ie. inaction regrets) were more frequently reported than those of commission (ie. action regrets). Present findings generally support this finding, but only in terms of overall regret. When regret at the domain level was considered, however, support was not universal.

Significant gender and age differences were also found, with females and younger adults reporting more inaction regret compared to action regret, than males and older adults. One implication of this finding is that gender and age variables may be more significant than previous research has suggested, and that research methodology needs to use methodologies that tap into the reasons for these differences.

The present findings also support previous research into the association between negative life events and life satisfaction. It provided evidence to suggest that not only frequency, but also the negative impact ascribed to life events was salient in explicating the association.

Bandura (1982) and Clausen (1995) proposed that life events served as turning points around which life choices were often made and that these choices (good or bad) were associated with individuals' assessment of life satisfaction. The potential for regret to occur because of these choices was predicted by investigating the relationship between the negative impact of life events and the level of regret. The findings suggested that as far as overall regret was concerned, those who were more negatively affected by life events also reported higher levels of regret. However, at the domain level, support was less strong. Gender and age differences also emerged, with males' report of regret being the least affected by the effects of negatively impacting life events. Once again, gender and age proved to be significant variables that should be the focus of future regret research.

On the basis of Bandura's (1982) and Clausen's (1995) proposition, it was predicted that the negative impact of life events would not only moderate the relationship between regret and life satisfaction, but also be a mediator of that relationship, acting as it were, a

mechanism by which regret affected life satisfaction. The present findings suggested that when individuals are experiencing higher levels of negative impact from life events, their assessments of life satisfaction are more likely to be vulnerable to regret, than under conditions of lower negative impact. It was also found that negative impact of life events partially accounted for the effect of regret on life satisfaction. While no prior research has investigated the pathway between regret and life satisfaction, the present findings are consistent with studies on attributional style in which individuals were prone to systematic biases in explaining the causes of events (e.g. Jennings, Amabile & Ross, 1982). In this instance, they appear to have explained (partially, at least) their lower satisfaction with life on account of regret, due to the presence of higher levels of negatively impacting life events.

Empirical support for Baldwin's assumption about the universality of regret (Levinson, 1978) was strong in the current study. It appears that when individuals are asked to reflect on aspects of their life in detail, they are more likely to describe feelings of regret that they would not have otherwise acknowledged. The picture that emerges from the data strongly supports the view that feelings of regret and the negative impact of life events are important considerations in the study of life events. Age and gender differences are relatively more important in terms of the domain of regret being investigated, rather than the level of regret experienced. Previously held hypotheses about the relationship that exists between regret and life satisfaction at the global level actually mask the relational complexities that exist at the domain level. Therefore further research at the domain level may explicate some of the contradictory results that have emerged in regret research. These have implications for clinical practice, especially in terms of assessments of life satisfaction and the delivery of treatment programmes. Knowledge about regret at the domain level and its associations or non-associations with recent life events, particularly those that have a negative impact, are likely

to inform the formulation of more effective treatment plans. For example, the present study found that intimate relationship regret among women has a greater impact on sexual satisfaction than regrets about sexual relations, especially under conditions of recent negatively impacting life events. This knowledge may inform the selection of therapeutic interventions that ameliorate the negative effects of life events and target intimacy issues.

#### **4.11 FUTURE DIRECTIONS**

On the basis of present findings three broad possibilities emerge for future research. The first involves the need to develop standardised measures of regret that allow for comparative studies to be made less problematically. These measures would need to take into account such dimensions as frequency, intensity and frequency-intensity interactions. The temporal distance between regret and the event around which actions or inactions revolve is another dimension that needs consideration. Current questionnaire-based research into regret in real life does not take into account the limitations of data based on retrospective reports. The suggestion from prior research that individuals who provide information about their experiences retrospectively, could reconstruct them to accommodate current knowledge and concerns would have implications for research into the pathways by which regret affects assessments of life satisfaction. The solution to this potential challenge may lie in the use of longitudinal methodology, or a combination of quantitative and qualitative measures, as adopted by Lata et al. (1997) in their study of the regrets of college students. By combining quantitative and qualitative measures, they were able to access a rich source of information about why individuals in the sample responded in the way they did.

