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**The Pursuit of Happiness:
An Exploration of Older Adults' Intentional Happiness-Enhancing Activities
and their Association with Wellbeing and Health**

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ABSTRACT

Research on the wellbeing of older adults is becoming increasingly important in order to inform social policy and planning relating to the growing aging population. Happiness has been identified as an important social policy objective and wellbeing indicator and research indicates that intentional happiness-enhancing activities provide a promising avenue for enhancing wellbeing. However, limited research has been conducted on the intentional activities people choose to engage in to enhance their happiness, particularly in regard to older adults. Another limitation of the intentional activities research to date is the predominant focus on happiness as the criterion variable. Health is another important factor to consider, especially given the physical declines that occur with age. Research support for the influence of intentional activities on happiness, and for the positive influence of happiness on health, indicate promise for improving wellbeing and health outcomes for older adults. However, given the limited research to date, further work is required. A programme comprising four studies was designed to address these research limitations.

Study One explored the intentional happiness-enhancing activities of older adults with a thematic analysis of interviews with 23 adults (aged 56–76 years). The results of this study informed the second study, which involved the development of a measure of older adults' happiness-enhancing activities and initial empirical testing of this measure using survey responses from a population sample of 2313 older adults (55-73 year olds). The third study used the same data to examine relationships between happiness-enhancing activities, happiness, and health outcomes, and to test a hypothesised intentional activity to happiness to health pathway. The final study extended the previous research by employing a longitudinal investigation with a population sample of 1730 older adults to further clarify the nature of relationships between intentional activities, wellbeing, and health outcomes.

The results of this research indicate that older adults' intentional activities are positively related to happiness, life satisfaction, and life meaning, and that these are in turn predictive of better physical and mental health. These findings point to potential benefits of promoting older adults' intentional activities, particularly self-concordant and socially-oriented activities, for enhancing wellbeing and health.

PREFACE

This thesis is based on four research manuscripts. The first manuscript was published in *Aging International* in 2010. The second manuscript has recently been published in the *Journal of Happiness Studies* (2012). The third manuscript has been submitted for publication and is currently under review. The final manuscript has not yet been submitted for publication, but will be submitted in the next month.

To maintain a consistent presentation throughout the thesis, the formatting of the submitted studies (e.g., headings, reference citations, table and figure captions) has been modified. However, the content of the papers remains the same (see Appendices A and B for published copies of Studies One and Two, respectively).

The ideas presented in this thesis are my own. My primary supervisor helped me with statistical advice, structuring my arguments, and selecting appropriate journals for publication. For these reasons, Dr Christine Stephens was included as a co-author for the publications included in this thesis.

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INTRODUCTION

Aging Population

Older adults make up an important and growing subpopulation. Population projections indicate the proportion of the global population over 60 years of age will double over the next 40 years (Lutz, Sanderson, & Scherbov, 2008). This growth brings with it an increased burden on health and welfare services, which is causing increasing political, scientific, and public concern. With one of the key foci concerning population aging on wellbeing, ensuring increased quantity of life is also accompanied by efforts to enhance quality of life is gaining importance (Stanley & Cheek, 2003). In line with a general consensus on the value of trying to improve wellbeing and quality of life, studies concerning the wellbeing of older people are required to inform social policy and planning.

Happiness is considered a highly valued social policy objective (Veenhoven, 1995) and key indicator for policy evaluation (Veenhoven, 1993). The promotion of happiness and the concept of 'intentional activities' provide a promising approach to understanding and enhancing wellbeing and quality of life. Research findings support the proposition that engagement in intentional happiness-enhancing activities can increase happiness (e.g., Fordyce, 1977; Fordyce, 1983; Lyubomirsky, Dickerhoof, Boehm, & Sheldon, 2011; Seligman, Steen, Park, & Peterson, 2005). Findings also indicate that enhancing older adults' happiness is likely to benefit social and health outcomes (for a review see Lyubomirsky, King, & Diener, 2005), which in turn has implications for reducing the healthcare burden and associated concerns of population aging. However, further research is required to address gaps in this area.

This chapter presents a review of the literature on older adults' activity and wellbeing, focusing on relevant theory and research work linking activity, happiness and health outcomes. It begins by describing and clarifying conceptualisations of happiness, and then discusses research on the relationships between activity and wellbeing outcomes. Two strands of literature are identified that draw on the *activity theory* of aging and the *sustainable happiness model*; the first is quite broad in scope, relating older adults' activities and wellbeing, whereas

the second has a more specific focus on intentional happiness-enhancing activities as a determinant of happiness. Each is discussed in turn, the two frameworks compared and limitations identified. This is followed by a discussion of research on the relationships between intentional activities, happiness, and health that indicate promise for an avenue of inquiry that addresses previous research limitations and gaps. Lastly, the research aims and the studies presented in this thesis are summarised.

Happiness and Wellbeing

Happiness is a widely used term that has been conceptualised in a number of ways and used interchangeably with several other terms in the positive psychology literature (e.g., subjective wellbeing, wellbeing, positive affect, life satisfaction). Different conceptualisations are described below, along with points of clarification regarding related terms and the view of happiness taken in this thesis.

Conceptualisations of Happiness

Current conceptualisations of happiness originate from two contrasting philosophical views that, although ages old, have been repeatedly discussed in regard to conceptualisations in the wellbeing literature (e.g., Delle Fave, Brdar, Freire, Vella-Brodrick, & Wissing, 2011; Peterson, Park, & Seligman, 2005; Ryan & Deci, 2001; Waterman, 1993). Eudaimonia refers to Aristotle's proposition that happiness entails expressing virtue, of living in accordance with and realising one's true nature or potential (Ryan & Deci, 2001; Waterman, 1993). This conception of happiness refers to a desired state that is judged in relation to a specific value framework, as opposed to being based on the person's subjective view (E. Diener, 1984). Other work stemming from the eudaimonic conceptualisation primarily viewed in regard to subjective and psychological aspects (cf., objective) refers to a definition comprising meaning, personal growth, and self-actualisation (Ryff, 1989). In contemporary positive psychology literature the eudaimonic perspective has often been depicted as focused on psychological wellbeing (cf., happiness), which is defined in relation to the 'fully functioning' individual (Ryan & Deci, 2001), reflecting full participation and engagement in life's challenges and opportunities (Linley & Joseph, 2004).

In contrast to the eudaimonic conceptualisation of happiness, the hedonic conceptualisation focuses on life satisfaction and positive emotions (E. Diener,

2000). Hedonic happiness refers to experiences of pleasure, with such experiences expected any time a satisfaction of needs (e.g., physical, social, intellectual) is accompanied by pleasant affect. This indicates a less restricted view (cf. eudaimonia) in regard to the variety of activities happiness may arise from (Waterman, 1993). Transient state-like views of happiness are in line with this conceptualisation; however, researchers are usually interested in more stable aspects (such as average mood and life-satisfaction). Happiness is commonly assessed via either subjective global evaluation (e.g., response to a question such as 'On average, how happy do you feel?'), or by combining responses to questions about life satisfaction, positive affect, and negative affect (reverse-scored). Although subjective in nature, such measures of self-reported happiness converge well with related measures, such as family and friends' reports, daily mood ratings, and clinical interview ratings (Myers & Diener, 1995).

Different meanings ascribed to the happiness term have led some researchers to avoid using it altogether (E. Diener, 2006) and instead use other terms, such as wellbeing or subjective wellbeing, in doing so distancing from the narrower affect-based view that is often associated with its colloquial use; as this more limited state-like conception does not match the broader conceptualisations generally espoused in the positive psychology literature (E. Diener, Lucas, Schimmack, & Helliwell, 2009).

While past researchers have often only focused on either the eudaimonic or the hedonic approach, more recent work has integrated both, viewing them as two related yet distinguishable components of happiness (e.g., Delle Fave et al., 2011; Waterman, 1993). For example, Peterson, Park, and Seligman (2005) propose three orientations to happiness: pleasure, engagement, and meaning, with pleasure stemming from the hedonistic tradition and meaning from the eudemonistic tradition (and engagement relating to Csikszentmihalyi's 1990 flow theory).

Findings from the research literatures pertaining to the eudaimonic and hedonic conceptualisations of happiness indicate support for both approaches (Delle Fave et al., 2011; Ryan & Deci, 2001). Although originating from different traditions, the literatures that have emerged from each of these views are also seen as complementary and together have helped build a picture that incorporates numerous factors relating to the nature of wellbeing and its promotion (Ryan &

Deci, 2001). The view of happiness taken in this thesis is aligned with this integrated perspective. Also in line with broader conceptions of happiness in the literature, happiness is viewed here as an inherently subjective quality, and refers to an individual's evaluation of their life (E. Diener & Diener, 1996; Veenhoven, 1984), with this evaluation including both affective (e.g., moods and emotions) and cognitive (e.g., life satisfaction) components (E. Diener & Diener, 1996; Linley & Joseph, 2004; Lyubomirsky, Sheldon, & Schkade, 2005).

Related Concepts

As with happiness, wellbeing has been ascribed different meanings, with interpretation varying according to the context. Although wellbeing has been used interchangeably with happiness (E. Diener, 1984; Pennock & Ura, 2011; Stanley & Cheek, 2003), consistent with recent depictions in the positive psychology literature (e.g., Delle Fave et al., 2011; Vella-Brodrick, Park, & Peterson, 2009) it is viewed here as a broader construct that encompasses happiness and related constructs such as life satisfaction, life meaning, and positive affect.

Life satisfaction is another term that has been used interchangeably with happiness in the positive psychology literature (e.g., Abdel-Khalek, 2006; Pennock & Ura, 2011). While these terms have been considered synonymous by some, there is also a substantial body of literature that does not support this view (Cummins, 1998). In accordance with broader conceptualisations of happiness in the literature, life satisfaction is viewed here as a component of, and coming under, a wider happiness construct.

Activity & Wellbeing

A substantial body of research in the gerontological literature links activity and wellbeing. A growing body of evidence supports positive effects of various types of activities (e.g., social, productive, physical, spiritual) on older adult health outcomes (e.g., Buchman et al., 2009; Menec, 2003; Penedo & Dahn, 2005; Walter-Ginsburg, Shmotkin, Blumstein, & Shorek, 2005; Windle, Hughes, Linck, Russell, & Woods, 2010). There is a broad theory that much of this research falls under: the activity theory of aging (Lemon, Bengtson, & Peterson, 1972). This general activity theory is discussed below, followed by a sustainable happiness model that focuses more specifically on intentional happiness-enhancing activities, and then a comparison of the two frameworks.

The Activity Theory of Aging

The activity theory of aging, formalised by Lemon, Bengtson, and Peterson (1972), provides a theoretical framework for the relationship between activity and wellbeing. Activity theory assumes that the more active a person is, the more satisfied they are likely to be with their life (Estes et al., 2001; Lemon et al., 1972). Activity is referred to here as “any regularized or patterned action or pursuit which is regarded as beyond routine physical or personal maintenance” (Lemon et al., 1972, p. 513).

Activity theory suggests that both the frequency of engagement in an activity and the type of activity (e.g., informal social, formal, solitary) are important (Menec, 2003). It emphasises social activity (Adams, Leibbrandt, & Moon, 2010), with informal social activities proposed to be the most beneficial, followed by formal, and then solitary activities. This proposition is in line with research findings that indicate social activities are more beneficial than other types of activity (e.g., Adams et al., 2010; Everard, 1999; Lemon et al., 1972). Adams et al. (2010), for example, in their review of older adult activity and wellbeing research, reported social activities to be more strongly related to wellbeing variables than other types of activities. However, their review was focused on social and leisure activities, and while they identified some findings regarding other types of activities (e.g., productive, physical), studies were omitted that did not include social activities.

This focus on social activities appears typical of older adult activity research, and may relate to the observation that the majority of research in this area has been based on retired samples. A possible consequence of these foci (social activities and retired samples) is that the influence of other types of activities may have been underestimated. With older adults now living longer, healthier lives and being more able to engage in other types of activities (e.g., productive, physical) for longer, such activities may impact more on older adults' wellbeing than previously identified. Furthermore, differences may exist regarding the activities engaged in by working versus retired older adults (e.g., types, number, and frequency of engagement). Some support for differences between retired and non-retired adults in regard to frequency and impact of activities on wellbeing outcomes has been identified (e.g., Lemon et al., 1972; Warr, Butcher, & Robertson, 2004). However,

given the limited research conducted on the activities of older adults on either side of retirement age, further study in this area is required.

The activity theory proposition that the amount of activity engagement is important is supported by a number of reported findings of relationships between the number and frequency of activities engaged in, and various well-being outcomes (e.g., Herzog, Franks, Markus, & Holmberg, 1998; Lampinen, Heikkinen, Kauppinen, & Heikkinen, 2006; Lennartsson & Silverstein, 2001; Menec, 2003; Warr et al., 2004). However, not all findings unequivocally support the notion that greater activity is associated with greater wellbeing (e.g., Everard, 1999; Lemon et al., 1972). For example, despite finding significant correlations between wellbeing and both overall amount of activities engaged in and amount regularly engaged in, Everard's (1999) regression results indicated that neither (i.e., overall amount nor amount regularly engaged in) related to wellbeing when reasons for activity engagement were factored in. As Everard noted, the findings suggested that reasons for engaging in the activities may be of greater importance than staying busy with numerous activities. Furthermore, the results indicated that doing more activities may actually have a detrimental effect on wellbeing if the reason for their engagement is just 'passing the time' (which was found to be negatively associated with wellbeing).

So, being more active in and of itself may not necessarily enhance wellbeing; the person's intentions for activity engagement should also be taken into consideration. This concept was not addressed in Lemon et al.'s (1972) activity theory, but has since been referred to; such as in Adams et al.'s (2010) discussion on updating activity theory, along with the related concepts of value or satisfaction attributed to activity, and amount of choice regarding participation. In addition to these cognitive factors, as recommended by Lemon et al., and more recently by Adams et al., activity theory needs to be updated to take into account other potentially important factors identified in the research literature. For example, Lemon et al. suggest factors such as personality and life-style may have an important impact on life satisfaction. They indicate that the exclusion of such factors is a limitation of the activity theory and suggest the theory needs to be modified to incorporate these factors.

In sum, while activity theory has been identified as a reasonable ‘shorthand’ for activity and wellbeing associations (Adams et al., 2010), research findings in this area indicate the need for further development. The focus on social activities, along with research findings identifying other potentially important factors (such as personality, life-style and intentions for activity engagement) indicates possible areas for future research that may help to develop activity theory. A recently proposed model that integrates some of the above concepts is Lyubomirsky, Sheldon, and Schkade’s (2005) sustainable happiness model.

The Sustainable Happiness Model

As with activity theory, the sustainable happiness model also relates to the association between activity and wellbeing. Lyubomirsky, Sheldon, et al. (2005) focus on activities intentionally engaged in to enhance happiness, and propose that such intentional activities are one of three major determinants of long-term happiness. In line with broader conceptualisations of happiness, they view happiness as more enduring than transient or short-term mood, but also amenable to change (and hence open to meaningful pursuit).

Consistent with past research, the sustainable happiness model suggests genetic set point accounts for around 50% of the population variance in happiness levels, and circumstances for around 10%, leaving up to 40% of the variance for ‘intentional activity’. Intentional activity is described here as relating to a wide range of “discrete actions or practices in which people can choose to engage” (Lyubomirsky, Sheldon, et al., 2005, p. 118). Lyubomirsky, Sheldon, et al. (2005) consider intentional activities to be the most promising avenue for sustainably increasing happiness. They name and provide examples of three types of activity: behavioural, cognitive, and volitional, and identify relevant research to support the positive effects of each.

Research support is emerging for intentional activities influencing happiness, such as from interventions to increase happiness via intentional activities (e.g., Fordyce, 1977; Fordyce, 1983; Seligman et al., 2005; Sheldon & Lyubomirsky, 2006b). For example, Sin and Lyubomirsky (2009), in their review of 51 positive psychology interventions, reported that the results indicated, on average, sustained increases in wellbeing. Additionally, support for several factors identified by Lyubomirsky and colleagues as important in implementing

happiness-enhancing activities has also been reported. This includes evidence for the roles of person-activity fit (e.g., Sheldon, Kasser, Smith, & Share, 2002; Sheldon & Lyubomirsky, 2006b), effort in initiating and maintaining an activity (e.g., Sheldon & Lyubomirsky, 2006a), self-selection of activities (e.g., Sin & Lyubomirsky, 2009), and attending to optimal timing of the activity (Lyubomirsky, Tkach, & Sheldon, 2004, as cited in Lyubomirsky, Sheldon, et al., 2005). For example, Sheldon and Lyubomirsky's (2006b) intervention study found person-activity fit predicted performance of (i.e., effort engaging in) gratitude and visualisation activities, with continued performance in turn predicting more positive mood.

Research support also indicates that older adults may benefit more from positive psychology interventions than younger adults (Sin & Lyubomirsky, 2009). However, only three of the 51 intervention studies reviewed by Sin and Lyubomirsky employed older adult samples, and these studies investigated only a narrow range of activities (life review therapy, self-management, and positive reminiscence). Thus, while the studies indicate some promise in regard to intentional activities enhancing older adults' happiness, given the limited older adult research in this area, further research employing older adult samples and examining a greater range of activities is required.

Another drawback regarding intervention studies is that they omit any consideration of what people are intentionally doing based on their own volition (i.e., what do people understand as important to their happiness, and what are people choosing to do to enhance their happiness?). One line of inquiry that undertook such an exploration was Tkach and Lyubomirsky's (2006) research, which included a pilot study to identify intentional happiness-enhancing activities. Although their results indicated that the identified intentional activities accounted for a significant proportion of the variance in happiness, these findings were limited by their focus on one young undergraduate sample, so that the intentional happiness-enhancing activities of other groups, such as older adults who may have different interests and aims, have yet to be explored.

As the above findings indicate, research to date on intentional happiness-enhancing activities has largely employed young adult samples, which limits the generalisability of the findings. As such, research is required with older adult

samples. A review of the emerging intentional activities literature failed to find a measure of older adults' intentional happiness-enhancing activities. Accordingly, a measure based on activities older adults themselves perceive as important for their happiness is required to address the above limitations and progress research in this area.

Also evident are limitations concerning the theoretical basis of intentional activities. In relation to the sustainable happiness model components, the proportions Lyubomirsky et al. (2005) suggest for two of their three proposed 'primary factors' influencing happiness (circumstances and set point determinants) are supported by research findings in the literature. However, the same cannot be said regarding intentional activity. Whilst the model indicates intentional activity accounts for approximately 40% of the variance in happiness, there is a lack of theoretical argument or supporting research provided for this proportion; it appears to have simply been based on the proportion remaining unaccounted for by the other two empirically-based determinants. Whether or not intentional activity actually accounts for this much variance in happiness levels requires investigation.

A further issue concerns the categorisation of intentional activities identified by Lyubomirsky et al. (2005). Their categorisation of behavioural, cognitive, and volitional activity appears to be an empirical distinction that requires theoretical development. Although examples of each type of intentional activity were provided, the authors failed to provide any clear explanations of them. They noted that it is not possible to fully separate the three, though still believed the distinction to be a useful one. As Lyubomirsky and colleagues seldom refer back to this classification of activities in more recent intentional activity-related publications, this may indicate they no longer support or are interested in continuing with this particular classification.

In sum, the sustainable happiness model is a relatively new model that may help explain the relationship between activity and happiness. It includes factors identified in the activity-wellbeing literature as potentially important to enhancing wellbeing, and research support is emerging for the model. However, several limitations exist regarding the theory and research studies relating to intentional happiness-enhancing activities to date, including that research support has

predominantly been based on young adults and intervention studies. Research is lacking on the intentional happiness-enhancing activities in which older adults engage.

Comparisons between the Activity Theory of Aging & the Sustainable Happiness Model

Several comparisons can be made between the activity theory of aging and the sustainable happiness model. In terms of general scope, both frameworks concern relationships between activity and wellbeing outcomes and suggest that activity engagement can enhance wellbeing. However, they differ in their focus, with activity theory relating general social and leisure activity (beyond routine personal maintenance) to life satisfaction, whereas the sustainable happiness model is geared towards activities intentionally engaged in to enhance happiness.

In regard to the suggested classification of activities, whilst activity theory distinguishes activity types in terms of intimacy level (i.e., informal social, formal, solitary), Lyubomirsky, Sheldon, et al. (2005) propose behavioural, cognitive, and volitional categories of intentional activities. Also, whilst activity theory suggests that informal social activity has a higher association with life-satisfaction than formal activity, which in turn has a higher association than solitary activity, Lyubomirsky, Sheldon, et al. do not predict such differential effects (in relation to intentional activities and happiness). They do, however, consider several factors not addressed by activity theory, such as the roles of person-activity fit, effort in initiating and maintaining an activity, and its ability to be varied. These and related concepts (e.g., value or satisfaction attributed to activity, activity meaning or purpose, amount of choice regarding participation) have been supported by research findings (e.g., Everard, 1999; Katz & Yelin, 2001; Lyubomirsky et al., 2011; Rousseau & Vallerand, 2008; Sheldon, Ryan, Deci, & Kasser, 2004), and identified in discussion about updating activity theory (e.g., Adams et al., 2010).

Another point of difference concerns the age groups focused upon by researchers. The activity theory and associated research support centres on older, predominantly retired adult samples. In comparison, the sustainable happiness model does not specify a particular age group, although research support for the model comes largely from younger adult samples. So while a substantial body of research in the gerontological literature has shown a link between the general

leisure activities and wellbeing of older adults, there is a lack of research focussing on older adults' intentional happiness-enhancing activities. Investigating older adults' intentional activities will offer insight into the types of activities older adults consider to be important, and the relationships between these activities and wellbeing and health outcomes.

Also related to age limitations, with limited research comparing the activities of older adults on either side of retirement age, none on the intentional happiness-enhancing activities of retired versus non-retired adults, and some, albeit mixed support for retirement status being an influential factor in regard to frequency of activity engagement and the association of activities to wellbeing (e.g., Lemon et al., 1972; Warr et al., 2004), further research in this area is warranted. Such investigation should help shed light on this under-researched age group.

A comparison of the activity theory of aging and the sustainable happiness model (and their associated research support) indicates some differences and gaps in the research thus far, signifying possible areas for additional investigation. Another avenue for further exploration concerns a limitation to both these frameworks: the lack of consideration in regards to extending past happiness and life satisfaction to other wellbeing and health outcomes. Rationale for the inclusion of health is outlined below, including links between older adult activity, happiness, and health, followed by proposed advancements for research in this area.

Relationships with Health

In addition to associations between activities and wellbeing outcomes such as happiness and life satisfaction, a number of studies have also identified links between older adults' activity and health, and happiness and health. Health is an important factor to consider, especially given the physical declines that occur with age and the associated impact these may have at both individual and wider societal levels (e.g., healthcare, transportation, quality of life). Hence, ways to delay or reduce physical decline and its consequences are worthy of investigation, and established links between activity, happiness, and health may indicate some promise in this area.

Activity and Health

Looking at the relationship between activity and health, a growing body of evidence supports the positive effects of various types of activities (e.g., social, productive, physical, spiritual) on health outcomes. For instance, greater leisure activity participation has been found to be associated with better mental health (e.g., Buchman et al., 2009; Everard, Lach, Fisher, & Baum, 2000; Herzog et al., 1998; Katz & Yelin, 2001; Lampinen et al., 2006), better physical health (e.g., Argyle, 1997; Buchman et al., 2009; Everard et al., 2000; Menec, 2003), and lower mortality risk (Bowling & Grundy, 2009; Mullee, Coleman, Briggs, Stevenson, & Turnbull, 2008) in older adult samples. Productive activities (e.g., paid work, volunteer work) have also been found to be associated with better mental and physical health (e.g., Herzog et al., 1998; Lum & Lightfoot, 2005; Menec, 2003; Paillard-Borg, Wang, Winblad, & Fratiglioni, 2009; Werngren-Elgström, Brandt, & Iwarsson, 2006). In addition, numerous studies support the link between physical activity and health (e.g., Janke, Davey, & Kleiber, 2006; Meisner, Dogra, Logan, Baker, & Weir, 2010; Paillard-Borg et al., 2009; Penedo & Dahn, 2005; Walter-Ginsburg et al., 2005; Windle et al., 2010).

Happiness and Health

Happiness has beneficial effects on health (Siahpush, Spittal, & Singh, 2008) and the importance of happiness is often seen in terms of health outcomes. This view is supported by research on the relationship between happiness and health (e.g., Argyle, 1997; Bowling & Grundy, 2009; Siahpush et al., 2008). Cross-sectional studies have consistently shown happiness and physical health to be positively related, with correlations of .10 to .40 generally reported (Veenhoven, 2008). These associations are generally stronger for mental (cf. physical) health, for patient populations (cf. non-patients), and for self-rated (cf. objective) health measures (Veenhoven, 2008).

Although causality has been suggested to go in both directions (e.g., Feist, Bodner, Jacobs, & Miles, 1995; Graham, 2008), there is more support to date for happiness affecting health than the reverse (e.g., Argyle, 1997; Hawkins & Booth, 2005; Veenhoven, 2008). Research support includes reported positive associations between happiness and psychological wellbeing (e.g., Joseph, Linley, Harwood, Lewis, & McCollam, 2004; Linley & Joseph, 2004), cognitive performance (e.g.,

Rabbitt, Lunn, Ibrahim, Cobain, & McInnes, 2008), follow-up longevity (e.g., Koopmans, Geleijnse, Zitman, & Giltay, 2010; Veenhoven, 2008), self-rated and physical health, and the absence of limiting health conditions (e.g., Koopmans et al., 2010; Siahpush et al., 2008). However, it is worth bearing in mind that such links are not always clear-cut. For example, Veenhoven (2008) reported from his review of 30 longitudinal studies on associations between happiness and follow-up longevity that happiness predicted longevity in healthy samples. However, the results from the studies involving ailing people were less consistent. He concluded that the results suggested happiness protected against becoming ill, but did not appear to have restorative effects for those with serious illnesses.

Activities, Happiness, & Health

As indicated above, health has established links with both activity and happiness. However, neither activity theory nor the sustainable happiness model has extended beyond happiness and life satisfaction to include health. Links between activity, happiness, and health may offer insight regarding ways to reduce the declines in health that occur with age and the associated individual and societal impacts of such declines.

Although research findings indicate support for intentional activities having beneficial effects on happiness, and for happiness having beneficial effects on health, the specifics of how older adults' intentional activities, happiness, and health are interrelated requires investigation. It may be that happiness mediates the relationship between intentional activity and health; still, this has yet to be established. Intentional activities research thus far has predominantly focused on happiness as the criterion variable. However, given the importance of health (particularly for older adults), coupled with research support indicating happiness has beneficial effects on health, it would be worthwhile to investigate the possible pathway of intentional activities to happiness to health.

Summary and Research Aims

There are well-known links between activity and wellbeing. The activity theory of aging and the sustainable happiness model suggest conceptual frameworks for associations between different types of activity and wellbeing. While activity theory relates older adults' general social and leisure activities to life satisfaction, the sustainable happiness model focuses on intentional happiness-

enhancing activities as a determinant of happiness. A review of the research literature has identified support for both of these frameworks, as well as some limitations (e.g., ages of samples studied, types of activities focused on).

Research support for the influence of intentional activities on happiness, coupled with findings regarding the positive influence of happiness on health outcomes, indicates promise for improving wellbeing and health outcomes for older adults. However, given the limited research to date on intentional happiness-enhancing activities, particularly in relation to older adults, further study is required. The present research aims to address gaps in the literature by investigating older adults' intentional activities and their relationships to happiness and health. While the term 'older adults' can refer to a large range of ages, this research program is based on adults in the 55-75 year age group, being older than the 'young' adults focused on in previous intentional activities research, but younger than the 'old' adults that the activity theory of aging and much of the associated activity to wellbeing research has been based on.

Based on limitations identified with the current intentional activities research, the aims of this research were to:

- Explore the intentional activities older adults engage in to enhance their happiness;
- Develop and test a measure of these happiness-enhancing activities;
- Examine the nature of the relationships between older adults' intentional activities, wellbeing, and health variables, and;
- Test the potential mediating role of happiness in the relationships between intentional activities and health.

Thesis Outline

This thesis comprises four studies. The first study explored the intentional activities in which older adults engage to enhance their happiness. The second study involved the development and validation of a measure of older adults' intentional happiness-enhancing activities. The third study examined the relationships between happiness-enhancing activities, happiness, and health outcomes, and tested a hypothesised intentional activity to happiness to health pathway. The fourth study took the previous examination a step further by using a

longitudinal investigation to further clarify the nature of relationships between intentional activities, wellbeing, and health outcomes.

Each study is presented as a stand-alone paper; this unfortunately means there is some repetition in parts of the papers. However, this was considered necessary given the nature of the research, and the importance of including the papers as submitted for publication. Each study is outlined below, and then presented in its entirety in the following chapters, followed by a final discussion chapter.

Study One

With rising concern around the growing aging population, research on the wellbeing of older adults has become increasingly important in order to inform social policy and planning. Following calls to shift the focus of this research from a once dominant pathogenic view to a more positive, salutogenic one (e.g., Hyde, Wiggins, Higgs, & Blane, 2003; Moody, 2005), happiness has been identified as an important social policy objective and wellbeing indicator. Intentional happiness-enhancing activities have been identified as a promising avenue of inquiry for enhancing wellbeing. However, limited research has been conducted on the intentional activities people choose to engage in to enhance their happiness, with no published studies on the intentional happiness-enhancing activities of older adults. Study One sought to address this gap with a qualitative investigation of the specific strategies used by older people. Thematic analysis of interviews with 23 adults aged from 56-76 years, resulted in the identification of four types of activities: *other-focused*, *personal recreation and interests*, *thoughts and attitudes*, and *achievement*. In addition, *self-concordant work* and *spiritual activities* were found to span multiple activity types.

Study Two

While a small literature supports the sustainable happiness model proposition that happiness-enhancing activities can increase happiness, the measurement of intentional activities has thus far been inadequate. In addition, research to date on intentional happiness-enhancing activities has largely employed undergraduate student samples; as a consequence, the intentional activities of older adults and their relationship with happiness have yet to be established. To begin this research, the first requirement was an instrument to assess older adults' intentional happiness-enhancing activities. As there was no such validated

measure available, Study Two involved the development and initial empirical testing of a self-report measure of happiness-enhancing activities appropriate for older adults. The development of the inventory items was informed by the results of Study One.

An exploratory factor analysis of the inventory responses from the 2008 Health, Work and Retirement population survey of 2313 older adults (aged 55-73 years) identified four factors: *self-concordant work*, *personal recreation and people*, *spiritual and thought-related*, and *goal-focused* activities. The results provided empirical support for a clearer categorisation of intentional happiness-enhancing strategies, and evidence to support the reliability and potential utility of the inventory, thus providing a basis for continuing to develop and clarify the types of intentional activities people engage in.

Study Three

Links between activity, happiness, and health may offer insight into ways to reduce the impact of physical and cognitive decline experienced with aging. The literature indicates that: older adult activity is positively related to happiness and health; intentional happiness-enhancing activities have beneficial effects on happiness; and happiness has beneficial effects on health. These associations raise the question of whether happiness may function as a mediator between intentional activities and health in older adults. The aim of Study Three was to extend previous research by examining the nature of the relationships between older adults' intentional activities, happiness, and health, and testing the possible mediating role of happiness in the relationship between intentional activities and health.

Data for Study Three was drawn from the same dataset employed in Study Two, with survey responses subjected to a regression analysis to test the mediating hypothesis. The results indicated support for significant associations between intentional activities, happiness, and physical and mental health, and for the predicted intentional activity to happiness to health pathway.

Study Four

With the previous two studies based on cross-sectional data, further research with longitudinal data was required to provide information about the temporal relations among variables. Study Four addressed this limitation and extended

previous research by employing a longitudinal approach to examine relationships between older adults' intentional activities and wellbeing and health variables, and testing the mediating hypothesis with longitudinal data. It also extended intentional activities research by examining relationships with, and the hypothesised mediational roles of two other indicators of wellbeing - life satisfaction and life meaning - and by exploring differences in intentional activities between retired and non-retired adults.

The data for Study Four came from respondents who completed both the 2008 Health, Work and Retirement survey and the 2010 New Zealand Longitudinal Study of Aging, with regression analyses of responses from 1730 adults (aged 55-72 years old) employed to test relationships. The results indicated that intentional activities were positively related to happiness, life satisfaction, and life meaning, and that these in turn predicted better physical and mental health. The findings support and extend previous research and theory, and indicate research in this area may offer promise for intentional activities enhancing wellbeing and health outcomes.

STUDY ONE: AN EXPLORATION OF THE HAPPINESS-ENHANCING ACTIVITIES ENGAGED IN BY OLDER ADULTS

Henricksen, A., & Stephens, C. (2010). An exploration of the happiness-enhancing activities engaged in by older adults. *Ageing International*, 35(4), 311-326. doi: 10.1007/s12126-010-9059-y

Abstract

Although happiness has been found to relate to positive outcomes across a number of areas, there has been little research conducted on how to increase and sustain it. Intentional happiness-enhancing activities have been identified as a promising avenue of inquiry, but again this area is under-researched, particularly in relation to older adults. We address this gap by exploring the happiness-enhancing activities older adults engage in, with a thematic analysis of interview data from 23 adults (56–76 years old). Four main themes - ‘other-focused’, ‘personal recreation and interests’, ‘thoughts and attitudes’, and ‘achievement-related’ activities - are identified and discussed, along with ‘spiritual activities’ and ‘self-concordant work’, which were found to span multiple themes. The findings fit with and add to extant research and theory related to enhancing happiness and will be used as the basis for inventory items to be included in the next wave of a major longitudinal study of older adults.

The social and demographic changes of the aging population currently taking place call for conventional ways of looking at older age to be reconsidered (Hyde, Wiggins, Higgs, & Blane, 2003). With increases in life expectancy and a rapid increase in the older population due to aging 'baby boomers', the 'face of aging' is moving away from the once dominant negative, pathogenic view to a more positive, salutogenic one (Moody, 2005). The concept of positive or successful aging provides a useful rallying position for enhancing the aging experience in society (Juengst, 2005), and draws attention to such areas as well-being (Morrow-Howell, Tang, Kim, Lee, & Sherraden, 2005) and health promotion as "means of adding life to years and not merely years to life" (Minkler & Fadem, 2002, p. 229). As in many parts of the world, the number of adults in New Zealand over 65 years of age is expected to double in the next 25 years, and current estimates suggest they will require some care for 43% of their remaining lives (Statistics New Zealand, 2004). Strategies to reduce this percentage will benefit all, and, accordingly, it is vitally important to identify the factors that enhance well-being among this growing older population.

In recent years, there has been an increasing interest in research on subjective well-being or happiness, and it's propensity to change, which may provide an avenue to improve outcomes for this older population. In addition to being a popular goal, happiness has been found to relate to many positive outcomes, including health, friendship, income, work performance and marriage (see Lyubomirsky, King, & Diener, 2005). For example, in their review of cross-sectional, longitudinal and experimental research literature, Lyubomirsky, King, et al. (2005) found happiness to be positively associated with successful outcomes across work, health and love life domains. Happiness was also associated with desirable behaviours, propensities and attributes such as sociability, likeability, pro-social behaviour, positive perceptions of self and others, coping, and creativity. A number of longitudinal studies found that happiness preceded successful outcomes, and that both short-term positive affect and long-term happiness preceded the desirable characteristics and resources. In addition, strong evidence was provided by experimental studies that successful behaviours are caused by short-term positive affect (a distinguishing feature of a happy individual). So,

happiness is not only associated with numerous positive outcomes, but has been found to precede many of these outcomes.

Thus, happiness can be beneficial in numerous ways, which has positive implications for society as well as at an individual level, suggesting that happiness promotion is a wise investment in social and public health (Sheldon & Lyubomirsky, 2007). Hence, increasing understanding about how people can boost their happiness levels is a worthy aspiration. However, compared to the past focus on ameliorating suffering, comparatively little research attention has been given to this area (Sheldon & Lyubomirsky, 2004).

Past research on the determinants of happiness have focused predominantly on genetic inheritance and life circumstances, and the related concepts of a happiness set point and hedonic adaptation, with little room for individual change. Literature regarding genetic influences on happiness is often accompanied by discussion of the notion that happiness levels are more or less 'set'; that although they may fluctuate in relation to different circumstances, as people adapt, their happiness will generally revert back to their genetically determined 'set point' (Sheldon & Lyubomirsky, 2004). The set point or range reflects one's temperament and personality (Sheldon & Lyubomirsky, 2006a), suggesting that some people are predisposed to be happier than others (Sheldon & Lyubomirsky, 2007). Research findings consistently show that well-being has a moderate amount of heritability (Diener, Lucas, & Scollon, 2006). As Diener, Suh, Lucas, and Smith (1999) conclude in their review of three decades of subjective well-being research, evidence indicates that genes have some influence, although estimates regarding the magnitude of this influence vary considerably. Subjective well-being heritability estimates generally range from around 25% to 55% (Harris, Pedersen, Stacey, McClearn, & Nesselroade, 1992; Lykken & Tellegen, 1996; Roysamb, Harris, Magnus, Vitterso, & Tambs, 2002). At the high end of proposed heritability figures, Lykken and Tellegen (1996) estimate, based on their twin study findings, that the heritability of happiness may be as high as 80%; though 50% is a more widely accepted proportion (Braungart, Plomin, DeFries, & Fulker, 1992; Tellegen, Lykken, Bouchard, Wilcox, Segal, & Rich, 1988).

Life circumstances have been found to have smaller and less sustainable effects. Estimates of the (overall) influence of life-circumstantial demographic

factors range from less than 10% (Andrews & Withey, 1974) to around 15% (Diener, 1984) of the variance in happiness. More recent research has confirmed the small causal effects of demographic variables (Argyle, 1999). Small associations have been found, for example, between subjective well-being and factors such as income, age, education, social status, and marriage; although significant variation exists in the reported associations of some variables (Lyubomirsky, King, et al., 2005). The literature regarding circumstantial factors frequently includes discussion of the idea of hedonic adaptation (Brickman & Campbell, 1971; Frederick & Loewenstein, 1999), which proposes that any increases in happiness do not last, as people rapidly adapt to change. So, although one's happiness may increase due to a change in circumstances (e.g., upgrading to a nicer house in a safer neighbourhood), such a change is quickly adapted to, and its effect on well-being diminishes and may even completely disappear (Sheldon & Lyubomirsky, 2006a).

The evidence for set point and adaptations to life circumstances that suggest little possibility for change has been challenged, though. For example, Lucas (2007), in his review of large-scale panel studies, concluded that although happiness demonstrates moderate stability over time, significant and enduring changes are not precluded by this stability. Also contrary to the view that happiness cannot be increased, some researchers have reported success in increasing happiness using interventions (e.g., Fordyce, 1977, 1983; Seligman, Steen, Park, & Peterson, 2005; Sheldon & Lyubomirsky, 2006b). For example, Fordyce (1977, 1983) instructed students in a programme involving 14 'fundamental' happiness techniques (e.g., socialise more, strengthen close relationships, develop positive thinking, get more active). After completing the 6-week course, those instructed in the happiness techniques reported significant happiness level boosts relative to those reached by the control participants. In addition, the vast majority of a subset of students responding to a follow-up questionnaire (received 9–18 months after completing the programme) reported sustained increases in happiness (Fordyce, 1983). Such findings have contributed to the development of a model which integrates the evidence to date.

The Sustainable Happiness Model

Lyubomirsky, Sheldon, and Schkade (2005) describe a model of sustainable happiness, which proposes that in addition to genetic set point and circumstantial determinants, ‘intentional activities’ are a third major determinant of long-term happiness. To identify a quality that is malleable with time (and hence open to meaningful pursuit), but also more long-term than transient or daily happiness, they define chronic happiness level as “a person’s characteristic level of happiness during a particular period in his or her life” (p. 115). Consistent with past research regarding genetics, circumstances, and potential happiness-enhancing strategies, their model states that genetic set point accounts for around 50% of the variance in happiness levels, circumstances around 10%, which leaves up to 40% for intentional activity. They describe intentional activities as practices or actions in which one chooses to engage, including a wide variety of thoughts and actions one may engage in on a daily basis. Lyubomirsky, Sheldon, et al. identify behavioural, cognitive and volitional types of activity; though note that fully separating the three is impossible.

Lyubomirsky, Sheldon, et al. (2005) see intentional activities as a promising avenue for increasing long-term happiness levels. Some comparisons can be made between the proposed intentional activity-happiness link and research theory and findings relating older adults’ activity engagement and well-being. Activity theory, for example, assumes that the more active a person is, the more satisfied they are likely to be with their life (Estes, Linkins, & Binney, 2001; Lemon, Bengtson, & Peterson, 1972). Whilst this theory focuses on life satisfaction as opposed to happiness per se, there is a general activity to well-being link, and a number of studies have found relationships between the number or frequency of activities engaged in and various well-being outcomes (e.g., Herzog, Franks, Markus, & Holmberg, 1998; Lampinen, Heikkinen, Kauppinen, & Heikkinen, 2006; Lennartsson & Silverstein, 2001; Menec, 2003).

Activity theory suggests both frequency of engagement and intimacy level (e.g., informal social, formal, solitary) of activities are important (Menec, 2003). Frequency of engagement is also referred to in Lyubomirsky, Sheldon, et al.’s (2005) discussion of the importance of timing, a factor they consider important in relation to implementing intentional activities. Lyubomirsky, Sheldon, et al. differ,

though, in regard to their classification of activities and discussion of factors they consider important to the activity-happiness link. For example, whilst activity theory suggests (re level of intimacy) that informal activity has a higher association with life-satisfaction than formal activity, which in turn has a higher association than solitary activity, Lyubomirsky, Sheldon et al. do not identify such differential effects. They do, however, discuss several factors they consider important, such as the roles of person-activity fit (how much an activity fits one's interests, strengths, and values), effort in initiating and maintaining an activity, and its ability to be varied.

Empirical support is emerging in regard to various facets of the sustainable happiness model (Sheldon & Lyubomirsky, 2007). Tkach and Lyubomirsky's (2006) work, for example, explored what activities a sample of undergraduate university students intentionally engaged in to enhance happiness and the relationship of these intentional activities to happiness and personality variables. Factor analysis produced eight activity factors, which were found to account for an additional 16% of the variance in happiness after controlling for personality traits (which accounted for 46%). Their findings support the sustainable happiness model and previous research regarding the contribution of intentional activities and personality variables to happiness levels. Additional research support (e.g., Sheldon, Abad, Ferguson, Gunz, Houser-Marko, Nichols, et al., 2010; Sheldon & Lyubomirsky, 2006a, 2006b) suggests that sustainable increases in happiness are possible, and that intentional activities may offer a promising means of achieving them.

So, a body of research supports the idea of a general activity-well-being link, and in addition to this more general work, support emerging for Lyubomirsky, Sheldon, et al.'s (2005) sustainable happiness model includes research with a narrower focus on the intentional activities engaged in to enhance happiness. A limitation of this intentional activities research though concerns the generalisability of findings to date, which is limited given to the relatively homogeneous undergraduate student population from which samples have been drawn. Whilst younger adults' intentional happiness-enhancing activities have been explored, no such work appears to have been conducted on what older adults do to enhance their happiness. This study aims to address gaps in the literature

and contribute to positive psychology and gerontology fields with a qualitative investigation to identify the happiness-enhancing activities that older adults engage in. The investigation centred on adults in the 56-76 year age group, which is an important population subgroup that includes baby boomers and those on either side of the national pension age, and is distinctly older than the 'young' adults focused on in previous intentional activities research.

Method

Participants

Data were collected through individual semi-structured interviews with 23 participants (14 females, 9 males), aged 56–76 years old. Participants were drawn from those who had volunteered to be interviewed as part of their participation in a longitudinal questionnaire survey. From this sample, introductory letters were sent to individuals located in two regions of New Zealand, including urban and rural settings, who had not previously been contacted about being interviewed in relation to the broader study.

Procedure

Prior approval for the study was obtained from the Massey University Human Ethics Committee. Participants initially received a letter outlining the study (including its aims, nature of participation, use of data, summary of rights) and inviting them to be interviewed. Several days later telephone contact was made and interviews were arranged with those who consented to participate.

Qualitative, semi-structured interviews were conducted to explore the types of activities older adults engage in to increase or maintain their happiness. This approach was deemed the best method for an exploratory investigation such as this, as semi-structured interviews facilitate rapport, greater flexibility of coverage, the possibility of accessing novel areas, and the tendency to produce richer data than more structured approaches (Smith & Osborn, 2003). Such an open and flexible approach allowed the tailoring of questions to the position and responses of the participants; and in using a more natural, conversational style, information transpired that may not have through more structured methods.

The interviews were conducted by the first author and took place at a mutually agreed location, with most interviews being held in the participants' homes. Prior

to beginning the interviews, participants were given a copy of the study information they had previously received and were asked if they had any questions before proceeding. The interviews initially explored the participants' perceptions of happiness, including its relation to retirement (which was the topic of the larger survey), followed by more specific questions and probes regarding each participant's happiness-enhancing strategies. The interviews ranged in duration from 15 to 70 min, with most lasting around 30–40 min. With the participants' consent, the interviews were audio-recorded and transcribed. On completion of the interviews, participants were offered a small gift as a token of appreciation for their time and involvement. Time was taken to reflect on each interview after its completion, noting activities identified and possible code and theme ideas as they came to mind, along with possible improvements that could be made in future interviews.

Interviewing continued until saturation, as defined by Morse (1995), was reached (i.e., until it was determined that no new information was forthcoming in terms of identified happiness-relevant activities). The transcribed interviews were proof-read, and a copy was sent to each participant for their inspection prior to analysis.

Analysis

The transcripts were coded, using the software package ATLAS.ti (version 5.2.0) to assist in the coding, sorting and integration of the data. A thematic analysis of the qualitative data was conducted to identify common strategies participants use to increase or maintain their happiness. Thematic analysis is a theoretically flexible and useful qualitative analytic method used for identifying and examining patterns or themes within collected data (Braun & Clarke, 2006). This method is able to provide a detailed and rich account of data, and through it key features of data sets can be usefully summarised, similarities and differences highlighted, and unforeseen insights generated (Braun & Clarke, 2006). Analysis included several waves of rereading, coding (sometimes recoding) transcript excerpts, and grouping codes; with theme names and descriptions developed and reworked and rearranged until a satisfactory grouping of themes and codes was achieved.

Findings

Four common themes or groupings of activities were identified from the analysis of the interviews: ‘other-focused’; ‘personal recreation and interests’; ‘thoughts and attitudes’; and ‘achievement’. The themes and sub-themes are listed in Table 1. In addition to these, two further types of activities, ‘self-concordant work’ and ‘spiritual activities’, were identified which appeared to span multiple themes. The main themes will be described first.

Table 1

Activity Themes and Sub-Themes

<i>Other-Focused</i>
Time with significant others
Meeting others
Helping others
<i>Personal Recreation & Interests</i>
Pursuing hobbies
Entertainment & relaxation
External engagement
<i>Thoughts & Attitudes</i>
Giving thanks
Constructive thinking
<i>Achievement</i>
Small achievements
Longer-term goal progress

Other-Focused Activities

The first major theme includes activities which involve, and indeed are largely focused on, other people. This theme was further broken into three subthemes: ‘time with significant others’, ‘meeting others’, and ‘helping others’. Spending time with significant others was the most frequent activity mentioned, with significant others largely comprising family and close friends. Here the focus was not on the type of activity but on time communicating with or simply ‘being’ with significant others. Examples included talking on the phone to relatives and/or friends, spending quality time with their partner, and watching or looking after grandchildren. The importance of family in particular came up often throughout the interviews. Indicative comments include:

Just being able to do things together I guess. Being able to see our children and grandchildren.