Secondly, the present findings indicate that broad conceptualisations about the relationship of variables such as regret, life satisfaction and negative life events, do not fully explicate the complex relationships these variables have along commonly-identified domains. Broad conceptualisations also overlook the differential patterns that emerge when gender and age variables are considered. Therefore, future research into the relationship between regret and life satisfaction needs to consider age, gender and the domain in which the relationship occurs.

The third future direction involves research into the pathways by which regret affects life satisfaction. The present findings have identified the negative impact of life events to be one of these. There are suggestions from the research literature that counterfactual thinking and personality may be others that should be considered. Gilovich and Medvec (1995) suggested that “people’s postcomputed thoughts of imagined alternatives to reality” (p. 279) may help in understanding the relationship between regret and life satisfaction. In addition, personality variables such as personal efficacy and ruminative tendencies have also been identified as playing a mediating role in the relationship between regret and psychological well-being among women (Stewart & Vandewater, 1999). Future research into such pathways would be useful in the development of an empirically-validated theory of regret and life satisfaction.

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**APPENDICES**

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## The Life Satisfaction Survey

Dear Sir/Madam,

My name is Siddartha Naidu, and I am a 44-year-old psychology student from Massey University. To complete the requirements of my Masters Degree, I am studying some factors that research has suggested, may be related to life satisfaction among adults. To verify this, you are welcome to get in touch with my supervisor, Dr Ross Flett, at Massey University (Tel. No. 06 - 3505799 ext. 4127).

Your participation in this research would be greatly appreciated as it could provide useful information that is currently lacking; information such as wellbeing, and how choices in life and important personal events can affect us.

This study is being conducted according to the guidelines set by the Human Ethics Committee at Massey University. If you decide to take part in the study, this is what you would do:

1. Be asked to choose statements from a questionnaire, which you feel most closely apply to you. These questions will cover your age, gender, your thoughts about significant choices you have made, important events that have occurred in your life, and how satisfied you are about various aspects of life.  
This should take about 30 minutes to complete.
2. Return the completed questionnaire in the self-addressed envelope by **2 November 2002**.
3. Fill in a request for feedback, should you wish to receive preliminary results of the survey in summarised form. Please ensure that this request is sent in a separate envelope that has been provided.

Please note that you have the right to decline answering any particular question, or to withdraw from the study at any stage. The information gathered in this survey will be used as follows:

1. It will be kept confidential and only I will have access to it at any time.
2. A record of your name and address will not be needed unless you wish to receive a summarised report of the results of this study. This information will be kept separate from the questionnaire to ensure confidentiality.
3. In the final report on this study, the information collected will be used only in summarised form; no individual answers will be identifiable.
4. Your questionnaire will be destroyed at the conclusion of this research (early 2003) or at any stage before that time, if you wish.

Should you require further clarification about the study or the questionnaire, please feel free to contact me at:

Tel: [REDACTED]  
 Email: [REDACTED]

Yours sincerely,

\_\_\_\_\_  
 Siddartha Naidu

# The Life Satisfaction Survey

## Feedback Request Form

Thank you for your time in responding to this survey and for consenting to be a part of this research. The answers you provide will be kept completely confidential and will only be used in summarised form.

If you would like to receive a summary of the research and its findings, please provide your name and address below:

Name: _____
Address: _____
_____
_____

Please submit this request in the smaller of two reply envelopes that have been provided, so that it can be kept separate from the information you have provided in the questionnaire.

Thank you.

\_\_\_\_\_  
Mr Siddartha Naidu  
Researcher

## The Life Satisfaction Survey

Dear Sir/Madam,

Thank you for your consent to participate in the Life Satisfaction Survey. If you have already returned the completed questionnaire, please accept my gratitude for the time and effort you put in to complete it.

If for some reason you have decided to withdraw from the survey, thank you for your consideration of my request.

However, if you require more time, I would be most grateful if you could return the questionnaire in the self-addressed envelope by 15 November 2002.

Yours sincerely,

---

Siddartha Naidu

# THE LIFE SATISFACTION SURVEY



Age:

Years

Gender:

*(Please tick one)*

Male

Female



This questionnaire has 5 sections.