Doing things with them, seeing my family, my brothers and sisters when we do gather for family functions, I always love meeting up with them again, its just great. I am pretty family orientated.

The second subtheme, 'meeting others', described activities relating to socialising with others, particularly those with whom they shared some 'common thread'. This generally involved friends and interest groups (e.g., book group, wine tasting group, golf club, church groups). Common remarks included:

Getting out of the house and meeting people, ... socialise in some way, that to me is very important.

It comes back to people, we enjoy people and we welcome any opportunities to mix with people.

You meet a lot of diverse people, they're all different walks of life and all age groups, so you have a sort of a common thread.

A third subtheme, 'helping others' describes participants' experiences of voluntary work. Participants identified activities such as: meals on wheels, foodbank, CAB, and community-based church groups; helping family also featured quite strongly with some participants. The essence of this type of activity was expressed by one participant as:

In some way, shape, or form to be doing something that makes a contribution of some kind, whether it's to a particular group that anyone might be a member of, or whether it's to the wellbeing of people in general, or.. you know just supporting your favourite charity or whatever, but that sense of making some contribution I think undergirds a lot of happiness stuff for people

Personal Recreation and Interests

The second major theme concerned participant reports of personally fulfilling activities, which included the subthemes of 'pursuing hobbies', 'entertainment and relaxation', and 'external engagement'. The hobbies identified were often creative pursuits, involving some degree of skill, passion and applied effort, and generally

resulting in some kind of physical output. They included cooking, gardening, woodwork, painting, sewing and writing. As one participant summarised:

It's all to do with creativity, it's weird but it's true and that really gives me a buzz, I love it. I don't need to show other people, I just love to do it for me, I love it.

Gardening in particular was identified as important to many, with indicative comments including:

I just love planting things, I like looking at nice things... I like getting my hands in the garden, in the soil.

I enjoy it, it gives me peace, it's a good... it's just a nice peaceful place to be, out in the garden... you finish and you sit down and you look over and think that was a good day, yeah.

In comparison to hobbies, entertainment and relaxation activities generally had less physical involvement; were more low-key and often centred on audio and/or visual senses and activities. Examples included following sports, watching movies, and reading. These activities appeared to be just as important to some participants as more physically active ones were to others, as exemplified by the following comments:

Sport, I like my football, but in the summertime I always go down to watch the soccer down at the Arena, I always watch it every weekend and never miss,.. every weekend on the television.

I just keep the radio on all the time, I have to have a radio, that's without a shadow of a doubt. ..I love, surf the sports and national station and finish up listening to the easy listening on the coast there, whatever takes my fancy at the time, that keeps me going day to day.

Always reading as well, that would probably be the one pursuit that has given me happiness that has followed me all the way through.

The third subtheme, 'external engagement' involved getting out and about, away from the house and engaging in the world outside. Walking was a commonly identified activity, with other examples of physical exercise including going to the gym and golf. Short trips to various places and trying new experiences (e.g., bungy-

jumping, ballooning) were other examples of external engagement. An interesting point was made in relation to novel experiences:

Well we both do get a kick out of doing something new that we haven't done before and as you get older, it gets quite hard you know to do something you haven't done before.

Thoughts and Attitudes

The third major theme concerned participant reports of thought-centred activities, which were further broken into 'giving thanks' and 'constructive thinking'. Giving thanks or counting one's blessings centred on reflection of and gratitude for past and present situations, circumstances and experiences. As participants said:

It's been almost a daily part of our lives is to give thanks for life itself and for just the good things, the daily blessings I suppose you would call it.

I guess the key underlying thing is that somewhere in there, is a sense of thankfulness, I think that's a key somewhere.

Gratitude was not just reserved for the good experiences though. As one participant described:

I am grateful that every—as I say, every vicissitude of life that's caused me stress,.. that helps turn you into the person that you are, so if I—now it would seem that I live on mountain tops all the time saying wow, wow, wow isn't life wonderful, isn't everything lovely,.. that wouldn't mean anything if I hadn't been down in the valleys

Constructive or positive thinking centred on dismissing the negative and framing things more positively. This outlook was often identified as a 'learnt' way of viewing things, which required effort to develop and maintain. Indicative comments include:

Learning to find—learning to look for I guess the hidden gift in what appears to be, well disaster, challenge, tragedy, whatever it might be, what's the hidden gift, what's the opportunity that's in there, what might be grown out of this? I think it's that kind of attitude all around that for me is the biggest change from the kind of person I used to be.

Being positive with yourself, being positive and being very accepting of other people would be one of my things, you know.. and life is, they say life is short, but in reality life is more precious you know, you just grab those while you can. Just get on with life and just take each day as it comes. Be thankful for small mercies. Lots and lots of good things. Thinking good things all the time really

Achievement-related Activities

The fourth major theme was further broken into ‘small achievements’ and ‘longer-term goal progress’. The smaller, short-term achievements often involved simple daily goals, such as making the most of each day, meeting small self-made targets (e.g., exercise, work), and short trips away. Examples of these included:

My goal would be to live each day well.. yeah, I know that sounds trite, but it's just the simple things, like the joy out of an old friend ringing up

Do something that turns a dollar, or do something that is a mental or physical challenge.

Short-term goals revolve once again around my family, its sort of doing things with them ... so we plan something for the holidays and it's usually a trip away from home for 2 or 3 days.

Longer-term goal progress on the other hand related to progress and attainment of larger, more future-oriented goals, and generally involved goals relating to personal aspirations, work/retirement, property (e.g., building or moving to a smaller place), travel and family (e.g., visiting family overseas). As one participant commented regarding the relationship between goals and happiness:

They give us something to plan and look forward to.

Personal goals identified included improving some skill (e.g., golf, computer, painting), and completing personal long-term projects (e.g., study, writing projects). In regard to work goals, for those still working, retirement was often mentioned either in terms of plans for scaling down the amount of time working, stopping altogether, or wanting to stay working until a certain age—depending on how participants felt about their present work situation. As one participant put it:

I just want to keep working until I'm 70, that's my ambitionI enjoy it and it gets me out of the house, it gives me something else to think about.

Although a number of long-term goals were identified by participants, the changing nature and importance of long-term goals was also apparent, with such goals often identified as having been achieved already or not important anymore in relation to happiness. Indicative comments were:

I used to have heaps of goals,.. but as you get older your goals become good health.. and being happy really, not materialistic goals, not really.

I've probably achieved all the goals that I'm really interested in.

Spanning Multiple Themes

Further to the four main themes identified, two kinds of activities appeared to span multiple themes, namely: 'spiritual activities' and 'self-concordant work'.

Spiritual activities. Spiritual activities included activities such as praying, going to church services, and participating in other faith-related groups and activities. These kinds of activities related to all the other-focused and thoughts and attitudes sub-themes, as well as personal recreation and interests, and achievement. Examples of comments which related spiritual activities to each of these sub-themes include:

Well I would have to say being part of the church for us brings us tremendous happiness. We enjoy going to services, we enjoy being part of a big group, we enjoy worshipping God,.. it's something we have done since we were teenagers, its part of our life. We enjoy the company and the fellowship of others who think similarly to us. We enjoy the social life that that brings and just getting alongside people who are going through stuff. (other-focused)

I work out what I can change and what I can't change and most of the things I care about I can't change... so I've learned to let go and because I believe in God, I just place it all in his hands. (thoughts and attitudes)

You get out there and you are with nature. I start talking to the plants, outside,.. and I start talking to God,.. it might sound silly but it is one place that I have found him. (recreation and interests)

There's theological reflection involved, there's personal journey involved, there's all sorts of things involved, it feels like a very big challenge... Well I mean in terms of my own spirituality and understanding, which is core to my own happiness. (achievement)

The pervasiveness of this kind of activity is summarised by this participant's statement:

My spirituality and the church comes into everything,.. it's not separate, it's built in

Self-concordant work. Self-concordant work also appeared to span multiple themes, though to a lesser extent than spiritual activities. Self-concordant work refers to work that 'fits' a person, often combining one's interests and skills; work that they really enjoy and find rewarding and important to them. A high degree of autonomy featured quite strongly, with the majority of the participants discussing such work as being self-employed or largely their 'own boss'. Examples of the types of occupations identified include farmer, builder, real-estate agent, writer, hospice worker.

For some, other people were identified as playing an important part in their work life (e.g., working with people they enjoy being around, helping others), while others preferred solo activities. Self-concordant work was mostly tied up with interests, other-focused activities, and achievement related activities. The following comments are illustrative of those made regarding this type of activity:

My work is very important; I really enjoy what I do

I always wanted to be a farmer and I'm still... it's just, just something about it, you know.. Yeah. I've been doing it since I was about 12, but it's still, it's just.. Yeah, just so rewarding.

I feel good about doing it, I feel good that we are able to give them some normalisation in what's left of their life. So that's important to me too, and I have ...a good feeling about doing what I do at work. Its good, and I work with a really good team, which makes it that much better.

I didn't want to go back to an office, I wanted to be able to write somehow and use that somehow to create an income and a life. So essentially I am doing what I aspired to.

Discussion

The purpose of this study was to explore the happiness-enhancing activities of older adults. Four main themes were identified: 'other-focused', 'personal recreation and interests', 'thoughts and attitudes', and 'achievement'. In addition, 'spiritual activities' and 'self-concordant work' were found to span multiple themes. The findings fit with, and add to, extant research literature and theory related to enhancing happiness. Participants identified and discussed a number of different intentional strategies they employed to increase their happiness, which supports Lyubomirsky, Sheldon, et al.'s (2005) theory regarding the potential impact intentional activities may have on one's happiness. Furthermore, the types of activities identified in this study generally fit within the behavioural, cognitive, and volitional activity categories identified by Lyubomirsky, Sheldon, et al.; namely, thoughts and attitudes fit with cognitive activity, achievement-related activities relate to volitional activity, and most other-focused activities and personal recreation and interests would likely fit under behavioural activity. Depending on the specific activity, self concordant work and spiritual activities would again seem to fit into multiple categories. The lack of definition or clear differentiation of the three categories identified by Lyubomirsky, Sheldon, et al., however, makes categorization of some types of activity difficult. The present findings point to ways in which the conceptual categories may be developed and clarified.

Although not the focus of this study, several factors Lyubomirsky, Sheldon, et al. (2005) identified as important in regard to implementing happiness-enhancing activities were often alluded to by participants in relation to particular activities. For example, personal interests and self-concordant work in particular seem to fit with Lyubomirsky, Sheldon, et al.'s notion of person-activity fit. Also consistent with this notion, it was apparent that most participants had particular activities that seemed to 'fit' them more, as suggested by words such as 'love' and 'very important' often featuring in relation to such activities, as well as the increased enthusiasm and time spent talking about them.

This notion of person-activity fit may also point to a possible explanation for mixed findings in previous research regarding the relationship between more solitary activities and measures of subjective well-being. While some studies have found a significant association between solitary activities and well-being (e.g., Beck & Page, 1988; Menec, 2003), others have not (e.g., Litwin, 2000; Longino & Kart, 1982). It may be that some people find a better 'fit' with particular solitary activities, whilst others prefer more social activities, with the differences within samples providing a plausible explanation for the mixed results. So this suggests it may be the fit with the person, rather than the type or intimacy level of activity (e.g., informal, formal, solitary) that is more important. Bearing this in mind, more attention to this concept of person-activity fit in future research is warranted.

A number of the activities reported in previous, more general research on older adults' activity engagement (e.g., Lennartsson & Silverstein, 2001; Menec, 2003) show similarities to some of the happiness-enhancing activities identified in the present study. For example, the sub-themes of time with significant others, meeting others, entertainment, and pursuing hobbies identified in this study encompass activities such as several of those reported by Menec (2003) (e.g., visited family or relatives, social groups, sports or games, handwork hobbies) and by Lennartsson and Silverstein (2001) (e.g., visit friends, read books, work in garden). Understandably though, differences also exist, likely due at least in part to the different focus of the studies (general activity engagement vs more focused intentional happiness-enhancing activities), and the generally older samples involved in previous broader studies.

Turning from comparisons with broader studies of activity engagement to those relating specifically to happiness-enhancing activities, a number of similarities can be seen. For example, some of the themes identified correspond with several of the fundamental happiness techniques noted by Fordyce (1983) to be reported as the most helpful in relation to increasing happiness, namely: spend more time socialising, stop worrying, and develop positive, optimistic thinking. Similarities can also be seen with activities employed in some intervention studies. For example, Lyubomirsky, Sheldon, et al. (2005) report studies in which increases in happiness were found to be associated with the activities of 'counting one's

blessings' and 'performing random acts of kindness'—activities that fit with this study's identified subthemes of giving thanks and helping others.

Several similarities were also found between some of the themes identified here and several of the general happiness-enhancing strategies extracted by Tkach and Lyubomirsky's (2006) factor analysis. For example, their factors labelled social affiliation, active and passive leisure, religion, and goal pursuit show similarities to the other-focused, recreation and interests, spirituality, and achievement-related activities (respectively) identified in this study. Also, support for the importance of spiritual activities comes from Tkach and Lyubomirsky's finding that religion was one of the strongest unique predictors of current happiness.

On the subject of spirituality, the finding that spiritual activities spanned multiple themes points to the multifaceted nature of spirituality. This is worth bearing in mind for future research, particularly given the positive relationship between well-being and different measures of spirituality, which some studies have found to be more robust among older people (Moreira-Almeida, Neto, & Koenig, 2006). Unfortunately though, spirituality is often measured with only one or two items (e.g., religious affiliation, church attendance), and thus only taps limited aspects of this construct. Only measuring religious affiliation, for example, tells us little about what spirituality or religiosity is, or about its importance in an individual's life (Moreira-Almeida et al., 2006). Given these limitations, more attention to better understanding and assessing this complex and possibly underestimated factor may prove fruitful. An exploration of how people view spirituality and its relation to well-being, for example, may help shed more light on this multifaceted construct.

Although a number of similarities with previous research are evident, some disparities were also identified. For example, the importance of family stood out from the interviews, though previous research on intentional activities involving primarily younger, student samples did not identify family as important. This difference points to possible age-related changes or differences in sources of happiness (i.e., family may become more important to happiness as one gets older). Although not evident in research conducted with younger samples, support for the importance of family to older adults comes from related research involving older samples (e.g., Menec, 2003; Weiner, Swain, Wolf, & Gottlieb, 2001). For

example, in Weiner et al's (2001) content analysis of (33–77 year old) physicians' wellness promotion practices, "being involved in and spending time with family" (p.21) was included under the 'relationships' theme, which was one of the five main categories of wellness promotion practices identified.

Possible age-related changes may also relate to the mixed opinions regarding goals. Although 'instrumental goal pursuit' was reported by Tkach and Lyubomirsky (2006) to be "one of the most effective strategies" (p.211) for their young student sample, several participants in the present study of older adults pointed out that long-term goals had either changed considerably or were no longer considered important in relation to their happiness. However, given that the nature of this study prevents generalisability of the findings, further testing of the importance of goals with a larger representative sample should shed more light on this area.

In summary, with a diverse range of happiness-enhancing activities identified, the findings of this study have contributed new information about the intentional activities older adults engage in. The present exploration has indicated support for Lyubomirsky, Sheldon, et al.'s (2005) theory and the activities identified have shown a number of similarities with previous studies. At the same time, some differences to previous intentional activities research involving younger samples have also been identified, suggesting the possibility of age-related differences or changes in sources of happiness, and suggestions for further research have been made. To answer questions regarding the prevalence of engagement in these activities and their influence on happiness and other well-being outcomes, the identified strategies will be used as the basis for inventory items for future questionnaire surveys.

Support for the ability of intentional activities to increase happiness could have promising implications, especially given research findings regarding the flow-on effects of happiness. Research results will contribute to social policy and community service provision by increasing our understanding of the factors that influence well-being among older adults. This research aligns with the current focus on positive aging; with findings likely to contribute to policy and interventions designed to improve people's mental and physical health.

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REFLECTIONS

Given the lack of research on older adults' intentional happiness-enhancing activities, the first logical step was to ask older adults about the strategies they employed to enhance their happiness. This initial explorative study provided a promising start to my research, with a diverse range of happiness-enhancing activities identified by the participants. I found the interview process a very rewarding experience that allowed me to collect richer data than would have resulted from quantitative methods, and to develop insight into the ways older adults conceptualise happiness and strategies pursued to enhance happiness, as well as changes regarding these over time. Although not discussed in the preceding paper, participants' descriptions of happiness generally aligned with the broader views of happiness espoused in the positive psychology literature and in this thesis, which was encouraging.

Although Lyubomirsky, Sheldon, and Schkade's (2005) categorisation of behavioural, cognitive and volitional activities helped provide some ideas for interview questions, in the process of interviewing and analysing the interview data it became clear that the intentional activities of these older adults did not conform to their vague three-pronged classification. No attempt was made to try to fit them during the thematic analysis, although given the ambiguity and overlap of their classification, some similarities could be observed (as identified in the preceding paper). A copy of the published version of this paper is provided in Appendix A; with copies of the initial participant contact letter, interview guide and later study summary letter provided in Appendices C, D and E (respectively).

Study One results supported the notion that older adults engage in a number of different intentional activities they considered important to their happiness. The themes and subthemes identified illustrate the range and diversity of activities that arose in the interviews. Additionally, the identification of self-concordant work and spiritual activities as spanning multiple themes highlighted the multifaceted nature of these two kinds of activities and signified the importance of activities that fit an individual's values and interests.

With one of the main aims of the research being to identify the types of intentional happiness-enhancing activities in which older adults engage, Study One provided a good first step. The next step was to develop and test a measure of the activities identified from this initial exploration with a representative population sample, to enable further development of the typology of intentional activities and the testing of relationships between intentional activities and other variables of interest.

STUDY TWO: THE HAPPINESS-ENHANCING ACTIVITIES AND POSITIVE PRACTICES INVENTORY (HAPPI): DEVELOPMENT AND VALIDATION

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Abstract

Whilst research indicates that happiness-enhancing activities can boost happiness, the measurement of intentional happiness-enhancing activities has thus far been inadequate. This paper describes the development and initial empirical testing of the Happiness-enhancing Activities and Positive Practices Inventory (HAPPI), a self-report inventory designed to measure older adults' happiness-enhancing activities. An exploratory factor analysis of the HAPPI responses from a population sample of 2313 older adults identified four factors: self-concordant work, personal recreation and people, spiritual and thought-related, and goal-focused activities. Results demonstrated evidence of reliability, convergent and discriminant validity, and support for the predictive utility of the HAPPI. The subscales derived from the factor analysis correlated as expected with measures of subjective well-being and other relevant measures, and showed moderately high subscale intercorrelations and satisfactory internal consistency. The results provide a basis for continuing to develop and clarify the types of intentional activities people engage in. Differences between our results and studies with younger adults are discussed, including possible age-related differences in the types of happiness-enhancing activities engaged in and the potential influence of these activities on happiness. The HAPPI is a relatively brief, easily administered inventory that shows promise as a useful tool for the measurement of happiness-enhancing activities and can be employed to follow cohorts to determine which domains demonstrate the greatest contribution to happiness and other well-being outcomes, which have implications for social policy, education and intervention programmes to enhance well-being.

Happiness relates to positive outcomes across a number of areas, including health, relationships, work performance and income (for a review see Lyubomirsky, King, & Diener, 2005). For example, in their review of cross-sectional, longitudinal and experimental research literature, Lyubomirsky, King, et al. (2005) found happiness to be positively associated with desirable behaviours and attributes such as sociability, likeability, pro-social behaviour, positive perceptions of self and others, coping, and creativity. Longitudinal studies demonstrated that happiness preceded these successful outcomes. In addition, experimental studies provided strong evidence to support the prediction that a range of behaviours paralleling success are caused by short-term positive affect (a distinguishing feature of a happy individual). Accordingly, enhancing happiness levels is a goal worthy of pursuit.

Happiness is a widely used term that has been conceptualised in a number of ways and at times used interchangeably with several other terms (e.g., subjective wellbeing, wellbeing, positive affect) in the positive psychology literature. Different meanings ascribed to, and associations made between happiness and related terms illustrate the ambiguities encountered in conceptualising this construct. For example, happiness has been indicated in some publications as an aspect of subjective wellbeing (along with life satisfaction and affect balance; e.g., Keyes, 2006; Keyes & Magyar-Moe, 2003), in others subjective wellbeing has been identified as a hedonic component of happiness (e.g., Delle Fave, Brdar, Freire, Vella-Brodrick, & Wissing, 2011), and in yet others the two terms have been indicated as synonyms (e.g., Diener & Diener, 1996; Linley & Joseph, 2004; Vella-Brodrick, Park, & Peterson, 2009). In contrast to narrower hedonic conceptions relating to short-term feelings, the view of happiness taken in this paper aligns with broader conceptualisations (e.g., Delle Fave, et al., 2011; Waterman, Schwartz, & Conti, 2008) that include eudaimonic (relating to behaviour in line with fulfilling one's unique potential; Waterman, 1984, 1993) as well as hedonic components; with these components stemming from contrasting philosophical traditions often referred to in the positive psychology literature (e.g., Delle Fave, et al., 2011; Peterson, Park, & Seligman, 2005; Ryan & Deci, 2001; Waterman, 1993).

Inconsistencies regarding the association of happiness and wellbeing present another example of definitional differences, with happiness indicated as

synonymous with wellbeing in some publications, but as a component of wellbeing in others (e.g., Delle Fave et al., 2011). Also in line with recent depictions in the literature (e.g., Delle Fave, et al., 2011; Seligman, 2011), happiness is viewed here as coming under a broader wellbeing construct.

A central focus of happiness research to date has been on determinants of happiness, with much of the past work in this area centred on genetics and circumstances. Estimates of the influence of life-circumstances range from less than 10% (Andrews & Withey, 1976) to around 15% (Diener, 1984) of the variance in happiness. Small associations have been found between happiness and factors such as income, age, education, social status, and marriage (Lyubomirsky, King, et al., 2005). As far as genetics are concerned, estimates of heritability vary widely, though around 50% is a generally accepted proportion (Braungart, Plomin, DeFries, & Fulker, 1992; Tellegen, et al., 1988).

Alongside the literature regarding circumstantial and genetic determinants there has been discussion of the idea of hedonic adaptation (Brickman & Campbell, 1971; Frederick & Loewenstein, 1999) which proposes that any increases in happiness do not last as people rapidly adapt to change. So, although happiness may increase due to a change in circumstances (e.g., upgrading to better accommodation in a safer neighbourhood), as people adapt to the change the effect of that change on well-being soon diminishes, and happiness will generally revert back to its genetically determined 'set point' (Sheldon & Lyubomirsky, 2004, 2006a). However, evidence also exists that challenges theories of adaptation to almost any life event and fluctuations around a rarely changing set point. Lucas (2007) concludes in his review of large-scale panel studies that although happiness demonstrates moderate stability over time, significant and enduring changes are not precluded by this stability. In line with this, he reports evidence supporting the notion that lasting changes in long-term happiness may be possible. In addition to research findings regarding the impact of life events, further evidence in support of the concept of enduring happiness change comes from interventions to increase happiness (Fordyce, 1977, 1983; Seligman, Steen, Park, & Peterson, 2005; Sheldon & Lyubomirsky, 2006b). Results from these intervention studies have shown sustained increases in happiness.

To integrate these perspectives, Lyubomirsky, Sheldon, et al. (2005) have proposed a model. Lyubomirsky, Sheldon, et al. define *chronic happiness level* as “a person’s characteristic level of happiness during a particular period in his or her life” (p. 115). They propose that in addition to genetic set point and circumstantial determinants, ‘intentional activities’ are a third major determinant of long-term (or chronic) happiness level. Consistent with past research, this model includes a genetic set point accounting for around 50% of the variance in happiness levels, circumstances for around 10%, which leaves up to 40% of the variance in happiness to be accounted for by intentional activities.

Lyubomirsky, Sheldon, et al. (2005) consider intentional activities to be the most promising avenue for sustainably increasing happiness (i.e., enhancing happiness and maintaining the gain). They describe intentional activities as “discrete actions or practices in which people can choose to engage” (p.118), although this choice may have become habitual. They also assume that a degree of effort is required in enacting intentional activities (i.e., one must purposefully perform the activity). Intentional activities are engaged in with the intention of enhancing happiness, and the sustainable happiness model predicts that these intentions impact on the efficacy of the activities (Lyubomirsky, Dickerhoof, Boehm, & Sheldon, 2011). This conception of intentional activity includes a wide variety of thoughts and actions that people may engage in. Lyubomirsky, Sheldon, et al. (2005) give examples of three types of activity: behavioural (e.g., exercising), cognitive (e.g., counting your blessings) and volitional (e.g., pursuing personal goals), and identify relevant research to support the positive effects of each.

Empirical support for the sustainable happiness model is emerging. For example, Tkach and Lyubomirsky (2006) studied 500 undergraduate students’ ratings for frequency of engagement in 66 happiness-enhancing strategies (those most frequently listed in a pilot study). Factor analysis extracted eight broad factors (Social Affiliation, Partying and Clubbing, Mental Control, Instrumental Goal Pursuit, Passive Leisure, Active Leisure, Religion, and Direct Attempts) which point to different types of intentional activities. Multiple regression analyses found these strategies to account for a sizeable 52% of the variance in reported happiness levels. This was more than that accounted for by ‘the Big Five’ personality traits (46%), with activities continuing to account for 16% of the variance after the

contribution of personality was controlled for. This research supports the model's inclusion of intentional activities as an important determinant of happiness, as well as being consistent with previous research regarding the influence of personality variables.

Support has also been reported for the role of several factors identified by Lyubomirsky, Sheldon, et al. (2005) in implementing happiness-enhancing activities. These include person-activity fit (how much an activity fits one's interests, strengths, and values), effort in initiating and maintaining an activity, regularly initiating the activity, attending to optimal timing of the activity, and varying the way the activity is engaged in. For example, 'counting one's blessings' once a week was found to be associated with increases in well-being, although doing so three times a week was not (Lyubomirsky, Sheldon, et al., 2005). In addition to the role of timing, findings related to the roles of engagement and person-activity fit have also been reported, as in Sheldon and Lyubomirsky's (2006b) intervention study, in which 67 students were randomly assigned to either cultivate a sense of gratitude, think about their 'best possible selves', or pay attention to life details (control condition) over a 4-week period. Person-activity fit predicted performance of (i.e., effort engaging in) the activities, with continued performance in turn predicting more positive mood. Another finding, that the visualisation exercise yielded greater benefits than the gratitude exercise, supports the idea that certain activities may be inherently better than others in regard to their potential influence on happiness levels.

However, work to date has been undertaken by a limited group of researchers and also has some important limitations including the generaliseability and theoretical basis of the evidence to date. Generaliseability of the findings is limited by the use of student samples so that a number of the reported strategies in this research are oriented to student life (e.g., try to do well academically, go out to clubs/bars, study). Although, as Tkach and Lyubomirsky (2006) note, specific strategies are likely to differ for different sectors of the population, they expect that the general strategies would resemble a similar form; a prediction further research is required to substantiate. In regard to the definition of these forms, the distinction of behavioural, cognitive, and volitional activity identified by Lyubomirsky, Sheldon, et al. (2005b) is also an empirical distinction that requires

theoretical development. Although examples of each type are provided, these authors fail to provide any clear explanations of these three types of intentional activity.

A Measure of Intentional Activities for Older People

Governmental policy makers and public health services are increasingly concerned about the aging population in many countries. Increasing life expectancy and declining fertility rates are resulting in an aging population, with “baby boomers” reaching 65 years set to accelerate the trend (Anderson & Hussey, 2000). Population projections indicate the proportion of the global population over 60 years of age will double over the next 40 years, from 11% in 2010 to 22% in 2050 (Lutz, Sanderson, & Scherbov, 2008). According to estimates, among industrialized countries approximately one-third to one-half of the total spent on health care goes on those over 65 years old (Anderson & Hussey, 2000). The potential burden on public health and welfare systems of population aging will likely continue to draw increased political, scientific and public concern over the coming years (Lutz, Sanderson, & Scherbov, 1997). A positive approach to aging has already been adopted as social policy in many Western countries as a response to these concerns regarding the aging population.

Studies of the health and well-being of older people have become increasingly important in order to inform this social policy and planning. There are presently many calls to shift the focus of this research from the once dominant negative pathogenic view to a more positive salutogenic one (e.g., Hyde, Wiggins, Higgs, & Blane, 2003; Moody, 2005). The promotion of happiness is an important aspect of a positive aging focus and the concept of ‘intentional activities’ provides a promising approach to understanding well being in this way. Because the research to date has not included older people, additional development and testing of the sustainable happiness model is required. To begin this research, the first requirement is an instrument to assess older adults’ intentional happiness-enhancing activities. This paper describes the development and validation testing of a measure of the intentional activities that older adults engage in to enhance their happiness.

Item Development

Qualitative study of older adults' intentional activities. A qualitative study was conducted to develop the conceptual categories of intentional activities proposed by Lyubomirsky, Sheldon, et al. (2005b) and to explore the specific strategies used by older people (see Henricksen & Stephens, 2010 for details). Thematic analysis of interviews (regarding the activities purposefully engaged in to enhance happiness) with 23 adults aged between 56-76 years, resulted in the identification of four types of activities: 'other-focused', 'personal recreation and interests', 'thoughts and attitudes', and 'achievement'. In addition, 'self-concordant work' and 'spiritual activities' were found to span multiple activity types. This qualitative study formed the basis for the development of inventory items. Item generation included examining the themes and codes identified in the data, and using the participants' words to develop a set of 24 items which captured the essence and breadth of activities identified.

Content validity of developed items. A content validity exercise was conducted as a first test of the construct validity of the items. It involved presenting an 'expert' panel (comprising 12 psychology academics and doctoral students) with background information including an outline of the sustainable happiness model and our interest in the intentional happiness-enhancing activities engaged in by older adults, along with the 24 items. Participant feedback helped identify problematic items, which were re-examined, altered to remove any ambiguous statements, and a final grouped set chosen for the pilot study.

Pilot Study

The resulting set of 24 items was pilot tested on a convenience sample (using a snowball sampling technique) of 60 adults with a mean age of 64 years ($SD = 8.6$, range = 48 to 82). The item responses were designed to tap different aspects of each activity: person-activity fit was assessed as the *importance* of the activity for enhancing happiness, and effort and timing were assessed by *how often* participants engage in each activity. Participants were also asked to indicate how satisfied or dissatisfied they were with the amount of time spent on important activities. There were two broad aims of this study:

1. *To test two response formats.* The sample was split with one type of response format tested on each half.

Response format one employed two sets of scales. Importance of the activity for enhancing happiness was rated on a 4-point scale anchored on the ends by 'extremely important' and 'not important at all'. Frequency of engagement was rated on a 6-point scale, anchored at 'daily or more often' and 'never or not applicable'. Instructions were to rate each activity on frequency of engagement in the activity and importance of the activity for enhancing happiness. In addition, a single item rating 'satisfaction with time spent on the activities you consider important for your happiness' used a 7-point scale response (anchored by 'extremely satisfied' and 'extremely unsatisfied').

Response format two requested scores in each of three columns (labelled importance, frequency and satisfaction) with the same scale scores for each dimension as the first format. Unlike the first format, this format requested satisfaction ratings for each activity.

Participants responded more favourably to the first response format (which was found easier to follow). Also, there was no significant difference between the scores on the single item rating satisfaction and the mean of the itemised satisfaction responses for both groups. Accordingly the first format was chosen.

2. *To test face validity.* For both formats, in addition to responding to each item, ratings were also requested regarding ease of understanding the instructions, completing the questionnaire, following the response format, and understanding the item content. Space was also provided for participants to suggest additional items and to make comments. Data analysis and participant comments were used to test face validity and item wording to ensure comprehensibility and usability.

Based on the analysis of this feedback, three items were removed owing to redundancy (i.e., the best option of two similar items was retained), leaving 21 of the 24 piloted items retained. Also based on participant feedback, another item ('Doing something you find amusing') was added, providing 22 items. This paper describes the further development and validation of this Happiness-enhancing Activities and Positive Practices Inventory (HAPPI).

Method

Participants

The revised inventory was included in the second data collection wave of a longitudinal 'Health, Work and Retirement' study involving a population sample of

3,200 New Zealand adults aged 55-73 years (see <http://hwr.massey.ac.nz> for further information). Institutionalized (prison, nursing home, dependent care) individuals were not included in the survey population. Although 2495 (78% return rate) returned questionnaires, 182 had 50% or more missing responses over the variables of interest in this study and were excluded from further analyses. The remaining 2313 participants were 55-73 years of age, with a mean age of 63.2 years ($SD = 4.6$). This sample comprised 55.1% New Zealanders of European descent, 41.3% New Zealanders of Māori descent and 3.6% 'other' ethnicities. With Māori comprising only 7% of the target age group population (Statistics New Zealand, 2009a), coupled with estimated attrition rates (see Towers, 2007), this key indigenous ethnic minority was oversampled to maximize participant recruitment, and allow a better representation of this population.

In comparison with estimates within the 55-70 year old age range taken from 2006 census population statistics (Statistics New Zealand, 2009b), the gender split of the sample (53% females) was similar (51% females). In regard to education levels, a higher proportion of the sample (44%) reported no secondary school qualification (32%); however, there were also a higher proportion of tertiary qualifications reported in the sample (29% vs 20%). So, while a greater proportion of the sample reported higher qualification levels than the general population, individuals with no formal qualifications were also well represented.

Measures

Intentional activities. The Happiness-enhancing Activities and Positive Practices Inventory (HAPPI) comprises 22-items that assess the importance and engagement of various happiness-enhancing activities. Items are designed to assess activities in six categories: 'Other-focused' (speaking to or doing something with family, speaking to or doing something with good friends, spending quality time with your partner, meeting with others who share something in common, spending time helping others); 'Personal recreation and interests' (spending time on hobbies or interests, spending quality time alone doing your own thing, doing something you find amusing, going on trips, going on outings, spending time with a pet/animal, exercising or doing some other form of physical activity); 'Thoughts and attitudes' (counting your blessings, framing things in a more positive light); 'Achievement' (working on something you get a sense of achievement from, doing

something you find mentally challenging, devoting effort to a work goal, working towards achieving a property goal, devoting time to an important personal goal); 'Spiritual' (spiritual activities e.g., praying, meditating, worshipping); 'Self-concordant work' (doing something that uses your particular strengths and skills, working in a role that you enjoy). To reduce participant burden while covering the range of possible activities, some items included examples of more specific kinds of activities (see appendix for details).

Items were rated on how important each was considered for enhancing happiness and on frequency of engagement. Importance was measured using a five-point scale anchored at 'not important at all' and 'extremely important', and engagement in each activity was employed as an ordinal weighting variable (0=never; 4=daily or more often). Importance and engagement scores for each item were multiplied to form composite scores (0-20), with higher scores representing higher importance and engagement ratings for the corresponding activity. This scoring method is based on evidence which suggests that both person-activity fit and effort engaging in activities are important aspects of the activity-happiness relationship (e.g., Lyubomirsky, Sheldon, et al., 2005; Sheldon & Lyubomirsky, 2006b).

Happiness was assessed with a shortened (two item) version of Lyubomirsky and Lepper's (1999) measure of subjective happiness, which asked respondents to rate their happiness in general, and in comparison to most of their peers. Each item was assessed on a seven-point scale and the two scores were averaged to form a composite score. Higher scores reflected higher self-assessments of happiness ($M=5.71$, $SD = 1.18$, $\alpha = .86$).

Quality of life (QOL) was assessed with a single item ('How would you rate your quality of life?') from the World Health Organization Quality of Life (WHOQOL)-BREF (World Health Organization, 2004), with a five-point response scale anchored at 'very poor' and 'very good' ($M=4.28$, $SD=0.76$).

Life satisfaction was assessed with a single item ('How satisfied are you with your life at present?'), using a five-point response scale anchored at 'very dissatisfied' and 'very satisfied' ($M=4.17$, $SD=0.85$).

Life meaning was assessed with a single item ('To what extent do you feel your life to be meaningful') from the WHOQOL-BREF (World Health Organization,

2004), using a five-point response scale anchored at 'not at all' and 'an extreme amount' ($M=3.95$, $SD=0.78$).

In addition to the HAPPI and general measures of subjective well-being, the following were used to assess convergent and discriminant validity of the HAPPI subscales:

Job satisfaction was assessed with Brayfield and Rothe's (1951) 18 item Job Satisfaction Index. Items were rated on five-point scales anchored at 'strongly agree' and 'strongly disagree'. Eight items were reverse-scored before summing scores, with higher scores representing higher job satisfaction ($M=67.58$, $SD =8.96$, $\alpha=.89$).

Satisfaction with social relationships was assessed with the social relationships subscale of the WHOQOL-BREF (World Health Organization, 2004). It comprised three items concerning satisfaction with personal relationships, sex life and support from friends, which were rated on five-point scales anchored at 'very dissatisfied' and 'very satisfied'. Scores were combined and transformed to form a composite score (0-100), with higher scores representing higher satisfaction ratings ($M=72.94$, $SD =18.25$, $\alpha=.69$).

Volunteering was assessed with a single item about contribution of time and/or labour to volunteer activities, with response rated on a five-point scale anchored at 'never' and 'very often' ($M=3.08$, $SD =1.31$).

Religious faith and meeting attendance. Importance of religious faith was assessed with a single item and used a five-point scale anchored at 'not important at all' and 'extremely important' ($M=2.84$, $SD =1.42$). Religious meeting attendance was also assessed with a single item and used a three-point scale anchored at 'no' and 'yes regularly' ($M=1.57$, $SD =0.81$).

Retirement planning was assessed with two items from Noone, Stephens and Alpass's (2010) Process of Retirement Planning Scale: 'I am actively developing ways to spend my time when or if I retire' ($M=2.96$, $SD =1.46$) and 'by the time I retire I will have sufficient income, investments, and/or superannuation to ensure the standard of living I want' ($M=3.00$, $SD =1.42$). Each was rated on a five-point scale anchored at 'not true for me at all' and 'definitely true for me'.

Economic living standards index (ELSI). The ELSI-short form (Jensen, Spittal, Crichton, Sathiyandra, & Krishnan, 2002) assesses restrictions in the ownership of

household items (8 items), restrictions in social participation (6 items), the extent to which respondents economised to keep living costs down (8 items), and 3 self-rated indicators of living standards. Scores were combined and transformed (for details, see Jensen, et al., 2002) to form a composite score (0-31), with higher scores reflecting greater economic living standards ($M=22.83$, $SD=6.32$, $\alpha=.89$).

Other demographic measures included age, gender, relationship status, education, employment status, body mass index and smoking behaviour.

Procedure

Multiple contact points were employed to maximise survey participation (in accordance with Dillman, 2000). Initial letters providing information about the study and inviting participation were sent to those people who had indicated an interest on their first HWR survey to participate in the second data collection wave. A week later, surveys were distributed via post, each with an information sheet and pre-paid self-addressed envelope for returning completed surveys. After three weeks, the whole sample was sent reminder postcards. After six weeks, all non-respondents were sent replacement questionnaires. And after 11 weeks, remaining non-respondents were sent a final postcard.

Data Analyses

Data were analysed using SPSS Statistics 17.0 software (SPSS Inc, 2008). Correlations and factor analyses were conducted to test the reliability (internal consistency) and validity of the inventory.

Missing data. In accordance with Hair et al.'s (2006) recommendation, cases with 50% or more missing data were identified and omitted from further analyses. Overall, 4.1% of the data values were identified as missing over the study variables. Significant chi-square results indicated non-random processes. Separate variance t-tests were then employed to indicate where the non-random processes were. SPSS multiple imputation was used to impute missing values for the HAPPI composite item responses and other non-dichotomous study variables, with linear regression automatically chosen based on a scan of the data, and five imputations created (for comparisons in analyses). Analyses run with and without imputed missing data produced similar results, supporting confidence in the results.

Outlier analysis. Square root transformations (for positive skewness) of four HAPPI variables (trips, outings, helping others, working on a property goal)

improved the normality of the distributions. Z-scores identified no univariate outliers on the study variables. There were no multivariate outliers. Analyses were run on datasets including the transformed variables and those with untransformed variables. As little differences were found results for analyses with untransformed data are reported.

Factor analysis. An exploratory factor analysis was used to reduce the data to a smaller set of summary variables, to explore the underlying structure of the happiness-enhancing activities, and to assess construct validity. The results were also employed to explore theories regarding the data structure, including an examination of how the observed factor structure compares with the activity types identified by Lyubomirsky and colleagues, and with the themes from a previous qualitative study of older adults (Henricksen & Stephens, 2010). In line with the objective of identifying underlying dimensions that were theoretically meaningful (cf. just data reduction), the principle-axis factoring method was employed. The factor analysis was also run on split samples to gauge the stability of the factor structure.

Validity testing. A series of Pearson product-moment correlations was computed between the subscale scores derived from the factor analysis and other self-report measures to test convergent and divergent validity. The HAPPI was compared with four well-being measures that, based on previous research (e.g., Tkach & Lyubomirsky, 2006) were expected to be related to such activities. We expected that the HAPPI subscales would be positively related to happiness, quality of life, life satisfaction and life meaningfulness measures.

Correlation analyses were also conducted with eight measures that could be including irrelevant common factors for each subscale. For example, the item 'I contribute my time and/or labour to volunteer activities' was expected to correlate slightly more strongly with the subscale containing an item about volunteering than with the other three subscales, but not to correlate so strongly with the subscale that it may be seen as a proxy for this measure of intentional activity.

Divergent validity was also assessed by comparing the HAPPI with measures not expected to be directly related to the intentional activities subscales (e.g., smoking and body mass index). The relationships between different demographic

variables (e.g., age, gender, paid employment, education) and each of the factors were also tested.

The predictive validity of the HAPPI was assessed by using correlation and regression analyses to evaluate the relations between the intentional activity subscales and self-reported happiness, and the extent to which these intentional activities account for differences in happiness levels.

Results

Factor Analysis

Principal axis factoring with oblique (oblimin) rotation was performed through SPSS. The Kaiser-Meyer-Olkin measure of sampling adequacy was .870, and Bartlett's test of sphericity revealed an approximate $\chi^2=11832$, df 120, $p < .001$, indicating correlations between items were sufficiently large for factor analysis. A four-factor solution was indicated by parallel analysis, scree plot and eigenvalue criteria. Two items (spending time with a partner and spending time with pets/animals) were removed due to low KMO values and communalities. A further four items (spending time alone, exercising, doing something amusing, and hobbies) were removed due to low communalities, and multiple factor loadings.

The factor analysis yielded a four-factor solution that explained 45.1% of the variance. Table 2 presents the pattern matrix for the items contained in each factor, along with corresponding item means, standard deviations, item-total correlations, and factor eigenvalues and variance explained. The use of oblique rotation was supported by the resulting moderate correlations among the four HAPPI subscales (see Table 3).

We labeled the first factor "Self-Concordant Work" (SCW), the second factor "Personal Recreation and People" (PRP), the third factor "Spiritual and Thought-Related" (STR), and the fourth factor "Goal-Focused" (GF). A confirmatory principle components analysis showed the same factor structure with 58% variance explained. The factor structure was also consistent across split samples, with transformed and untransformed data, and both original data and datasets including imputed missing values, further supporting its stability. Results based on the entire sample ($n=2313$) with untransformed data are reported.

Table 2

Pattern Matrix, Eigenvalues, Variance Explained and Descriptive Statistics for the HAPPI Items

Factor and items	Factor				<i>M</i>	<i>SD</i>	Item-total <i>r</i>
	1	2	3	4			
<i>1. Self-Concordant Work</i>							
Doing something that uses your particular strengths and skills	.84	.05	.06	.01	11.77	5.39	.68*
Working on something you get a sense of achievement from	.80	.06	.03	.03	11.86	5.31	.68*
Doing something you find mentally challenging	.57	.03	-.05	.01	11.38	5.54	.58*
Working in a role that you enjoy	.46	.00	-.09	.15	11.03	6.19	.59*
<i>2. Personal Recreation & People</i>							
Going on trips	-.06	.62	.09	.13	5.81	3.50	.45*
Going on outings	.04	.60	.06	.04	6.72	3.72	.48*
Speaking to or doing something with good friends	.11	.55	-.01	-.09	10.41	4.78	.49*
Meeting with others who share something in common	.00	.55	-.24	-.09	7.76	5.07	.55*
Spending time helping others	.20	.41	-.19	-.05	7.00	4.77	.60*
Speaking to or doing something with family	-.02	.39	-.06	.07	12.20	5.42	.44*
<i>3. Spiritual & Thought-Related</i>							
Counting your blessings	.05	-.05	-.79	.05	11.46	7.19	.62*
Spiritual activities	-.12	.12	-.61	-.01	6.23	7.18	.48*
Framing things in a more positive light	.29	-.05	-.55	.08	10.55	6.22	.66*
<i>4. Goal-Focused</i>							
Working towards achieving a property goal	-.05	.06	-.02	.73	6.41	5.70	.51*
Devoting effort to a work goal	.24	-.02	-.03	.56	7.94	6.03	.59*
Devoting time to an important personal goal	.24	.15	-.11	.34	10.04	5.85	.63*
Eigenvalue	5.25	1.68	1.34	1.01			
Variance explained (%)	29.6	7.2	5.0	3.4			

Note: A cut off of .32 was employed for inclusion of a variable in interpreting a factor, with loadings over .32 shown in bold. **p* < .001

The four factors were scored as subscales of the HAPPI by computing the mean of the composite (importance x frequency) item scores within each factor. Mean subscale scores were: self-concordant work=11.51 (*SD*=4.42), personal recreation and people=8.32 (*SD*=2.99), spiritual and thought-related=9.41 (*SD*=5.51), and goal-focused=8.13 (*SD*=4.64). The mean total HAPPI score for this sample was 148.58 (*SD*=49.98).

Each subscale showed reasonable internal consistency, with coefficient alphas of .80 for self-concordant work, .74 for Personal Recreation and People, .72 for spiritual and thought-related, and .70 for goal-focused. Coefficient alpha for the total HAPPI was .86.

Table 3

Pearson's Correlations between the HAPPI Subscales and Various Measures

Variables	SCW	PRP	STR	GF	Total Scale
<i>HAPPI Subscale</i>					
Self Concordant Work (SCW)	.				.80***
Personal Recreation & People (PRP)	.43***	.			.76***
Spiritual & Thought Related (STR)	.41***	.44***	.		.73***
Goal-Focused (GF)	.56***	.39***	.34***	.	.73***
<i>Subjective Well-Being Variable</i>					
Happiness	.25***	.25***	.20***	.21***	.30***
Quality of life	.20***	.17***	.11***	.16***	.21***
Life satisfaction	.20***	.22***	.12***	.16***	.23***
Life meaningfulness	.35***	.29***	.26***	.27***	.39***
<i>Divergent Validity Variable</i>					
In paid employment (N/Y)	.27***	-.03	-.02	.20***	.14***
Job satisfaction index score	.38***	.17***	.11***	.14***	.22***
Satisfaction with social relationships	.16***	.24***	.14***	.17***	.23***
Volunteer status	.19***	.36***	.26***	.12***	.32***
Importance of religious faith	.08***	.26***	.59***	.12***	.35***
Attend religious meetings	.07**	.25***	.52***	.06**	.30***
Retirement planning – spending time	.01	.12***	.06*	.15***	.11***
Retirement planning - living standard	.07*	.10***	-.04	.10***	.08**
<i>Demographic Variable</i>					
Economic Living Standards Index	.16***	.10***	-.06*	.07**	.10***
Sex (M/F)	.21**	.08**	.32**	.00	.21**
Age	-.12***	.06**	.03	-.11***	-.04*
Have post-secondary or tertiary qualification (N/Y)	.16***	.05*	.07**	.05*	.11***
Relationship status (no partner/partner)	.01	.05*	.12**	-.03	.05*
Body mass index	.02	.08***	.05*	.03	.06**
Regular tobacco smoker	-.01	.02	.02	-.02	.01

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

Correlational Analyses

Table 3 shows the correlations between the HAPPI subscale scores and all other measures. The HAPPI total score and subscales showed moderate positive relationships with the subjective measures of well-being (happiness, quality of life, life satisfaction, and meaningfulness). Self-concordant work and personal recreation and people subscales demonstrated the strongest associations, and spiritual and thought-related activities the lowest.