The questions cover various aspects of one's life that are related to assessments of life satisfaction.

It is important to remember that there are no right or wrong answers.

Some of the questions can be quite personal, however, previous life satisfaction research has suggested that answers to these questions have relevance.

**Your answers to this questionnaire will be kept COMPLETELY CONFIDENTIAL.**  
The information you give will be used only in summarised form  
and  
there will be nothing to identify you personally with your answers.

## SECTION 1

### How do you feel about the following areas of life?

Please tick the box that best describes how you feel about:

1. **your work, job or career.**

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Terrible	Unhappy	Mostly Dissatisfied	Mixed (Equally Satisfied & Dissatisfied)	Mostly Satisfied	Pleased	Delighted

2. **your financial situation.**

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Terrible	Unhappy	Mostly Dissatisfied	Mixed (Equally Satisfied & Dissatisfied)	Mostly Satisfied	Pleased	Delighted

3. **the way your leisure time is spent.**

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Terrible	Unhappy	Mostly Dissatisfied	Mixed (Equally Satisfied & Dissatisfied)	Mostly Satisfied	Pleased	Delighted

4. **your health.**

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Terrible	Unhappy	Mostly Dissatisfied	Mixed (Equally Satisfied & Dissatisfied)	Mostly Satisfied	Pleased	Delighted

5. **your relationship with your family.**

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Terrible	Unhappy	Mostly Dissatisfied	Mixed (Equally Satisfied & Dissatisfied)	Mostly Satisfied	Pleased	Delighted

6. **your relationships with your friends.**

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Terrible	Unhappy	Mostly Dissatisfied	Mixed (Equally Satisfied & Dissatisfied)	Mostly Satisfied	Pleased	Delighted

## How do you feel about the following areas of life?

Please tick the box that best describes how you feel about:

7. **your relationship with your spouse or partner or person with whom you are intimate with, if applicable.**

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Terrible	Unhappy	Mostly Dissatisfied	Mixed (Equally Satisfied & Dissatisfied)	Mostly Satisfied	Pleased	Delighted

8. **your sexual relations.**

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Terrible	Unhappy	Mostly Dissatisfied	Mixed (Equally Satisfied & Dissatisfied)	Mostly Satisfied	Pleased	Delighted

9. **your educational achievements.**

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Terrible	Unhappy	Mostly Dissatisfied	Mixed (Equally Satisfied & Dissatisfied)	Mostly Satisfied	Pleased	Delighted

10. **your spiritual or religious life, if applicable.**

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Terrible	Unhappy	Mostly Dissatisfied	Mixed (Equally Satisfied & Dissatisfied)	Mostly Satisfied	Pleased	Delighted

11. **your life, as a whole.**

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Terrible	Unhappy	Mostly Dissatisfied	Mixed (Equally Satisfied & Dissatisfied)	Mostly Satisfied	Pleased	Delighted











### SECTION 3

The statements listed in this section require you to think about your whole life.

If a statement applies, then give it a regret rating that best describes any **current feelings of regret** you might have about it.

If a statement does not apply, leave it blank and skip to the next question.

***Sometimes**, a statement might not fully describe your experience. For example, in Question 5, you may have bought insurance and have no regrets, but you may have regrets about not having bought enough. In this instance, Question 5 is still applicable to you, but you may want to use the space provided at the end of this section to record your regret about not buying enough and rating it.*

**Remember:**

- If a statement applies, give it a regret rating. If not, leave it blank and skip to the next statement.
- If a statement does not fully describe your experience, then use the space at the end of this section to write it in a way that does, and give it a regret rating.