Table 3 also shows that items related to the subscales in activity content were weakly correlated, but more strongly correlated than those not conceptually related. For example, the item 'I contribute my time and/or labour to volunteer activities' correlated more strongly with the personal recreation and people subscale than with any of the other three subscales. However, these correlations were lower than the correlations between the subscales themselves. The exception to this was the stronger correlations between the importance of religious faith (.59) and attending religious meetings (.51) with the spiritual and thought related sub-scale. The demographic measures were also weakly related to the sub-scales.

Regression Analyses

The results of regression analysis are displayed in Table 4. The HAPPI subscales were significant predictors of self-reported happiness levels. Together, intentional activities predicted 10.4% of the variance in happiness ($Adj R^2=0.104$, $F(4,2262)=66.70$, $p<0.001$). Betas show that all four sub-scales were significant unique predictors of happiness, with personal recreation and people being the strongest single predictor, followed by self-concordant work, spiritual and thought-related, and goal-focused.

Table 4

Summary of Regression Analyses Predicting Happiness Ratings from the HAPPI Subscales

Predictor	Regression coefficients			R	Adj R^2
	<i>B</i>	<i>SE B</i>	<i>B</i>		
Self-Concordant Work	.005	.001	.114*	.325	.104
Personal Recreation & People	.011	.002	.146*		
Spiritual & Thought-Related	.003	.001	.083*		
Goal-Focused	.004	.001	.082*		

* $p<0.001$

Discussion

The present study sought to develop and validate a measure of older adults' intentional happiness enhancing activities, and to clarify the theoretical structure of such activities. Four stable factors or groupings of activities were identified: self-concordant work, personal recreation and people, spiritual and thought-related, and goal-focused activities. The consistency of this factor structure over split samples, and with both transformed and untransformed data provided support for the stability of this interpretation. Similar results for both principal axis factoring and principal components methods of factor analysis, and for both original data and including imputed missing values supported confidence in the results. The factor analysis of items derived from an empirical study of older people's activities develops initial categorisations of happiness-enhancing activities and provides support for a clearer categorisation of intentional happiness-enhancing strategies. Taken together, these results provide a basis for continuing to develop and clarify the types of intentional activities engaged in by older people.

The factor analysis results are comparable to previous research findings. The 'other-focused' and 'personal recreation and interests' themes identified in a qualitative analysis of interviews with older adults (Henricksen & Stephens, 2010) mapped onto one factor (personal recreation and people). Similarly, the 'spiritual' and 'thoughts and attitudes' themes previously identified also loaded onto one factor (spiritual and thought-related). The separate self-concordant work and goal-focused factors were not anticipated. These results indicate that goal-focused activities should be considered separately to other work or achievement-related activities. Self-concordant work was observed to span multiple themes in the qualitative analysis, and in the present study at least one item from each of the other factors (e.g., positive framing, helping others, work goal, personal goal) was related (loading $>.2$ on the self-concordant work factor). Future study of these items should consider the possibility of the multidimensionality of this type of activity. The factors found in this study provide some refinement of Lyubomirsky, Sheldon, et al.'s (2005) broad categorisation of activities. A separate goal-focused factor matches their notion of volitional activities, the personal recreation and people factor is related conceptually to their behavioural category, and the

spiritual and thought-related factor fits under their cognitive category. However, the self-concordant work factor contributes an additional dimension.

The factors identified in the present study of older people may be age-related. Tkach and Lyubomirsky's (2006) factor analytic study of 500 undergraduates identified eight broad factors (social affiliation, partying and clubbing, mental control, instrumental goal pursuit, passive leisure, active leisure, religion, and direct attempts). Similarities may be found between the young participants' 'instrumental goal pursuit' and the present goal-focused factors; the 'mental control' and 'religion' compare with spiritual and thought-related factors; 'passive leisure' and 'social affiliation' fit with personal recreation and people. However, self-concordant work is again an additional factor. That self-concordant work has been identified as an important factor in both qualitative and quantitative analyses of older adults' intentional happiness-enhancing activities suggest age-related differences in the strategies employed. Although Tkach and Lyubomirsky (2006) predicted that strategies would take a similar form across different segments of the population, initial comparisons of two different populations do not provide support for this view. People of different age groups may engage in different happiness-enhancing activities, suggesting possible cohort or developmental effects. For example, this older group has very different life experiences and associated social and economic changes (e.g., different amounts of formal education, travel, social norms, experience of war and associated hardships). In addition to the differing types of life experiences, differing amounts of life experience and the knowledge gained as a result are also likely to impact on the activities engaged in. Changes in perceptions with age was indicated by comments made in an earlier study (Henricksen & Stephens, 2010) by some participants who spoke of striving for materialistic things when younger, and having a different view on attaining happiness now they were older.

Results of the factor analysis also provide support for the construct validity of the HAPPI. Correlations with the derived sub-scales showed that the activities were weakly to moderately related to subjective well-being, whilst also signifying that the HAPPI is not a proxy for such measures. The weaker correlations of the HAPPI subscales with subscale-specific items also provided support for convergent and discriminant validity, showing that none of the subscales acts as a proxy for

another measure. However, the finding that the spiritual and thought-related subscale shared a stronger relationship with two religious items than with the other subscales, coupled with this subscale being identified as one of the weakest predictors of happiness, suggests a need for further investigation in this area. It may be that such activities are not considered as important for happiness per se, with other factors considered more important motivators for engagement. The stronger relationship found between the spiritual and thought-related subscale and life meaningfulness (cf. happiness), for example, suggests one such factor.

The finding of an association between gender and spiritual and thought-related activities is consistent with past findings regarding gender and religiosity (e.g., Brajša-Žganec, Merkaš, & Šverko, 2010; Maselko & Kubzansky, 2006; Miller & Hoffmann, 1995), and may indicate that gender is another factor at play in the activity and well-being relationship. For example, females may consider spiritual activities more important and engage in them more often, but the overall relationship with happiness may be weakened by the lower importance for males. These factors indicate additional avenues for further investigation.

The results also showed evidence for reliability, with each sub-scale and the overall measure demonstrating adequate internal consistency. The moderate correlations among the four components of the HAPPI (higher than the correlations with conceptually related items) and the high internal consistency of the total HAPPI suggest that self-concordant work, personal recreation and people, spiritual and thought-related, and goal-focused activities can be viewed as different dimensions of the same underlying construct.

The sub-scales were generally related to subjective well-being, although the strength of associations with happiness varied between the factors. Self-concordant work and the personal recreation and people subscales demonstrated the strongest relationships with happiness (and the other subjective well-being measures), providing support for the suggestion that certain activities may be better than others in relation to their influence on happiness levels (Lyubomirsky, Sheldon, et al., 2005). Tkach and Lyubomirsky (2006) also found that social affiliation was one of the most robust predictors of happiness. However, given the correlational nature of both study designs, no definitive conclusions can be made regarding the direction of causality between particular activities and happiness.

Whilst some intervention studies indicate support for certain activities having more influence on happiness than others (e.g., Fordyce, 1983; Sheldon & Lyubomirsky, 2006b), further research is required to investigate these suggestions.

The finding that the intentional activities together accounted for 10.4% of the variance in self-reported happiness supports the sustainable happiness model's inclusion of intentional activities as a predictor of happiness, although this proportion falls well below the prediction that intentional activities may account for up to 40% of the population variance in happiness level unaccounted for by genetic and circumstantial factors (Lyubomirsky, Sheldon, et al., 2005). The intentional activities identified in this study also account for less variance in happiness than those reported in Tkach and Lyubomirsky's (2006) study of a younger sample. It is possible that the explanations for the differences again include age. For example, intentional happiness-enhancing activities may not be engaged in as much, or considered as important to older adults whose accumulated life experiences, associated knowledge and changed perceptions and priorities may alter attitudes to the pursuit of happiness as a goal in itself. The finding that the total HAPPI as well as each subscale had a higher association with life meaningfulness than happiness supports a suggestion that older adults favour activities they believe will contribute meaning to their lives rather than happiness per se. Increasing limitations (e.g., physical, financial, family-related) may also limit the type, number, and frequency of activities in which older people are able to engage. With the transition to retirement, while adults may have more time to take up more activities, life changes could well impact on the range of activities in which people actually engage. Support for less frequent engagement in activities with age is provided in a study by Brajša-Žganec et al. (2010). Their results indicate that older adults engage less frequently than younger ones in 15 common leisure activities, with only church attendance and watching TV engaged in more often by the older age group (61+ years). They also found differences between three age groups in the relative contribution of different types of leisure activities to subjective well-being. Of the three identified groupings of leisure activities, 'family and home activities' were significant contributors for all age groups, however 'visiting cultural events' were significant only for those over 31 years old,

while 'active socialising and going out' contributed to subjective well-being for only the 31 to 60 year old age group. Further testing of the HAPPI measure on relevant age cohorts should help shed some light in this area.

Another possible explanation for the low variance in happiness accounted for concerns the measure of intentional activities used in this study (the HAPPI). The validity results are encouraging, however, additional development and refinement of the HAPPI, including item revision and validation over different populations, is suggested by the present findings. For example, more items that tap a wider range of activities and further development of the response scales and scoring may help increase the amount of variance accounted for.

The HAPPI may also be improved by refining or changing the wording of particular items. The personal goals variable had the lowest factor loading, which may be due to lack of clarity of the item. This construct may be better tapped with more items describing more specific goals (e.g., working towards a specific health goal; working towards a holiday goal). Making the future orientation aspect of the goals more explicit may help improve the clarity of such items. More focussed research and development in the above areas will allow both happiness enhancing measures and the sustainable happiness model to be tested more comprehensively.

In summary, a small literature indicates that happiness-enhancing activities can increase happiness. However, the measurement of intentional activities has thus far been inadequate. In the absence of validated measures we have relied on theory and empirically derived factors to develop a measure appropriate for older people. Our results provide empirical support for a clearer categorisation of intentional happiness-enhancing strategies and evidence to support the reliability and potential utility of the HAPPI. The HAPPI is a relatively brief, easily administered inventory that can be employed in research settings, although it would benefit from further development and requires additional evaluation with other samples in multiple settings. Research utilising the HAPPI will be able to follow cohorts to determine which domains demonstrate the greatest contribution to happiness and other well-being outcomes of older adults. This knowledge will have important implications for social policy, education and intervention

programmes, including helping to elucidate the role that intentional activities play in relation to enhancing happiness and other well-being outcomes.

Appendix: Inventory Items

Spending quality time with your partner

Speaking to or doing something with family (e.g., children, grandchildren)

Speaking to or doing something with good friends

Meeting with others who share something in common (e.g., interest groups, support groups, faith-related)

Spending time helping others (e.g., providing expertise, money, time, effort)

Spending time on hobbies or interests (e.g., gardening, reading, following sports)

Exercising or doing some other form of physical activity (e.g., walking, cycling)

Spending time with a pet animal/animals

Going on outings (e.g., going out for a meal or function, time out in nature)

Going on trips (e.g., visiting family or friends, day trips, holidays away)

Spending quality time alone doing your own thing (e.g., relaxing, watching something, treating yourself)

Doing something you find amusing (e.g., winding someone up, watching a comedy)

Spiritual activities (e.g., praying, meditating, worshipping)

Counting your blessings

Framing things in a more positive light

Working on something you get a sense of achievement from

Doing something you find mentally challenging

Devoting time to an important personal goal (e.g., a relationship, health, holiday)

Working towards achieving a property goal (e.g., grounds, new house, vehicle)

Devoting effort to a work goal (e.g., cutting back workload, reaching a target)

Working in a role that you enjoy (either paid or unpaid)

Doing something that uses your particular strengths and skills

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REFLECTIONS

As no published measure of older adults' intentional happiness-enhancing activities existed prior to this research, Study Two addressed this gap. I was fortunate enough to be part of a team studying the health, work and retirement (HWR) of New Zealanders aged 55-70 years old (for further detail see <http://hwr.massey.ac.nz/>). As my research fitted with the goals of the HWR study, I was able to include my intentional activities measure in the 2008 HWR survey. As this measure was to be included with numerous other measures, I was aware of the need to keep it brief, whilst also adequately cover the main themes and subthemes identified from Study One. I believe the developed inventory provided a reasonable compromise in terms of balancing a broad coverage of the essence of the previously identified activities, with more specific examples included where considered helpful to provide further detail and/or indicate where specific kinds of activities may fit.

I thought it was important to assess both frequency and importance ratings as previous research indicated both were significant, yet measures combining the two were lacking. In addition, I had also wanted to include an assessment of satisfaction ratings, as the role of satisfaction with activities had also been identified in previous research. However, I was aware that some respondents may find a three-column response format too onerous. To get feedback regarding this issue, I tested both two- and three- column response formats (see Appendix E for the two formats trialled, along with the pilot study information sheet). As the participants responded more favourably to the format with two response categories (cf. three), separate satisfaction ratings were abandoned.

Study Two results developed the conceptual categories of intentional activities identified in Study One, and indicated initial empirical support for the psychometric properties of the HAPPI and for the proposition that intentional activities contribute to happiness (see Appendix B for a copy of the published paper). While the resulting measure would no doubt benefit from further development and testing, I believe it is a good start and shows promise for future work in this area.

Around the time I submitted Study Two for publication, I was contacted by a representative from the International Council on Active Aging and asked to write an article for their bimonthly publication aimed at those who work with older adults (e.g., in retirement communities, seniors centres). A copy of the published article is provided in Appendix G, which includes the developed HAPPI measure. This article essentially summarises the first two studies in more everyday, practitioner-friendly language. Writing this article helped identify and clarify progress to date, as well as some more practical implications of the research.

Having addressed the first two research aims and assessed the relationship between older adults' intentional happiness-enhancing activities and happiness, it was time to cast the net a bit wider. I had identified links between intentional activities and happiness, and between happiness and health in the research literature; however, it appeared neither associations between intentional activities and health, or the intentional activity to happiness to health pathway had been examined. Study Three addresses these gaps.

STUDY THREE: THE MEDIATING ROLE OF HAPPINESS IN THE RELATIONSHIP BETWEEN OLDER ADULTS' INTENTIONAL ACTIVITIES AND HEALTH

Henricksen, A., & Stephens, C. (2011). *The mediating role of happiness in the relationship between older adults' intentional activities and health*. Manuscript submitted for publication.

Abstract

The present study examined the nature of relationships between older adults' intentional happiness-enhancing activities, happiness, and health outcomes, and extended previous research by testing the prediction that happiness mediates the relationship between intentional activities and health. Multiple regression analysis of survey responses from a representative population sample of 2289 adults (aged 55-73 years) was employed to test predictions. Happiness was found to fully mediate the relationship between socially-related activities and physical health, to partially mediate the relationships between personal interest and achievement-oriented activities and physical health, and to fully mediate the relationships between these types of intentional activity and mental health. Results support the utility of investigating older adults' intentional activities as a determinant of happiness and indicate that they also benefit health outcomes through happiness.

Wellbeing is one of the foci of concern around population aging. In accord with this focus, studies of older adults' wellbeing are becoming increasingly important in order to inform social policy and planning. Happiness is considered a valued social policy objective (Veenhoven, 1995) and key quality of life indicator (Angner, Ray, Saag, & Allison, 2009). The study of happiness is important as it is linked to numerous positive outcomes across a number of areas, including health, relationships, income and work performance (for a review see Lyubomirsky, King, & Diener, 2005).

The importance of happiness is often seen in terms of health outcomes. Although causality has been suggested to go in both directions (e.g., Feist, Bodner, Jacobs, & Miles, 1995; Graham, 2008), there is more support to date for happiness affecting health than the reverse (e.g., Argyle, 1997; Hawkins & Booth, 2005; Veenhoven, 2008). Research support includes reported positive associations between happiness and psychological wellbeing (e.g., Joseph, Linley, Harwood, Lewis, & McCollam, 2004; Linley & Joseph, 2004), cognitive performance (e.g., Rabbitt, Lunn, Ibrahim, Cobain, & McInnes, 2008), follow-up longevity (e.g., Koopmans, Geleijnse, Zitman, & Giltay, 2010; Veenhoven, 2008), self-rated and physical health, and the absence of limiting health conditions (e.g., Koopmans, et al., 2010; Siahpush, Spittal, & Singh, 2008).

Health is an important factor to consider, especially given the mental and physical declines that occur with aging and the associated impact these may have at both individual and wider societal levels (e.g., healthcare, transportation, quality of life). Negative outcomes of health declines (e.g., disability, developing other health issues) are increasing recognition that this is an important public health problem (Buchman, et al., 2009). Hence, ways to delay or reduce mental and physical declines and their consequences are worthy of investigation. Given the flow-on effects of happiness on health, ways of enhancing happiness have implications for reducing declines in health and their associated impact on health and welfare systems.

Research on the relationship between older adult activity and wellbeing indicates activity engagement may be a promising avenue for enhancing the happiness and health of older adults. A growing body of evidence supports positive effects of various types of activities (e.g., social, productive, physical, spiritual) on

older adult health outcomes (e.g., Buchman, et al., 2009; Menec, 2003; Penedo & Dahn, 2005; Walter-Ginsburg, Shmotkin, Blumstein, & Shorek, 2005; Windle, Hughes, Linck, Russell, & Woods, 2010). Support for the potential impact of activity engagement on health includes findings such as more frequent leisure and social activity participation being associated with better cognitive function (e.g., Menec, 2003; Wilson, et al., 2002) a decreased rate of decline in motor function (Buchman, et al., 2009), lower mortality risk (Bowling & Grundy, 2009), and the likelihood of institutionalisation being almost halved (Steinbach, 1992).

The activity theory of aging, formalised by Lemon, Bengtson, and Peterson (1972), provides a broad theoretical framework for the relationship between activity and wellbeing. Activity theory suggests that both the frequency of engagement in an activity and the type of activity (e.g., informal social, formal, solitary) are important (Lemon, et al., 1972; Menec, 2003). It emphasises social activity (Adams, Leibbrandt, & Moon, 2010), with informal social activities proposed to be the most beneficial, followed by formal, then solitary activities. This proposition is in line with research findings that indicate social activities are more strongly related to wellbeing than other types of activity (e.g., Adams, et al., 2010; Everard, 1999; Lemon, et al., 1972). While a focus on social and leisure activities appears typical of older adult activity research, with older adults now living longer, healthier lives and being more able to engage in a large range of activities for longer, other types of activities may impact more on older adults' wellbeing than previously recognized.

Activity theory also assumes that the more active a person is, the more satisfied they are likely to be with their life (Lemon, et al., 1972). This notion is supported by a number of research findings of relationships between the number and frequency of activities engaged in and various wellbeing outcomes (e.g., Herzog, Franks, Markus, & Holmberg, 1998; Lampinen, Heikkinen, Kauppinen, & Heikkinen, 2006; Lennartsson & Silverstein, 2001; Menec, 2003; Steinkamp & Kelly, 1987; Warr, Butcher, & Robertson, 2004). However, not all findings fully support this idea (e.g., Everard, 1999; Lemon, et al., 1972). For example, Everard (1999) found that although there were significant associations between wellbeing and both overall amount of activities engaged in and amount regularly engaged in, regression results indicated that neither of these variables related to wellbeing

when reasons for activity engagement were factored in. As Everard (1999) noted, the findings suggest that reasons for engaging in activities may be of greater importance than staying busy with numerous activities (i.e., simply being more active may not always be better). Furthermore, the results indicated that doing more activities may actually have a detrimental effect on wellbeing if the reason for their engagement is just 'passing the time', which was found to be negatively associated with wellbeing. These results suggest that activity engagement may have either a positive or negative impact on wellbeing, depending on the reasons that people have for engagement.

The importance of reasons or motivation for activity engagement is also supported by the results of other studies that have investigated motivational factors, such as passion for activity (e.g., Rousseau & Vallerand, 2008), perceived importance of activities (e.g., Katz & Yelin, 2001), desired (cf. demanded) activities (e.g., Reich & Zautra, 1983) and self-selection into happiness interventions (e.g., Lyubomirsky, Dickerhoof, Boehm, & Sheldon, 2011). The findings of these studies indicate that motivation for activity engagement should also be taken into account when investigating the relationship between activity and wellbeing.

Activity theory does not factor in motivation for activity. It also excludes other factors that have been identified as contributing to happiness and life satisfaction (Adams, et al., 2010; Lemon, et al., 1972), such as life circumstances and personality factors (Lyubomirsky, Sheldon, & Schkade, 2005; Seligman, 2002), which have featured prominently in past happiness research. Estimates of the influence of life-circumstances range from less than 10% (Andrews & Withey, 1976) to around 15% (Diener, 1984) of the variance in happiness. Estimates of heritability also vary somewhat, although around 50% is a generally accepted proportion (Braungart, Plomin, DeFries, & Fulker, 1992; Tellegen, et al., 1988).

A more recent framework that integrates the above concepts is Lyubomirsky, Sheldon, et al.'s (2005) sustainable happiness model. Consistent with past research, the sustainable happiness model suggests genetic set point accounts for around 50% of the population variance in happiness levels, and circumstances for around 10%, which leaves up to 40% of the variance for intentional activities. Intentional activities incorporate a motivational aspect in that they are engaged in with the intention of enhancing happiness, and the sustainable happiness model

predicts this intentional condition influences their effectiveness (Lyubomirsky, et al., 2011).

In comparison to the other two determinants, intentional happiness-enhancing activities are considered the most promising avenue for sustainably increasing happiness (Lyubomirsky, Sheldon, et al., 2005). Evidence is emerging for intentional activities impacting on happiness, such as from intervention studies aiming to increase happiness via intentional activities (e.g., Fordyce, 1977; Fordyce, 1983; Lyubomirsky, et al., 2011; Seligman, Steen, Park, & Peterson, 2005; Sheldon & Lyubomirsky, 2006). Sin and Lyubomirsky (2009) concluded in their recent review of 51 positive psychology intervention studies that findings indicated, on average, sustained increases in wellbeing outcomes following positive interventions. They also indicated that older adults benefited more from the interventions than younger adults. However, only three of the studies reviewed employed older adult samples; also, these three studies had relatively small sample sizes and investigated only a narrow range of activities (life review therapy, self-management and positive reminiscence). So, although intervention studies indicate some promise for enhancing older adult happiness, given the limited research to date with older adult samples, further research is required to verify the effectiveness of different activities on happiness and other wellbeing outcomes for this population.

Another area of limited research concerns the intentional happiness-enhancing activities older adults naturally choose themselves to engage in. An exploratory study of older adults' intentional happiness-enhancing activities (Henricksen & Stephens, 2010) and subsequent testing of an inventory of these activities suggested four groupings or types of activities: self-concordant work (activities that are personally congruent), personal recreation and people (socially-oriented activities), spiritual and thought-related, and goal-focused activities (Henricksen & Stephens, 2012). Together these intentional activities accounted for over ten percent of the variance in self reported happiness, supporting the inclusion of intentional activities as a predictor of happiness in the sustainable happiness model. These findings from a more naturalistic context add to previous intervention study support regarding the influence of activities on happiness

levels, and suggest specific age-related differences in intentional activity engagement and their impact on happiness.

These links between activity, happiness and health may offer insight into ways to reduce the impact of physical and cognitive decline experienced with aging. The literature indicates that: (a) older adult activity is positively related to happiness and health; (b) intentional happiness-enhancing activities have beneficial effects on happiness; (c) happiness has beneficial effects on health. This raises the question as to whether happiness may function as a mediator between intentional activities and health in older adults. That is, are individuals who engage more in intentional happiness-enhancing activities more likely to be happier, and does this in turn contribute to their health? Support for a mediational model comes from Argyle's (1997) suggestion that happiness may be a mediator in relationships between some social factors and health. He identified and summarised evidence for several social factors (including leisure activities) influencing health, and concluded that there was evidence that some of these factors do so, in part, through enhancing happiness (although he did not state a specific activity to happiness to health pathway).

The present study aims to examine the nature of the relationships between older adults' intentional activities, happiness, and health; and extend previous research beyond the relationship between intentional activities and happiness to include relationships with physical and mental health, and the possible mediating role happiness may play in these relationships. It is expected that significant associations will be found between intentional activities, happiness, and physical and mental health. Furthermore, it is predicted that happiness mediates the relationships between intentional activities and physical and mental health.

Method

Participants

The sample comprised 2495 adults aged 55-73 years ($M=63.2$; $SD = 4.6$), who participated in a representative population survey of older New Zealanders' health, work and retirement (for further detail see Dulin, Stephens, Alpass, Hill, & Stevenson, 2011). Females made up 53% of the sample, and 29% of respondents reported a post-high school qualification. The sample also comprised 55.1% New

Zealanders of European descent, 41.3% New Zealanders of Māori descent and 3.6% other ethnicities.

Measures

Intentional activities were assessed with the Happiness-enhancing Activities and Positive Practices Inventory (HAPPI; Henricksen & Stephens, 2012), a self-report inventory designed to measure older adults' happiness-enhancing activities. The HAPPI consists of 16 items and has four sub-scales: self-concordant work, personal recreation and people, spiritual and thought-related, and goal-focused activities. Items were each rated (using five-point scales) on how important they were considered for enhancing happiness (1=not important at all; 5=extremely important) and on frequency of engagement (0=never; 4=daily or more often). Importance and engagement scores for each item were multiplied to form composite scores (0-20), with higher scores representing higher importance and engagement ratings for the corresponding activity. Alpha reliability coefficients for the sub-scales ranged from .72 to .80, and alpha for the total HAPPI was .86.

Happiness was assessed with a shortened (two item) version of Lyubomirsky and Lepper's (1999) measure of subjective happiness, which asked respondents to rate their happiness in general, and in comparison to most of their peers. Each item was assessed on a seven-point scale and the two scores were averaged to form a composite score. Higher scores reflected higher self-assessments of happiness (alpha =.86).

Health was assessed using version 2 of the SF36 health survey (Ware, Kosinski, & Dewey, 2000). The SF36 consists of 36 questions and has 8 sub-scales (physical function, role limitations for physical and emotional problems, pain, general health perception, general mental health, energy/vitality and social functioning). These were combined via principal components analysis with orthogonal rotation to derive coefficients forming two components (physical and mental health). Norm-based methods were employed to standardise summary scores using means, standard deviations, and factor score coefficients for the scales, resulting in physical health and mental health scores, with higher scores reflecting better self-reported health. Alpha reliability coefficients for the sub-scales ranged from .81 to .95, and for the physical and mental health summary scores were .95 and .90, respectively.

Demographic variables included age, relationship status, education, and employment status.

Procedure

The measures were included in a representative population survey of older adults' health, work and retirement. Multiple contact points were employed to maximise survey participation (in accordance with Dillman, 2000). Initial contact letters providing information about the study and inviting participation were sent to those people who had indicated an interest on a previous survey to participate in a second survey. A week following the contact letters, surveys were distributed via post, each with an information sheet and pre-paid self-addressed envelope for returning completed surveys. After three weeks, the whole sample was sent reminder postcards. After six weeks, all non-respondents were sent replacement questionnaires. And after 11 weeks, remaining non-respondents were sent a final postcard. Of the 3200 questionnaires initially posted, 2495 were returned (78% response rate).

Data Analyses

Data were analysed using SPSS Statistics 17.0 software (SPSS Inc, 2008). Prior to analyses, the variables of interest were examined for accuracy of data entry, missing values, and to assess multiple regression assumptions.

Missing data. In accordance with Hair et al.'s (2006) recommendation, cases with 50% or more missing data (4.8%) were identified and omitted from further analyses. Multiple imputation using linear regression was employed to replace missing values, with five imputation sets created for comparisons of results.

Assumption testing. To improve the normality of the distributions, reflect and logarithm transformations (for negative skewness) of physical health, mental health and happiness were employed. Four cases with extremely low z-scores on mental health and 16 with extremely low z-scores on happiness were identified as univariate outliers and excluded, leaving 2289 cases for analyses. No multivariate outliers were identified.

Mediation analyses. The hypotheses that happiness plays a mediating role in relationships between intentional activity and both physical and mental health were tested using the process outlined by Baron and Kenny (1986) and Holmbeck (1997). For happiness to act as a mediator the following conditions are required:

(a) the intentional activity variable should be significantly associated with happiness; (b) the intentional activity variable should be significantly associated with the health variable; (c) happiness should be significantly associated with the health variable; (d) after controlling for the effects of happiness on the health variable, the relationship between the intentional activity variable and the health variable should be significantly reduced.

Multiple regression analyses were employed to test these requirements, with selected demographic variables entered in the first step of each analysis as control variables. First happiness was regressed onto the intentional activity variable of interest. Second, the health variable was regressed onto the intentional activity variable. Finally, the health variable was regressed onto happiness and the intentional activity variable together. Full mediation is supported if the relationship between the intentional activity variable of interest and the health variable becomes insignificant when the happiness variable is entered into the equation. Partial mediation is supported if the intentional activity variable of interest remains significantly related to the health variable, but the strength of the relationship is reduced. The Sobel test (Sobel, 1982) was employed to determine whether the reduction was statistically significant.

All analyses were run on both the dataset including the transformed variables and the set with untransformed variables, with the same pattern of results found. Analyses were also run with and without imputed missing data, again with very similar results found. For ease of interpretation, the results of the analyses with the original untransformed data are reported.

Results

Correlational Analyses

Means, standard deviations and Pearson product-moment correlations between the intentional activities, happiness, mental health, physical health and control variables employed in the regression analyses are presented in Table 5. Of the demographic variables assessed, only education and age were correlated with both predictors and outcomes. The impact of these covariates was controlled for by entering them at the first step of each analysis.

Table 5
Means, Standard Deviations and Pearson Product-Moment Correlations between Regression Variables

Variables	1	2	3	4	5	6	7	8
1 Self-Concordant Work								
2 Personal Recreation & People	.43***							
3 Spiritual & Thought	.41***	.44***						
4 Goal-Focused	.56***	.39***	.34***					
5 Physical health	.15***	.06*	-.03	.11***				
6 Mental health	.15***	.09***	-.03	.08***	.17***			
7 Happiness	.25***	.26***	.22***	.24***	.12***	.43***		
8 Age	-.12***	.05*	.03	-.11***	-.13***	.06*	.06**	
9 Education ^a	.16***	.04	.07***	.05*	.11***	.04	-.05*	-.06**
Mean	11.54	8.31	9.45	8.13	49.13	50.13	5.77	63.22
SD	4.46	3.03	5.64	4.68	9.72	9.49	1.06	4.57

Note: ^a do not have post-high school qualification =1, have post-high school qualification =2;
 ***p<.001, **p<.01, *p<.05

Bivariate correlations partially supported the prediction that intentional activities would be associated with happiness, and with physical and mental health. All four intentional activity variables were positively associated with happiness. In turn, happiness was positively associated with both physical health and mental health.

Three of the four intentional activity variables (Self-Concordant Work, Personal Recreation and People, Goal-Focused) were positively associated with both health variables. Because Spiritual and Thought-Related activities were not significantly related to either health variable, this variable did not meet the criteria for mediational analyses and was not included in the regression analyses.

Mediation Analyses

The regression results for each of the six sets of analyses conducted are displayed in Table 6.

Self-Concordant Work positively predicted happiness ($\beta = .06$, $SE \beta = .01$, $\beta = .27$, $t(2098) = 12.65$). Self-Concordant Work also positively predicted mental health, and when happiness was entered into the equation, the association between Self-Concordant Work and mental health was reduced and no longer significant (Table 6, Set 1, line 3), suggesting that happiness fully mediated this link. The Sobel test result ($Z=10.70$, $p<.001$) also indicated the mediation was significant. In contrast, for the physical health outcome, when happiness was entered into the equation, the association between Self-Concordant Work and physical health was reduced but remained significant (Table 6, Set 4, line 3). This reduced association ($Z=4.62$, $p<.001$) suggested that happiness partially mediated this link.

Personal Recreation and People positively predicted happiness ($\beta = .09$, $SE \beta = .01$, $\beta = .25$, $t(2101) = 12.08$, $p<.001$). Personal Recreation and People also positively predicted mental health, and when happiness was entered into the equation, the association between Personal Recreation and People and mental health was reduced and no longer significant (Table 6, Set 2, line 3), indicating that happiness fully mediated this link. The Sobel test result ($Z=10.86$, $p<.001$) also indicated the mediation was significant. Similarly, for physical health, when happiness was entered into the equation, the association between Personal Recreation and People and physical health became non significant (Table 6, Set 5,

line 3), indicating that happiness fully mediated this link. Again the Sobel test result ($Z=5.14$, $p<.001$) indicated the mediation was significant.

Table 6

Summary of Regression Analyses Testing the Mediating Effect of Happiness on Relationships between Intentional Activity and Health Variables (Controlling for Education and Age)

Predictor	Intentional Activity > Health				Intentional Activity & Happiness > Health			
	ΔR^2 (each step)	β (last in)	SE β	Beta (last in)	ΔR^2 (each step)	β (last in)	SE β	Beta (last in)
Mental Health								
Set 1								
Education		.50	.44	.03		1.15	.40	.06**
Age	.01**	.19	.05	.09***	.01**	.09	.04	.05*
Self-Concordant Work	.02***	.32	.05	.15***		.06	.05	.03
Happiness					.19***	3.86	.20	.43***
Set 2								
Education		.87	.44	.05*		1.27	.40	.07**
Age	.01**	.14	.05	.07**	.01**	.09	.04	.04*
Personal Recreation & People	.01***	.25	.07	.08***		-.09	.07	-.03
Happiness					.19***	3.98	.20	.44***
Set 3								
Education		.88	.44	.05*		1.31	.40	.07**
Age	.01***	.17	.05	.08***	.01**	.08	.04	.04
Goal-Focused	.01**	.15	.05	.07**		-.08	.05	-.04
Happiness					.20***	4.04	.20	.45***
Physical Health								
Set 4								
Education		1.44	.45	.07**		1.68	.45	.09***
Age	.03***	-.24	.05	-.12***	.03***	-.27	.05	-.13***
Self-Concordant Work	.01***	.27	.05	.12***		.19	.05	.09***
Happiness					.03***	1.09	.22	.12***
Set 5								
Education		1.78	.45	.09***		1.95	.45	.10***
Age	.03***	-.29	.05	-.14***	.03**	-.31	.05	-.15***
Personal Recreation & People	.00**	.22	.08	.07**		.12	.08	.04
Happiness					.02***	1.23	.22	.13***
Set 6								
Education		1.67	.45	.09***		1.85	.45	.10***
Age	.03***	-.26	.05	-.12***	.03**	-.29	.05	-.14***
Goal-Focused	.01***	.18	.05	.08***		.11	.05	.05*
Happiness					.02***	1.19	.22	.13***

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

Goal-Focused activity also positively predicted happiness ($\beta = .06$, $SE \beta = .01$, $\beta = .25$, $t(2084) = 11.50$, $p < .001$), and mental health (Table 6, line 11). When happiness was entered into the equation, the association between Goal-Focused activity and mental health was no longer significant (Table 6, Set 3, line 3), with the reduced association ($Z=9.84$, $p < .001$) indicating that happiness fully mediated this link. For the physical health outcome, when happiness was entered into the equation, the association between Goal-Focused activity and physical health was reduced but remained significant (Table 6, Set 6, line 3), with this reduced association ($Z=4.87$, $p < .001$) suggesting that happiness partially mediated this link.

Each intentional activity variable and happiness, together with age and education, explained up to 21% of the variance in mental health and up to 6% of the variance in physical health. The indirect effect sizes (calculated from the product of the two betas) were identified as small and medium (Cohen, 1988) for the physical and mental health models, respectively.

Figure 1 summarizes the results of the mediational analyses for mental health, in which happiness was found to fully mediate the relationships between the three types of intentional activity and mental health. Figure 2 summarizes the results for physical health, in which happiness was found to fully mediate the relationship between Personal Recreation and People and physical health, and partially mediate the relationships between Self-Concordant Work and physical health, and between Goal-Focused activity and physical health.

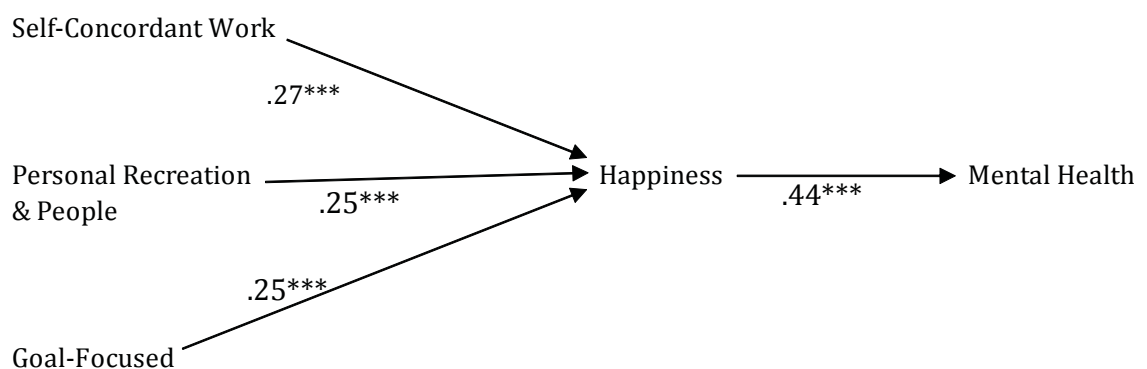


Figure 1. Path diagram depicting the full mediating role of happiness in the relationship between intentional activity and mental health (controlling for age and education). To simplify presentation, only significant effects (standardized beta coefficients) with all predictors entered are shown. *** $p < .001$

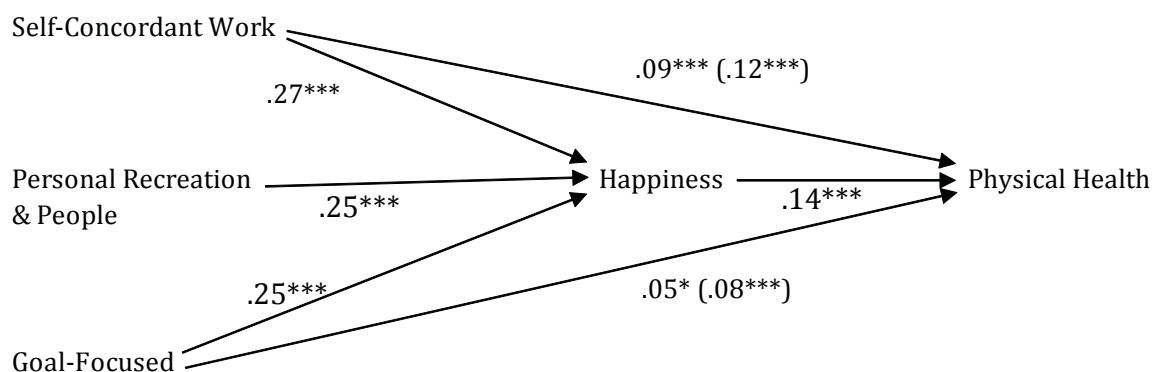


Figure 2. Path diagram depicting the mediating role of happiness in the relationship between intentional activity and physical health (controlling for age and education). Standardized beta coefficients are shown, with the values in parentheses depicting the relationship between the two variables without controlling for the happiness variable. $^{***}p < .001$, $^*p < .05$

Discussion

Higher importance and engagement ratings of all four types of intentional activities were associated with greater happiness levels, which indicates support for the sustainable happiness model postulate that intentional activities influence happiness. These results are also consistent with previous research that has shown increased activity among older adults to be associated with better health (e.g., Buchman, et al., 2009; Lampinen, et al., 2006; Meisner, Dogra, Logan, Baker, & Weir, 2010; Menec, 2003; Penedo & Dahn, 2005; Walter-Ginsburg, et al., 2005; Windle, et al., 2010). The results additionally support the contribution to health of activities deliberately undertaken to increase happiness. The prediction that intentional activity would be related to physical and mental health was supported for three types of intentional activity: self-concordant work, personal recreation and people, and goal-focused activities.

The positive associations between socially oriented (personal recreation and people) activities and happiness and both physical and mental health are consistent with previous findings (e.g., Argyle, 1997; Adams, 2010). However, while findings regarding the association of general older adult activity with wellbeing have commonly supported the importance of social activity over other types of activity, this was not the case for our intentional activity results. Self-concordant work, or activities that fit one's personal interests and skills,

demonstrated the strongest relationships with happiness and mental and physical health. On average, participants also reported the highest importance for, and engagement in self-concordant work, further supporting the importance of this type of intentional activity for older people. These results suggest that this type of activity deserves further attention. In terms of implications for older adults, they suggest the benefits of personally fulfilling activities and the importance of personal strengths, skills and values. Older people are already aware of the health promoting value of social engagement (Pond, Stephens, & Alpass, 2010), but these findings suggest that there are also benefits to be found for those who prefer solitary pursuits.

In contrast, no relationship was found between spiritual and thought-related activities and health. This was unexpected given previously identified associations between older adults' mental and physical health and spiritual activities (e.g., Ellison & Levin, 1998; Koenig, 2000; Lawler-Row & Elliott, 2009; Schaie, Krause, & Booth, 2004), or cognitive activities (e.g., Agahi & Parker, 2005; Paillard-Borg, Wang, Winblad, & Fratiglioni, 2009; Wilson, et al., 2002). Possible explanations for the inconsistencies may relate to the complex nature of associations between dimensions of spirituality and health (Ellison & Levin, 1998) and differences in the nature of the cognitive activities investigated (i.e., counting blessings and positive framing in this study of intentional happiness-enhancing activities cf. previous studies with more general cognitive activities such as reading and doing puzzles). Another possible influence may relate to cultural differences, which have been found regarding the types of activities older adults engage in (e.g., Janke, Davey, & Kleiber, 2006), and the impact of intentional activities on wellbeing (e.g., Boehm, Lyubomirsky, & Sheldon, 2011). Future research along these lines may help elucidate reasons for the lack of association found in this study. The positive association between spiritual and thought-related activities and happiness is in line with established associations between happiness and spiritual activity (e.g., Ellison, 1991; Lawler-Row & Elliott, 2009; Poloma & Pendleton, 1990), and positive cognitive exercises (e.g., Lyubomirsky, et al., 2011; Sheldon & Lyubomirsky, 2006). However, further research is recommended to clarify the constructs and their associations.

An important focus of the present study was the prediction that happiness plays a mediating role in the relationship between intentional activities and health. A similar pattern emerged across all the relationships tested, in that each intentional activity to health relationship was to some extent mediated by happiness. In regard to mental health, happiness was found to fully mediate all three relationships investigated; suggesting that the way in which self-concordant, socially oriented, and goal-focused activities influence mental health is through increasing happiness. The clearer pathway through happiness to mental health is supported by the theoretical association of happiness and mental health, together with support for the association of intentional activities and happiness (e.g., Fordyce, 1977; Fordyce, 1983; Henricksen & Stephens, 2012; Seligman, et al., 2005; Sheldon & Lyubomirsky, 2006; Tkach & Lyubomirsky, 2006).

Happiness was also found to fully mediate the relationship between socially oriented activities and physical health, suggesting that the way in which this type of intentional activity influences physical health is by increasing happiness. This finding supports the importance placed on social engagement for older people by public health researchers (e.g., Berkman, Glass, Brissette, & Seeman, 2000) and social gerontologists (James, Boyle, Buchman, & Bennett, 2011). In comparison, the partial mediating results for self-concordant work and goal-focused activities indicate that happiness is only one pathway by which these types of activities might impact on physical health. The direct effects on health may be due to a range of other mechanisms, such as an increased sense of mastery (Glass, Seeman, Herzog, Kahn, & Berkman, 1995), competence, or usefulness (Herzog & House, 1991). Future research on these and other possible pathways from self-concordant work and goal-focused activities to health may help identify the most important factors for enhancing and maintaining health and wellbeing.

Taken together, our findings support the idea that engaging in intentional activities may enhance happiness levels, and happiness, in turn, influence physical and mental health. This is in accord with Argyle's (1997) position that happiness mediates relationships between some social factors (e.g., leisure activities, social relationships) and health. While Argyle focused on social factors, our results extend this line of thinking by indicating support for happiness playing a mediating role in relationships with more personally-oriented activities that may not

necessarily be social in nature. In terms of more general implications for the wellbeing of older adults, focusing on activities that fit individual interests and skills, activities that involve socially-oriented recreation, and continuing to work towards personal goals may be the most promising routes to enhancing happiness and reducing health declines.

Support for a mediating role of happiness has implications for theories of wellbeing. For example, the sustainable happiness model could be extended to incorporate health outcomes. It could also be further developed by factoring in age differences in regard to the types of intentional activities people engage in and the impact of these on wellbeing outcomes.

A limitation one should bear in mind is that as cross-sectional data was used, we cannot draw causal conclusions. This said, although the study was cross-sectional, it is testing theory and the results support the predicted direction of the relationships (intentional activity to happiness to health). Previous longitudinal studies also support our findings. In regard to the relationship between intentional activities and happiness, these include findings indicating positive effects of social activities (e.g., Adams, et al., 2010; Menec, 2003), goal pursuit (e.g., Kasser & Ryan, 1996; Sheldon, et al., 2010; Sheldon, Ryan, Deci, & Kasser, 2004), productive activities (e.g., Menec, 2003; Menec & Chipperfield, 1997), and positive cognitive activities (e.g., Lyubomirsky, et al., 2011; Sheldon & Lyubomirsky, 2006) on happiness. Findings are also in accord with reported positive effects of happiness on health outcomes (e.g., Argyle, 1997; Bowling & Grundy, 2009; Siahpush, et al., 2008; Veenhoven, 2008). This support is encouraging, although comparison of results with those of other older adult activity studies is necessarily limited by the more general nature of the activities studied previously (cf. intentional happiness-enhancing activities focused on in the present study). While there is a reasonable body of literature on older adult general leisure activities, there is much less research on the intentional activities engaged in to enhance happiness, particularly in relation to older adults. To shed more light in this area, further investigation with longitudinal data could add to knowledge regarding the temporal relation among variables and clarify interrelationships between older adult intentional activities, happiness, and health.

In conclusion, our findings support predicted relationships between intentional activities and happiness and health outcomes. Results support the utility of investigating older adult intentional activities as a determinant of happiness and indicate that intentional activities may also benefit health outcomes through happiness. Research to date indicates that the promotion of happiness and the concept of intentional activities provide a promising approach to understanding and enhancing older adult health and wellbeing.

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REFLECTIONS

Study Three provided support for the hypothesised pathway of intentional activities to happiness to health, which was encouraging. However, longitudinal research was now required to support the temporal sequence of variables. Study Four addressed this requirement. The data for this study came from the 2008 HWR survey and its successor, the 2010 New Zealand Longitudinal Study of Aging (NZLSA), with both studies run by Massey University, but with different funding providers (for further detail see Towers, et al., 2012). Although the NZLSA expanded on the size and age range of the HWR study, only those respondents that completed both the 2008 and 2010 surveys were able to be included in this longitudinal study.