	No Regret	Slightly Regret	Moderately Regret	Strongly Regret
1. I have chosen a different career.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I have retired from work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I have continued working past retirement.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I have re-entered the work force after a break (due to redundancy, illness, pregnancy, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I have bought life, medical, or other forms of insurance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I have saved part of my income.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I have bought my own home or invested in property.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I have taken many financial risks.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. I have spent a lot of time on leisure pursuits.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. I have travelled a lot.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	No Regret	Slightly Regret	Moderately Regret	Strongly Regret
11. I have been involved in cultural pursuits and community activities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. I have smoked.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. I have consumed alcoholic drinks.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. I have paid careful attention to my diet.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. I feel that I have taken good care of my health.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. I have exercised very regularly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. I have indulged in recreational drug use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. I started a family later than I would have liked.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. I started a family earlier than I would have liked.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. I have made my family the most important aspect of my life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. I have spent a lot of time developing relationships with my relatives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. I have cultivated a deep relationship with only a few close friends.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. I have spent much time with my friends.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. I have made friends an important part of my life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. I have married or entered into a defacto partnership.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. I have divorced or ended a defacto relationship before.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	No Regret	Slightly Regret	Moderately Regret	Strongly Regret
27. I have changed my partner before.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28. I have made love more important in the choice of my partner or in intimate relationships.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29. I have made sex more important in the choice of my partner or in intimate relationships.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30. I have engaged in sexual activity/relations early in life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31. I have been careful in my sexual activity/practices.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32. I have engaged in much sexual activity.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33. I have pursued higher education.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34. I have emphasized academic achievements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35. I have changed my major in university/polytechnic.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36. I have delayed going to university / polytechnic.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
37. I have changed my religion.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
38. I have changed my religious or spiritual beliefs.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
39. I have made enough choices for myself.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
40. I have been quite assertive in some of my relationships with others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	No Regret	Slightly Regret	Moderately Regret	Strongly Regret
41. I have been generally fun-loving.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
42. I have spent much time developing my inner spirit.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

List any other actions you have done in your life and rate your level of regret about them.

	No Regret	Slightly Regret	Moderately Regret	Strongly Regret
43. _____ _____ _____ _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
44. _____ _____ _____ _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
45. _____ _____ _____ _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
46. _____ _____ _____ _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
47. _____ _____ _____ _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
48. _____ _____ _____ _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

List any other actions you have done in your life and rate your level of regret about them.

	No Regret	Slightly Regret	Moderately Regret	Strongly Regret
49. _____ _____ _____ _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
50. _____ _____ _____ _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
51. _____ _____ _____ _____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
52. _____ _____ _____ _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
53. _____ _____ _____ _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
54. _____ _____ _____ _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
55. _____ _____ _____ _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
56. _____ _____ _____ _____	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
57. _____ _____ _____ _____	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

## SECTION 4

The statements listed in this section require you to think about your whole life.

If a statement applies, then give it a regret rating that best describes any **current feelings of regret** you might have about it.

If a statement does not apply, leave it blank and skip to the next question.

***Sometimes**, a statement might not fully describe your experience. For example, in Question 15, you may not have exercised regularly in some periods of your life and have regrets about it. On the other hand, you may have exercised regularly at other periods of your life and have no regrets about them. In this instance, Question 15 is still applicable to you, but you may want to use the blank spaces provided at the end of this section to record that you have exercised regularly at some periods in your life and rate it accordingly.*

***Similarly**, if you have had more than one marriage or defacto relationship in your lifetime, then your responses to Questions 24 – 29 may vary according to the partner you have in mind. In these instances, you may wish to use the blank spaces at the end of this section to record any ratings of regret you may currently have about the other partners.*

### Remember:

- If a statement applies, give it a regret rating. If not, leave it blank and skip to the next statement.
- If a statement does not fully describe your experience, then use the space at the end of this section to write it in a way that does, and give it a regret rating.

	No Regret	Slightly Regret	Moderately Regret	Strongly Regret
1. I have not changed my career.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I have not re-entered the work force after a break (due to redundancy, illness, pregnancy, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I have not bought life, medical or other forms of insurance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I have not saved part of my income.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I have not bought my own home or invested in property.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I have not taken many financial risks.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I have not spent much time on leisure pursuits.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I have not travelled a lot.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

		No Regret	Slightly Regret	Moderately Regret	Strongly Regret
9.	I have not been involved in cultural pursuits and community activities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.	I have not smoked.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.	I have not consumed alcoholic drinks.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.	I have not been careful with my diet.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.	I feel that I have not taken enough care about my health.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.	I have not exercised much or at all.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.	I have not indulged in recreational drug use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16.	I have not spent enough time with my immediate family.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.	I have not made my family the most important aspect of my life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18.	I have not spent much time developing relationships with my relatives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19.	I have not been affectionate enough towards my family.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20.	I have not cultivated a deep relationship with a few close friends.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21.	I have not spent much time with my friends.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

		No Regret	Slightly Regret	Moderately Regret	Strongly Regret
22.	I have not made friends an important part of my life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23.	I have not married or entered into a defacto partnership.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24.	I have not divorced or ended a defacto relationship before.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25.	I have not changed my partner before.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26.	I do not have a deep enough relationship with my partner.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27.	I have not made love so important in the choice of my partner or in intimate relationships.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28.	I have not made sex so important in the choice of my partner or in intimate relationships.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.	I have not engaged in sexual activity/relations early in life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30.	I have not been so careful in my sexual activity/practices.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31.	I have not engaged in much sexual activity.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32.	I have not pursued higher education.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33.	I have not emphasized academic achievements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34.	I did not change my major in university/polytechnic.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	No Regret	Slightly Regret	Moderately Regret	Strongly Regret
35. I have not delayed going to university/polytechnic.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36. I have not changed my religion.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37. I have not changed my religious or spiritual beliefs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38. I have not made enough choices for myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
39. I have not been assertive in some of my relationships with others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
40. I have not been generally fun-loving.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
41. I have not spent much time developing my inner spirit.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>List any other actions you have not done in your life and rate your level of regret about them.</b>	<b>No Regret</b>	<b>Slightly Regret</b>	<b>Moderately Regret</b>	<b>Strongly Regret</b>
42. _____ _____ _____ _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
43. _____ _____ _____ _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
44. _____ _____ _____ _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

List any other actions you have not done in your life and rate your level of regret about them.

	No Regret	Slightly Regret	Moderately Regret	Strongly Regret
45. _____ _____ _____ _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
46. _____ _____ _____ _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
47. _____ _____ _____ _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
48. _____ _____ _____ _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
49. _____ _____ _____ _____	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
50. _____ _____ _____ _____	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
51. _____ _____ _____ _____	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
52. _____ _____ _____ _____	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
53. _____ _____ _____ _____	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

## SECTION 5

The statements below require you to think about your whole life.

Please read each statement and indicate your **level of agreement or disagreement** with them.

		Strongly Disagree	Disagree	Agree	Strongly Agree
1.	I can think of one or more career decisions that I have regretted.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	I can think of one or more instances when I made regrettable financial decisions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	I can think of times in my life that I regret not having pursued a leisure activity.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	I can think of one or more instances when I regret not having taken better care of my health.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	I can think of times when I regret that I have not made family a more important aspect of my life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.	I can think of one or more instances when I regret not having made the development of close friendships more important in my life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.	I can think of one or more marriage and/or defacto relationships that I have regretted. <i>(if applicable)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.	There are aspects about my sexual history that I regret.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.	I can recall one or more instances where I have regretted choices that I have made with regard to my education.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.	I can think of regrets that I have about aspects of my spiritual or religious life. <i>(if applicable)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The statements below require you to think about your whole life.  
Please read each statement and indicate your **level of agreement or disagreement** with them.

		Strongly Disagree	Disagree	Agree	Strongly Agree
11.	I do not regret my choice of work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.	I have no regrets about my financial commitments.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.	I do not have any regrets about the time I have spent in leisure pursuits.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.	I have no regrets about the level of care I take with my health.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.	I have no regrets about the importance I have given to maintaining family relationships.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16.	I have no regrets about the importance I have given to developing close friendships.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.	When I consider the various marriage and/or defacto relationships I have had, I cannot think of any regrets. <i>(if applicable)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18.	I can think of no regrets when I consider my sexual history.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19.	I have no regrets about the educational choices I have made.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20.	I have no regrets with regard to any aspect of my religious or spiritual life. <i>(if applicable)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Thank you for your time in filling out this questionnaire and for consenting to be a part of this research. The answers you provide will be kept completely confidential and will only be used in summarised form.**