Given the longitudinal nature of Study Four, a loss of participants from the first (2008) to the second (2010) data collection phase was expected (as is generally the case with multiple assessments of this nature), but this was balanced against richer longitudinal data that enabled the temporal order of associations to be examined. Although three data collection points would be preferable in regard to separating and analysing the temporal sequence of the variables (i.e., intentional activities to wellbeing to health), this was not possible for the fourth study. With the two available waves of data, intentional activities were assessed in the first wave and health in the second wave. The decision was made to use predicted mediator (wellbeing) variables measured during the first wave as it seemed more appropriate to assess these variables at the same time as the intentional activities, as opposed to two years later, due to the number of changes that can occur over this length of time (e.g., circumstances, activities).

In the fourth study, in addition to assessing happiness, I also wanted to incorporate other indicators of wellbeing. This fits with calls to investigate and compare multiple dimensions of wellbeing, such as from Delle Fave, Brdar, Freire, Vella-Brodrick, and Wissing (2011). Delle Fave et al. had examined happiness, life satisfaction and life meaning dimensions of wellbeing and identified each to have different as well as complementary contributions to wellbeing. In addition to this, I was also interested in assessing life meaning as Study Two results had indicated

stronger relationships between each of the different types of intentional activity and life meaning (cf. happiness). As measures of these variables were included in the 2008 survey, all three were able to be assessed in Study Four.

Around the time of analysing results, Carstensen's (1999) socioemotional selectivity theory had drawn my attention as possibly useful in helping to explain some of the results and points that had arisen from the earlier studies, such as the stronger relationships between intentional activities and life meaning (cf. happiness). This theory concerns time perception and its effect on motivation, and suggests that more emotionally meaningful goals and activities are prioritised and pursued with the increasing awareness with age that one is running out of time. In addition to possibly helping explain the stronger life meaning associations, this theory may also relate to findings regarding goal-focused activity and possible age-related differences.

STUDY FOUR: LONGITUDINAL INVESTIGATION OF THE RELATIONSHIPS BETWEEN OLDER ADULTS' INTENTIONAL ACTIVITIES, WELLBEING, AND HEALTH

Abstract

Although the psychological and physical benefits of various types of activity are well-documented in the literature, research is lacking regarding the activities people intentionally engage in to enhance their happiness and the associated benefits of these activities, particularly in relation to older adults. The present study examined relationships between older adults' intentional happiness-enhancing activities, wellbeing and health, including the potential mediating role of happiness, life satisfaction and life meaning in the relations between intentional activities and later health in older adults. Regression analysis of responses to two mail-out surveys (two years apart) from a population sample of 1730 adults (55-72 year olds) were employed to examine relationships and test predictions. The results indicated that intentional activities were positively related to happiness, life satisfaction and life meaning, and that these were in turn predictive of better physical and mental health. Full mediation was indicated in the mental health models and partial mediation in the physical health models. These findings point to the potential benefits of promoting older adult intentional activities, particularly self-concordant and socially-oriented activities, as a way to enhance wellbeing and health.

The pursuit of happiness is a popular notion that represents a common theme in the burgeoning popular psychology literature and has been the subject of much philosophical debate. In addition to its ubiquitous popularity, the study of happiness is important as it is linked to numerous positive social and health outcomes (for a review see Lyubomirsky, King, & Diener, 2005). However, despite its beneficial flow-on effects and popularity, research into how it can be increased is limited.

Past research on activities and motivation indicate some promise for enhancing happiness. A number of general and leisure activities (e.g., social, productive, spiritual, cognitive) have been identified in the literature as having positive associations with happiness and other wellbeing outcomes (e.g., Adams, Leibbrandt, & Moon, 2010; Kasser & Ryan, 1996; Lyubomirsky, Dickerhoof, Boehm, & Sheldon, 2011; Menec, 2003; Menec & Chipperfield, 1997; Sheldon et al., 2010; Sheldon & Lyubomirsky, 2006b). In addition to established support for associations between the number and frequency of engagement in various activities and wellbeing and health outcomes (e.g., Herzog, Franks, Markus, & Holmberg, 1998; Lampinen, Heikkinen, Kauppinen, & Heikkinen, 2006; Lennartsson & Silverstein, 2001; Menec, 2003; Steinkamp & Kelly, 1987; Warr, Butcher, & Robertson, 2004), support for the importance of intentionality or motivation for activity engagement is also emerging (e.g., Everard, 1999; Katz & Yelin, 2001; Lyubomirsky et al., 2011; Rousseau & Vallerand, 2008; Sheldon, Ryan, Deci, & Kasser, 2004). Furthermore, there is some support indicating that reasons for activity engagement are of greater importance than amount of activities engaged in (Everard, 1999). This research support suggests that one's motivation for engaging in activities needs to be considered in investigations concerning activities and their influence on wellbeing outcomes (Henricksen & Stephens, 2012). However, despite support for the influence of certain types of activities on happiness and other wellbeing outcomes, and for the importance of motivation for activities, research on the strategies or activities people intentionally engage in to enhance their happiness, and the effectiveness of these activities, has been limited.

Intentional Activities

Lyubomirsky, Sheldon, and Schkade (2005) have proposed a framework that may offer some promise in terms of integrating previous research and helping

explain the relationship between activity and happiness. In line with past research findings concerning determinants of happiness, their sustainable happiness model indicates personality accounts for 50% of the variance in happiness and circumstances account for 10%; this leaves a gap of 40%, which Lyubomirsky, Sheldon, et al. propose that intentional activities may fill and be a third major determinant of happiness.

Lyubomirsky and colleagues have focussed on intentional activities and their relationship to happiness. Research support that has been published in this area has largely centred on intervention studies (e.g., Fordyce, 1977; Fordyce, 1983; Lyubomirsky et al., 2011; Seligman, Steen, Park, & Peterson, 2005; Sheldon & Lyubomirsky, 2006b). While these studies indicate that interventions show promise for enhancing happiness, they omit consideration of the volitional basis of intentional activities. One such exploration was Tkach and Lyubomirsky's (2006) research, which included a pilot study to identify intentional happiness-enhancing activities. Although their results indicated the identified intentional activities accounted for a significant proportion of the variance in happiness, as with the majority of other intentional activities research published to date, these findings were limited by their focus on undergraduate students. This limits the generaliseability of the findings and points to a gap in the intentional activities literature regarding the intentional happiness-enhancing activities of other groups, such as older adults who may have particular interests and strategies.

Older Adults' Intentional Activities

Older adults make up an important and growing subpopulation that brings with it an increased burden on health and welfare services. This is causing increasing political, scientific and public concern, and as such, studies concerning the wellbeing of older people have become increasingly important in order to inform policy and planning. Subjective indicators of wellbeing (such as happiness) are useful for evaluating and improving various policies (e.g., social, health, families, work, recreation) and can contribute important information beyond that supplied by social and economic measures (Diener, 2006).

The promotion of happiness and the concept of intentional activities provide a promising approach to understanding and enhancing older adult wellbeing. While research findings with young adult samples support the proposition that

intentional activities can enhance happiness, and gerontological research also links older adults' everyday and leisure activities and various wellbeing and health outcomes (e.g., Adams et al., 2010; Buchman et al., 2009; Menec, 2003; Penedo & Dahn, 2005; Walter-Ginsburg, Shmotkin, Blumstein, & Shorek, 2005; Windle, Hughes, Linck, Russell, & Woods, 2010), there is a lack of research focussing specifically on older adults' intentional happiness-enhancing activities. The findings of this research will offer insight into the types of activities older adults consider important to their happiness, and into the relationships between these activities and wellbeing and health outcomes.

Initial work to address this gap concerning older adult intentional activity research has thus far included a qualitative exploration of the intentional happiness-enhancing activities older adults engage in (Henricksen & Stephens, 2010), the development of an inventory of these activities (Henricksen & Stephens, 2012), and investigations of their relationship to happiness and health (Henricksen & Stephens, 2011). From these studies four groupings of intentional activities older adults engage in have been identified: self-concordant work, personal recreation and people-focused, spiritual and thought-related, and goal-focused activities (Henricksen & Stephens, 2012). In addition, significant associations between these intentional activities and subjective reports of happiness have been found, along with support for the prediction that happiness mediates the relationships between intentional activities and physical and mental health outcomes (Henricksen & Stephens, 2011). Differences regarding strengths of associations with different variables of interest have also been identified, with results indicating self-concordant work-related activities (that fit with personal interests, values and abilities) and personal recreation and people-focused activities may hold the most promise for enhancing happiness and health (Henricksen & Stephens, 2012).

Together, these findings suggest intentional activities may offer a promising avenue for enhancing older adult happiness and health. However, a limitation of this initial research is that it is based on cross-sectional data. Further research with longitudinal data is required to provide information about the temporal relations among variables.

The present study aims to address this limitation and extend previous research by employing a longitudinal approach to examine relationships between older adults' intentional activities and indicators of wellbeing and health. This includes testing the prediction that happiness mediates the relationships between intentional activities and later physical and mental health. In addition to happiness, the present study also aims to expand on previous work by examining the mediating roles of two other wellbeing indicators: life satisfaction and life meaning. The use of these three indicators of wellbeing fits with calls to investigate multiple wellbeing dimensions and the associations and differences between them (e.g., Delle Fave, Brdar, Freire, Vella-Brodrick, & Wissing, 2011). The assessment of life satisfaction and life meaning indicators of wellbeing are important additions as each component may be differentially influenced by the different types of intentional activities, and may in turn differentially influence the health variables.

In line with previous research and theory, it was expected that significant associations would be found between intentional activities, happiness, life satisfaction, life meaning, physical health, and mental health. Furthermore, it was predicted that happiness, life satisfaction, and life meaning would each play mediating roles in the relationships between intentional activities and physical and mental health. Given that happiness, life satisfaction, and life meaning are conceptually related, a similar pattern of results was expected for each of these three hypothesised mediators.

Retirement Status

The present work also adds to previous research by examining differences in intentional activities between retired and non-retired adults. In addition to the gap in the literature due to the focus of previous intentional activities research on younger samples, a further gap relates to past older adult activity research being predominantly based on older retired samples. As a consequence, research is lacking regarding possible differences in the activities engaged in by retired and non-retired older adults. Research including this variable is important as adults are increasingly transitioning from employed to retired at different ages, and this life change, along with other possible changes and adjustments associated with the

transition to retirement, should necessarily affect the activities engaged in and their associated impact on wellbeing and health.

Given the nature of self-concordant work activity (i.e., activities that match individual interests and abilities, and are largely work and achievement-related), it was predicted that retired people would score lower on this type of activity than employed adults. In addition, in line with the indication from earlier research that goals may not be as important to older adults (cf. younger; Henricksen & Stephens, 2010, 2012), it was also predicted that those who were retired would, on average, score lower on goal-focused activity than those still working. No predictions were made concerning the other two types of intentional activity.

Method

Participants

The participants comprised a population sample of adults aged 57-75 years, who participated in two waves of a representative population survey of older New Zealanders' health, work and retirement (for further detail see Dulin, Stephens, Alpass, Hill, & Stevenson, 2011). Of the 2495 adults that responded to the 2008 survey ($M=63.2$; $SD = 4.6$ years), 1730 (69%) also responded to the 2010 survey ($M=65.4$; $SD = 4.6$ years). Institutionalized (prison, nursing home, dependent care) individuals were not included in the survey population.

A comparison of descriptive statistics for the 2008 and reduced 2010 datasets is shown in Table 7. As the table depicts, the two datasets have similar proportions for most of the demographic variables. In terms of educational attainment, although a higher proportion of the 2010 sample reported no qualification, this sample also included higher proportions of individuals with both secondary and post-secondary qualifications than the 2008 sample. So, there was a good representation of those both with and without formal qualifications.

New Zealanders of Māori descent were also well-represented. Although there was a lower proportion of Māori participants in the 2010 dataset than the 2008 dataset, efforts were taken to oversample this key indigenous ethnic minority to maximize participant recruitment, which ensured that the proportion of Māori in the sample still far exceeded the population proportion of 7% of the target age group population (Statistics New Zealand, 2009).

Table 7

Comparison of Percentages of Those in Groups of Each Nominal Variable for 2008 and 2010 Samples

Variable	2008 sample (N=2495)	2010 sample (N=1730)
<i>Gender</i>		
Male	47	47
Female	53	53
<i>Culture</i>		
Maori	41	37
European	55	59
Other	4	4
<i>Education</i>		
No qualification	24	32
Secondary qualification	21	27
Post-secondary qualification	44	45
<i>Retirement status</i>		
Retired	24	25
Non-retired	76	75
<i>Relationship status</i>		
Partner	73	74
No partner	27	26

Measures

The health measures were assessed in 2010, with all other measures assessed in 2008. Means and standard deviations for the study variables are presented in Table 8.

Intentional activities were assessed with the Happiness-enhancing Activities and Positive Practices Inventory (HAPPI; Henricksen & Stephens, 2012), a self-report inventory designed to measure older adults' happiness-enhancing activities. The HAPPI consists of 16 items and has four sub-scales: self-concordant work, personal recreation and people, spiritual and thought-related, and goal-focused activities. Items were each rated (using five-point scales) on how important they were considered for enhancing happiness (1=not important at all; 5=extremely important) and on frequency of engagement (0=never; 4=daily or more often). Importance and engagement scores for each item were multiplied to form composite scores (0-20), with higher scores representing higher importance and engagement ratings for the corresponding activity. Alpha reliability coefficients for the sub-scales ranged from .73 to .81, and alpha for the total HAPPI was .86.

Happiness was assessed with a shortened (two item) version of Lyubomirsky and Lepper's (1999) measure of subjective happiness, which asked respondents to rate their happiness in general, and in comparison to their peers. Each item was assessed on a seven-point scale and the two scores were averaged to form a composite score. Higher scores reflected higher self-assessments of happiness ($\alpha = .83$).

Life satisfaction was measured with the question 'How satisfied are you with your life at present?' accompanied by a five-point response scale (1=very dissatisfied; 5=very satisfied).

Life meaning was measured with the question 'To what extent do you feel your life to be meaningful?' accompanied by a five-point response scale (1=not at all; 5=an extreme amount).

Health was assessed using the SF12 health measure (Ware, Kosinski, & Keller, 1996). The SF12 consists of 12 questions and has two summary components (physical health and mental health). Norm-based methods were employed to standardise summary scores using means, standard deviations, and factor score coefficients for the scales, resulting in physical health and mental health scores, with higher scores reflecting better self-reported health. Scores ranged from 10-67 for physical health and 18-74 for mental health, respectively. Test-retest (2-year) correlations of 0.68 and 0.50 were observed for the physical health component and the mental health component, respectively.

Demographic variables included gender, age, education, culture, retirement status, and relationship status.

Procedure

The measures were included in representative population surveys of older New Zealanders' health, work and retirement, which were conducted in 2008 and 2010. In accordance with Dillman (2000), multiple contact points were employed to maximise survey participation (for details, see Henricksen & Stephens, 2012).

Data Analyses

Data were analysed using SPSS Statistics 17.0 software (SPSS Inc, 2008). Prior to analyses, the variables of interest were examined for accuracy of data entry, missing values, and to assess multiple regression assumptions.

Missing data. Linear regression was used to impute missing values, creating five imputation sets for comparisons of results.

Assumption testing. Four cases with extremely low z-scores (two on mental health and two on quality of life) were identified as univariate outliers and excluded from further analyses. Seven additional cases were identified as multivariate outliers and excluded, leaving 1719 cases for analysis¹.

A parallel set of analyses was conducted with data including transformations employed for variables with negatively skewed distributions (i.e., reflect and logarithm transformations of physical health, mental health, and happiness, and a square root transformation of quality of life).

Mediation analyses. The hypotheses that happiness, life satisfaction, and life meaning play mediating roles in relationships between intentional activities and physical and mental health were tested using the process outlined by Baron and Kenny (1986) and Holmbeck (1997). For happiness, life satisfaction and life meaning each to act as mediators the following conditions are required: (a) the intentional activity variable should be significantly associated with the mediator variable; (b) the intentional activity variable should be significantly associated with the health variable; (c) the mediator variable should be significantly associated with the health variable; (d) after controlling for the effects of the mediator variable on the health variable, the relationship between the intentional activity variable and the health variable should be significantly reduced.

Multiple regression analyses were employed to test these requirements, with selected demographic variables (age, education, culture, retirement status) entered in the first step of each analysis as control variables. First, the mediator variable was regressed onto the intentional activity variable of interest. Second, the health variable was regressed onto the intentional activity variable. Finally, the health variable was regressed onto the mediator variable and the intentional activity variable together. Full mediation is supported if the relationship between

¹ None of the seven multivariate outlier cases reported being in paid employment; all were identified as Māori respondents with no post-secondary education and all had low goal-focused activity scores; with all but one also reporting low happiness, quality of life, physical health and mental health. The other multivariate outlier reported average happiness; high life satisfaction, personal recreation and people, and spiritual and thought-related activity scores; and above average quality of life and physical health. Results of the analysis may not generalise to those of Māori descent with no post-secondary education and very low mental health, physical health, and quality of life

the intentional activity variable of interest and the health variable becomes insignificant when the mediator variable is entered into the equation. Partial mediation is supported if the intentional activity variable of interest remains significantly related to the health variable, but the strength of the relationship is reduced. The Sobel test (Sobel, 1982) was employed to determine whether the reduction was statistically significant.

All analyses were run on both the dataset including the transformed variables and the set with untransformed variables, with the same pattern of results found. Analyses were also run with and without imputed missing data, again with very similar results found. For ease of interpretation, the results of the analyses with the original untransformed data are reported.

Results

Correlational Analyses

Means, standard deviations and Pearson product-moment correlations between the intentional activities, happiness, mental health, physical health and control variables employed in the regression analyses are presented in Table 8.

Bivariate correlations partially supported the prediction that intentional activities would be associated with happiness, physical health, and mental health. All four intentional activity variables (Self -Concordant Work, Personal Recreation and People, Goal-Focused, Spiritual and Thought-Related) were positively associated with happiness. In turn, happiness was positively associated with later physical health and mental health. The same pattern was also found for life satisfaction and life meaning, in that all four intentional activity variables were positively associated with both life satisfaction and life meaning, and in turn, these variables were positively associated with later physical health and mental health.

Two of the four intentional activity variables (Self -Concordant Work, Goal-Focused activity) were positively associated with physical health, and two (Self-Concordant Work, Personal Recreation and People) were positively associated with mental health. Having met the second condition for mediation, regression analysis was conducted on these four relationships to test the mediational hypotheses.

Table 8
Means, Standard Deviations and Correlations between Regression Variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12
1 Self-Concordant Work												
2 Personal Rec & People	.43***											
3 Spiritual & Thought	.39***	.43***										
4 Goal-Focused	.57***	.38***	.34***									
5 Happiness	.27***	.27***	.24***	.24***								
6 Life Satisfaction	.23***	.22***	.16***	.18***	.57***							
7 Life Meaning	.37***	.33***	.31***	.30***	.52***	.50***						
8 Physical health	.16***	.04	-.01	.13***	.11***	.26***	.17***					
9 Mental health	.08**	.06*	-.02	.01	.35***	.34***	.25***	.00				
10 Age	-.12***	.05*	.03	-.12***	.06*	.06*	-.02	-.19***	.09***			
11 Educational attainment ^a	.15***	.03	.07**	.06*	-.05	.01	.07**	.12***	.01	-.07**		
12 Culture ^b	.03	.07**	.10***	.12***	.08**	.01	.09***	-.09***	-.11***	-.03	-.07**	
13 Retirement Status ^c	-.22***	.03	-.01	-.18***	.03	.07*	-.06*	-.13***	.07**	.51***	-.06*	-.07**
Mean	11.49	8.29	9.27	7.98	5.77	4.23	4.02	47.07	53.03	63.4	0.47	0.59
SD	4.40	2.95	5.58	4.57	1.07	0.80	0.71	10.13	8.55	4.59	0.50	0.49

Note: ^a do not have post-high school qualification =0, have post-high school qualification =1; ^b Māori=1, Non-Māori=0; ^c Retired=1, Non-retired=0
 ***p<.001, **p<.01, *p<.05

Mediation Analyses

The regression results for each of the sets of analyses conducted are displayed in Table 9. The impact of four demographic covariates (age, education, culture, retirement status) was controlled for by entering them at the first step of each analysis. The control variables accounted for 1% of the variance in happiness and life meaning ($p < .001$), 5% of the variance in physical health and 2% of the variance in mental health ($p < .001$). They did not make a significant contribution to life satisfaction.

Table 9

Comparison of Standardised Betas for Intentional Activities before and after Predicted Mediators were Entered for Mental and Physical Health Models

Dependent Variable	Independent Variable	Mediator	Activity >Health		Activity & Mediator >Health		Sobel Test Statistic
			ΔR^2 (at each step)	Beta before ^a (last in)	ΔR^2 (at each step)	Beta after ^b (last in)	
Mental Health	Self-Concordant Work	Happiness	.01***	.10***	.10***	-.01ns	2.76**
		Life Satisfaction			.10***	.02ns	7.33***
		Life Meaning			.07***	.01ns	7.79***
	Personal Recreation & People	Happiness	.01*	.07*	.10***	-.02ns	8.00***
		Life Satisfaction			.10***	-.01ns	6.81***
		Life Meaning			.07***	-.02ns	7.56***
Physical Health	Self-Concordant Work	Happiness	.01***	.12***	.03***	.09**	2.35**
		Life Satisfaction			.09***	.06*	7.00***
		Life Meaning			.04***	.07*	5.01***
	Goal-Focused	Happiness	.01***	.11***	.03***	.09**	3.97***
		Life Satisfaction			.09***	.06*	5.96***
		Life Meaning			.04***	.07*	4.99***

^a Standardised Beta for independent variable after demographic controls (Age, Education, Culture, Retirement Status) had been entered.

^b Standardised Beta for independent variable after mediator (and demographic controls) had entered with it on the same step. *** $p < .001$, ** $p < .01$, * $p < .05$

Over and above the variance accounted for by the control variables, Self-Concordant Work accounted for 8% of the variance in happiness, 6% of the variance in life satisfaction, and 11% of the variance in life meaning. Personal Recreation and People accounted for 7% of the variance in happiness, 4% of the variance in life satisfaction, and 8% of the variance in life meaning (over and above controls). Goal-Focused activity accounted for slightly less, at 6% of the variance in

happiness, 4% of the variance in life satisfaction, and 7% of the variance in life meaning.

Happiness as a mediator. Self-Concordant Work positively predicted happiness ($\beta = .07$, $SE \beta = .01$, $beta = .30$, $t(1475) = 11.27$, $p < .001$). Self-Concordant Work also positively predicted later mental health and physical health. When happiness was entered into the equation, the association between Self-Concordant Work and mental health was reduced and no longer significant, suggesting that happiness fully mediated this link. In contrast, for the physical health outcome, when happiness was entered into the equation, the association between Self-Concordant Work and physical health was reduced but remained significant. The reduced association suggested that happiness partially mediated this link.

Personal Recreation and People positively predicted happiness ($\beta = .10$, $SE \beta = .01$, $beta = .26$, $t(1475) = 10.29$, $p < .001$). Personal Recreation and People also positively predicted later mental health (but not physical health). When happiness entered into the equation, the association between Personal Recreation and People and mental health was reduced and no longer significant, indicating that happiness fully mediated this link.

Goal-Focused activity also positively predicted happiness ($\beta = .06$, $SE \beta = .01$, $beta = .26$, $t(1475) = 9.84$, $p < .001$). It also predicted later physical health (but not mental health). When happiness was entered into the equation, the association between Goal-Focused and physical health was reduced but remained significant, with the reduced association indicating that happiness partially mediated this link.

Life meaning as a mediator. Self-Concordant Work positively predicted life meaning ($\beta = .06$, $SE \beta = .00$, $beta = .35$, $t(1474) = 13.46$, $p < .001$). As with in the happiness mediation, the association between Self-Concordant Work and mental health was reduced and no longer significant when life meaning was entered into the equation, suggesting that life meaning fully mediated this link. In contrast (and also in line with the happiness mediation results), for the physical health outcome, when life meaning was entered into the equation, the association between Self-Concordant Work and physical health was reduced but remained significant. The reduced association suggested that life meaning partially mediated this link.

Goal-Focused activity also positively predicted life meaning ($\beta = .04$, $SE \beta = .00$, $beta = .28$, $t(1474) = 10.59$, $p < .001$), and later physical health (but not mental

health). When life meaning was entered into the equation, the association between Goal-Focused and physical health was reduced but remained significant, indicating that life meaning partially mediated this link.

Personal Recreation and People positively predicted life meaning ($\beta = .07$, $SE \beta = .01$, $\beta = .29$, $t(1474) = 11.53$, $p < .001$) and later mental health (but not physical health). When life meaning entered into the equation, the association between Personal Recreation and People and mental health was no longer significant, indicating that life meaning fully mediated this link.

Life satisfaction as a mediator. Self-Concordant Work positively predicted life satisfaction ($\beta = .05$, $SE \beta = .01$, $\beta = .26$, $t(1443) = 9.59$, $p < .001$). As with the happiness mediation, the association between Self-Concordant Work and mental health was reduced and no longer significant when life satisfaction was entered into the equation, suggesting that life satisfaction fully mediated this link. In contrast (and also in line with the happiness mediation results), for the physical health outcome, when life satisfaction was entered into the equation, the association between Self-Concordant Work and physical health was reduced but remained significant. The reduced association suggested that life satisfaction partially mediated this link.

Goal-Focused activity also positively predicted life satisfaction ($\beta = .04$, $SE \beta = .01$, $\beta = .20$, $t(1443) = 7.60$, $p < .001$), and later physical health (but not mental health). When life satisfaction was entered into the equation, the association between Goal-Focused and physical health was reduced but remained significant, with the reduced association indicating that life satisfaction partially mediated this link.

Personal Recreation and People positively predicted life satisfaction ($\beta = .06$, $SE \beta = .01$, $\beta = .21$, $t(1443) = 7.99$, $p < .001$) and later mental health (but not physical health). When life satisfaction entered into the equation, the association between Personal Recreation and People and mental health was reduced and no longer significant, indicating that life satisfaction fully mediated this link.

As depicted in Table 9, the Sobel test results indicated that all of the mediations tested were significant. The indirect effect sizes (calculated from the product of the two betas) were for the most part medium for the mental health models and small for the physical health models. Each intentional activity variable

and happiness, together with the control variables, explained up to 12% of the variance in later mental health and up to 8% of the variance in later physical health. The life satisfaction variable set explained up to 12% of the variance in later mental health and up to 14% of the variance in later physical health. The life meaning variable set explained up to 9% of the variance both in later mental health and physical health.

Figure 3 summarises the results for the mediating role of happiness in the relationships between the intentional activity and mental health, and Figure 4 summarises the results for the mediating role of happiness in the relationships between the intentional activity and physical health. As the figures depict, happiness fully mediated the relationships between Self-Concordant Work and mental health, and between Personal Recreation and People and mental health; and partially mediated the relationships between Self-Concordant Work and physical health, and between Goal-Focused activity and physical health. The same pattern of results was found for life satisfaction and life meaning (i.e., full mediation for the mental health models and partial mediation for the physical health models).

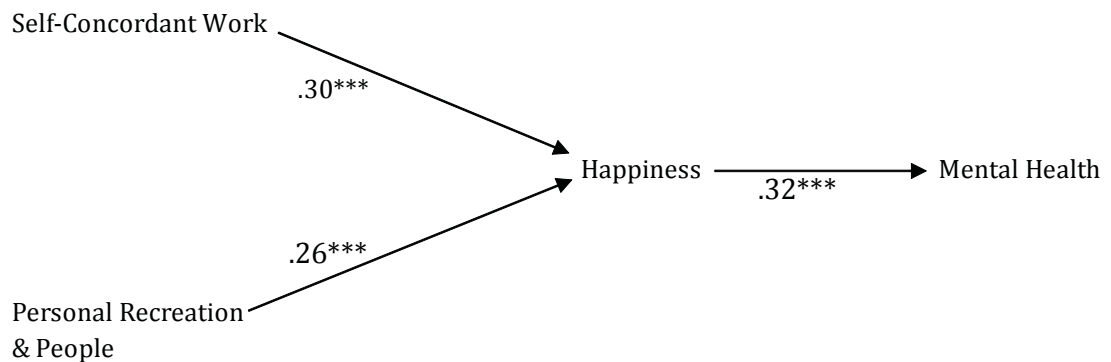


Figure 3. Path diagram depicting the full mediating role of happiness in the relationship between intentional activity and later mental health (controlling for age, education, culture and retirement status). To simplify presentation, only significant effects (standardized beta coefficients) with all predictors entered are shown. *** $p < .001$, ** $p < .01$

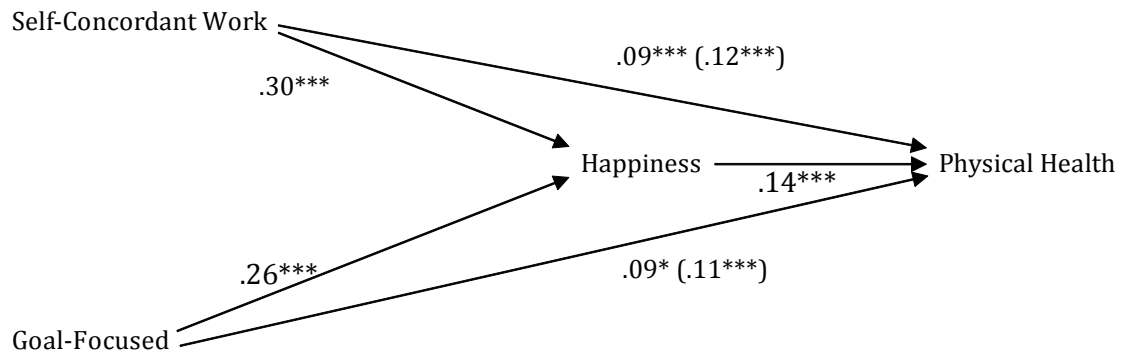


Figure 4. Path diagram depicting the partial mediating role of happiness in the relationship between intentional activity and later physical health (controlling for age, education, culture and retirement status). Standardized beta coefficients are shown, with the values in parentheses depicting the relationship between the two variables without controlling for the happiness variable. *** $p < .001$, ** $p < .01$

Discussion

In line with predictions, the results of the present study indicated that all four types of intentional activity were positively related to happiness, life satisfaction, and life meaning; and happiness, life satisfaction and life meaning, in turn, were predictive of better physical and mental health. The positive associations between the intentional activity and wellbeing variables are for the most part consistent with previous intentional activity research involving younger samples (e.g., Lyubomirsky et al., 2011; Sheldon et al., 2010; Sheldon & Lyubomirsky, 2006a, 2006b; Tkach & Lyubomirsky, 2006), and with research relating older adult everyday and leisure activities to various wellbeing outcomes (e.g., Buchman et al., 2009; Menec, 2003; Penedo & Dahn, 2005; Walter-Ginsburg et al., 2005; Windle et al., 2010). However, some differences regarding the types of activities identified as important from research with different age groups (cf. that of the present study) signify age-related differences or changes in activities in which people engage. For example, self-concordant work-related activities, which were found to be important in this intentional activities research with older adults, have not been indicated as significant in previous intentional activities research involving younger samples, or in more general activity research with older, retired samples (for further discussion see Henricksen & Stephens, 2012).

While the notion of age-related differences or changes has not received much consideration from Lyubomirsky and colleagues, a framework that supports this

idea and offers a possible explanation for such changes is Carstensen, Isaacowitz, and Charles's (1999) socioemotional selectivity theory. This theory is concerned with time perception and its effect on motivation; it suggests that with an increasing awareness with age that one is running out of time, more emotionally meaningful goals and activities are prioritised and pursued. In comparison, pursuits related to knowledge acquisition are posited to be prioritised when there are no perceived limitations on time, which is more likely the case with younger college-aged adults like those with whom most of the previous intentional activity research has been conducted. Longitudinal research following different age groups could help to ascertain the extent of age-related changes or differences in intentional activities.

The findings of associations between intentional activities and meaning in life provide additional information regarding another indicator of wellbeing and support the notion that activities intentionally engaged in to enhance happiness may also benefit other aspects of wellbeing. Moreover, the findings of stronger associations between intentional activities and life meaning (cf. happiness and life satisfaction), indicate that older adults' intentional activities may benefit perceptions of life meaning more than happiness. A possible explanation for this finding may also relate to socioemotional selectivity notion that with the increasing awareness with age that time is limited, older adults may be more inclined to prioritise and engage in more emotionally meaningful activities; this focus and engagement in turn may enhance perceptions of how meaningful their lives are.

Relationships with Later Health

Findings of positive associations between all three wellbeing indicators and later mental and physical health are consistent with previous research findings (e.g., Argyle, 1997; Bowling & Grundy, 2009; Siahpush, Spittal, & Singh, 2008; Veenhoven, 2008) and support the predicted temporal relation of associations with health assessed at a later time. The results also show some support for the contribution to later health of activities deliberately undertaken to increase happiness. The prediction that intentional activities would be related to physical health was supported for self-concordant work and goal-focused activities. The prediction that intentional activity would be related to mental health was

supported for self-concordant work and personal recreation and people-centred activities. However, in contrast to previous findings of significant associations with concurrent health (Henricksen & Stephens, 2012), goal-focused activities were not related to later mental health, suggesting that goal-focused activities may benefit only physical health in the long-term. In a similar vein, personal recreation and people-focused activities were not found to be related to later physical health, indicating that socially-oriented activities may only have benefits for subsequent mental health. This difference may be explained by understandings that social activities centre on building relationships (cf. physical pursuits), which have positive implications for mental health.

The lack of significant associations between spiritual and thought-related activities and later health is consistent with the previous cross-sectional findings of older adults' intentional activities (Henricksen & Stephens, 2012). However, this finding is inconsistent with other findings of relationships between health variables and spiritual activities (e.g., Ellison & Levin, 1998; Koenig, 2000; Lawler-Row & Elliott, 2009; Schaie, Krause, & Booth, 2004) as well as cognitive activities (e.g., Agahi & Parker, 2005; Paillard-Borg, Wang, Winblad, & Fratiglioni, 2009; Wilson et al., 2002). The results indicate that in addition to having weaker relationships with happiness and life satisfaction than the other intentional activity types, spiritual and thought-related activity does not benefit either mental or physical health. These findings are of interest as they do not support the importance of 'positive thinking' frequently espoused in current popular psychology publications.

It is possible that whilst these types of activities may still be considered important to, and be regularly engaged in by a number of older adults, they may have become too habitual over time and lost their impact. Lyubomirsky, Sheldon, and Schkade (2005) signify the importance of variety in activities for staving off hedonic adaptation (i.e., reverting back to a previous set level of happiness). A similar argument may also hold for mental health. Other possible explanations relate to the complexity of associations between these activities and health, to differences in the specific activities investigated across studies, and to cultural differences (Henricksen & Stephens, 2012). Further research in this area (e.g., examining spiritual and cognitive activities separately, cultural differences, and

cohort differences) is recommended to help clarify associations and explicate the present findings.

In contrast to spiritual and thought-related activity, the results concerning personal recreation and people-focused activities were more positive. The findings of positive associations between these socially-oriented activities and wellbeing and mental health variables are consistent with previous research (e.g., Adams et al., 2010; Argyle, 1997; Menec, 2003). However, while previous research regarding the association of older adult activity with wellbeing has commonly supported the importance of social activity over other pursuits, the present results indicate self-concordant work-related activities may be more beneficial. This type of intentional activity demonstrated the strongest associations with all of the wellbeing and health variables. In addition, it was the only type of intentional activity to be significantly associated with both later physical health and mental health, which supports the potential importance of personally fulfilling activities that utilize personal strengths for older adult wellbeing and health. While there is already an awareness of the health promoting value of social engagement (Pond, Stephens, & Alpass, 2010), these findings suggest that there are also benefits to be found for those with a preference for solitary pursuits; and indeed, these benefits may be even greater if activities are a good fit with personal interests, values and abilities.

Mediation Analyses

The mediation analysis results added to the bivariate associations and supported predictions that happiness, life satisfaction, and life meaning play mediating roles in the relationships between older adult intentional activity and physical and mental health. The full mediation results for the mental health models suggest that the way in which self-concordant and socially oriented activities influence mental health is through increasing happiness, life satisfaction, and life meaning. The clearer routes through happiness, life satisfaction, and life meaning to mental health are supported by the theoretical associations between these concepts and mental health, along with evidence for associations between intentional activities and wellbeing indicators (e.g., Fordyce, 1977; Fordyce, 1983; Seligman et al., 2005; Sheldon & Lyubomirsky, 2006b; Tkach & Lyubomirsky, 2006). In contrast, the partial mediations for the physical health models indicate there are also other routes through which self-concordant and goal-focused

activities influence physical health. Future research into other possible pathways (e.g., sense of mastery, competence, usefulness) may help clarify associations.

A similar pattern emerged across all the relationships tested (i.e., each significant intentional activity to health relationship was to some extent mediated by happiness, life satisfaction and life meaning). The mediation results for happiness were consistent with previous findings, with the same pattern of mediating relationships found here for mental health and physical health assessed two years later, as with Henricksen and Stephen's (2012) findings regarding concurrent health. In addition, support was found for the mediating roles of the two previously untested wellbeing variables (life satisfaction and life meaning). Furthermore, the same mediating pattern was identified for all three indicators of wellbeing (i.e., full mediation for the mental health models and partial mediation for the physical health models), which supports the robustness of the effects and suggests similar patterns may hold for different wellbeing indicators.

Together, the present results extend on previous work by supporting the predicted temporal relation of associations with health assessed at a later time, as well as by broadening the scope of intentional activities research to include other aspects of wellbeing.

Demographic Differences

Although the results indicate that self-concordant work-related activities may have the most promise for enhancing wellbeing and health, they also indicate that this type of activity is less likely to be engaged in by retired than non-retired adults. A possible explanation for this might be that while retired adults may well be active in some self-concordant roles or activities that fit their interests and abilities, they are less likely to spend as much time on these as those employed in such roles. An implication of this finding for future education and intervention initiatives could be to focus efforts on helping retired adults identify and develop activities that match their interests, values and abilities.

Retired adults were also found to score lower on goal-focused activity than non-retired adults, which might possibly relate to a previous finding that some considered goals less important now older than they did when younger (Henricksen & Stephens, 2010). It may be that retired adults do not generally consider goal-related activities to be as important as younger, non-retired adults,

which could relate to the socioemotional selectivity postulate that with the perception of time as limited, emphasis is placed more on the present (cf. future). In contrast to these achievement-related intentional activities, the results identified no significant association between retirement status and either socially-oriented or spiritual and thought-related activities, which indicates that the transition to retirement may not impact significantly on these types of intentional activity.

Because the intentional activities one engages in can change over time and with significant life events such as retirement, an avenue for future intentional activities work could be to examine longitudinal changes in intentional activities (e.g., with retirement, losing loved ones, a significant new health issue) and the effect of these changes on wellbeing. This research may help to answer questions such as: do older adults pick up activities they used to engage in (but may have had to drop previously due to other commitments); or do they take up new activities; or increase time spent on current activities they consider important? And what impact do these changes have on wellbeing outcomes?

Along with retirement status, some differences in intentional activities relating to culture were also identified, with older adults of Māori descent tending to have higher socially-oriented, spiritual and thought-related, and goal-focused activity levels than non-Māori. They also tended to have higher happiness and life meaning ratings. As Māori were over-sampled and hence well-represented in this research, this provided a good opportunity to compare the intentional activities of New Zealanders of Māori and European descent. While the relationships are weak, these findings of cultural differences in activity engagement are consistent with previous research that has considered differences across cultural groups (e.g., Litwin, 2006; Tkach & Lyubomirsky, 2006; Zimmer & Lin, 1996).

Limitations

Although New Zealanders of Māori descent were well-represented in this study, other ethnic minorities were not well-represented (e.g., Pasifika Peoples and those of Asian descent). Given this limitation, coupled with the lack of research into cultural differences in this area, future research involving cultural comparisons is recommended. Another limitation relating to demographic comparisons was that retired participants only made up 25% of the sample, so were not as well-

represented as non-retired individuals. This retirement status split is not ideal. However, as the data for this study came from a larger longitudinal investigation of older adults health, work and retirement, the number of retired adults is set to increase over subsequent collection points, which will improve the proportion (of retired vs. non-retired) for future comparisons.

Another weakness of the study concerns the findings of mostly weak-moderate associations and small-medium effect sizes. The weak results could be due to a measurement weakness, in which case further development and refinement of the HAPPI measure should improve this. Another possibility could be that the influence of intentional activity is not as great as theory and earlier research may suggest. As earlier research studies have predominantly focused on younger adult samples (and with happiness as the criterion variable), it may be that the intentional activities of older adults do not impact on happiness (or other related wellbeing outcomes) as much as those of younger adults.

A further limitation relates to the direction of the predicted relationships and pathways between intentional activities, wellbeing, and health. While the results support predictions, it is possible that at least some of the relationships suggested here may go in the opposite direction, or be circular and as such not be entirely separable. For instance, engaging in intentional activities may increase one's happiness, happier individuals may engage in more intentional activities, or a combination of the two may be the case. As causality cannot be confirmed at this point, further longitudinal analysis is needed to clarify the direction of relations.

Conclusions

Overall, the results of this research indicate that engagement in intentional happiness-enhancing activities is positively related to happiness, life satisfaction, and meaning in life, and in turn these wellbeing components are predictive of better physical and mental health. These findings, coupled with previous research, suggest there may be a causal link from intentional activities to wellbeing to health, and signify a possible avenue for extending theories of wellbeing. Additionally, the findings of this research suggest that self-concordant activities that fit interests and abilities may be the most promising type of activity for enhancing wellbeing.

While mostly weak-moderate associations and small-medium effect sizes were found, this early research on older adult intentional activities supports predictions and suggests further research along these lines is warranted. This should include further development of the HAPPI, further longitudinal analysis to clarify the direction of relations, and replication of the results with different cohorts to help clarify associations and examine possible cohort effects. Although the findings and conclusions must remain tentative given the limited research thus far, this study supports and extends previous research and theory, and suggests research in this area may offer promise, not only in terms of enhancing happiness, but also other wellbeing and health outcomes.

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DISCUSSION

This section returns to the original research aims in order to summarise the main themes that have emerged from the research programme, and the contributions that have been made to the positive psychology and gerontology research literatures. Some limitations of the research and suggestions for future work are then discussed, followed by implications arising from the research.

Research Aims

To Explore the Intentional Happiness-Enhancing Activities in which Older Adults Engage

From Study One, a diverse range of intentional happiness-enhancing activities were identified. These were grouped into four main types of activities: *other-focused*; *personal recreation and interests*; *thoughts and attitudes*; and *achievement related activities*. Furthermore, *self-concordant work* and *spiritual activities* were seen to span multiple activity types. The identified activities formed the basis for the development of a measure to assess the intentional happiness-enhancing activities of older adults.

To Develop and Test an Empirical Measure of Older Adults' Happiness-Enhancing Activities

Study Two described the development and validation of a new measure for assessing older adults' intentional happiness-enhancing activities. Factor analysis was employed to help refine the main themes or types of activities. The analysis resulted in four factors being identified: self-concordant work; personal recreation and people; spiritual and thought-related; and goal-focused activities; The results of this study provided evidence of reliability, construct validity, convergent and discriminant validity, support for the predictive utility of the HAPPI, and provided empirical support for a clearer categorisation of intentional happiness-enhancing activities. The subscales derived from this measure of older adults' intentional activities were then used to answer research questions regarding the relations between intentional activities, well-being, and health outcomes.

To Investigate the Nature of Associations between Older Adults' Intentional Happiness-Enhancing Activities, Wellbeing and Health Variables

The results from Study Two indicated that engagement in activities older adults considered important to happiness was associated with greater self-reported happiness. All four sub-scales were found to be significant unique predictors of happiness; with self-concordant work, and personal recreation and people activities being the strongest predictors, followed by spiritual and thought-related activities, and lastly goal-focused activities.

In addition to these associations with happiness, significant associations between the four types of intentional activity, life satisfaction, and life meaning were also found, with the strongest associations demonstrated with life meaning. Significant positive relationships were also found between three of the four intentional activities, (self-concordant work, personal recreation and people-focused, and goal-focused,) and concurrent physical and mental health in Study Three. In Study Four, self-concordant work and goal-focused activity were found to be associated with later physical health, while self-concordant work and personal recreation and people-focused activity were found to be associated with later mental health.

To Investigate the Mediating Role of Happiness in Relationships between Intentional Activities and Health

Studies Three and Four extended previous research by testing, and finding evidence for happiness playing a mediating role in relationships between intentional activities and health variables. In Study Three, happiness was found to fully mediate the relationships between three of the four types of intentional activity (self-concordant work, personal recreation and people-focused, and goal-focused activity,) and mental health. Happiness was also found to fully mediate the relationship between personal recreation and people-focused activities, and physical health; and to partially mediate the relationships between self-concordant work and goal-focused activities, and physical health. Study Four results added longitudinal support for the mediational role of happiness in the intentional activities to health relationships. Findings indicated the same mediation pattern for the intentional activities that were significantly associated with both later

mental health and physical health. That is, the results supported full mediation for the relationships between both self-concordant work and personal recreation and people-focused activities, and later mental health; and partial mediation was supported for the relationships between both self-concordant work and goal-focused activities, and later physical health.

Support was also found for the mediating roles of two other wellbeing indicators - life satisfaction and life meaning - in Study Four; with the same pattern of results found for these mediators as for happiness. Together the results indicated that intentional activities influenced wellbeing indicators, and these in turn influenced later health.

Contributions to the Literature

This is the first research program to investigate older adults' intentional happiness-enhancing activities. The findings of this research have contributed new information about the types of intentional activities older adults engage in, and their associations with wellbeing and health outcomes. Contributions of this research programme to the positive psychology and gerontology literatures are described below.

Measurement

No published measure of older adults' intentional happiness-enhancing activities existed in the literature prior to this research. This gap was addressed with the development of an inventory of these activities in Study Two. This study built on the results of Study One, and contributed to the literature by providing empirical support for a clearer categorisation of intentional happiness-enhancing strategies, and evidence to support the validity, reliability and potential utility of the HAPPI measure. The HAPPI is the only published measure of older adults' intentional happiness-enhancing activities, and the only intentional activities measure validated on a representative population sample.

Types of Intentional Activities

This research has contributed to the literature by providing information on the types of intentional happiness-enhancing activities in which older adults engage. The research results add support to already established associations between socially-oriented activities and well-being, such as those found in research on

general older adult activity and wellbeing relationships, and also in intentional activities to wellbeing relationships with younger adults. Findings regarding goal-focused and spiritual and thought-related activities also indicated some, albeit weaker support for these types of activity (as discussed in the implications section).

In addition to identifying the types of intentional activities in which older adults engage, this research has also contributed to the literature by highlighting the importance of a particular type of intentional activity, namely self-concordant work-related activities that fit personal interests and skills. Self-concordant work activities received, on average, the highest importance and engagement ratings of the different types of intentional activities, and demonstrated the strongest relationships with the wellbeing and health variables. These findings are important because they signify the importance of a type of intentional activity not previously identified in intentional activities research. Previous research may not have identified or found this type of activity to be important as firstly, intentional activity research involved primarily younger adult samples with limited working and life experience (relative to the experiences of older adults); and secondly, in more general older adult activity research, predominantly retired samples had been used, so that work-related activities have received limited attention.

This finding signifies that there may be age-related differences regarding the types of intentional activities in which people engage. In contrast to Tkach and Lyubomirsky's (2006) suggestion that strategies would take a similar form across different segments of the population, a comparison of Study One and Two findings to those of Tkach and Lyubomirsky's intentional activity research with younger adults, indicated differences in intentional activities that support the notion of age-related differences, or changes in sources of happiness. For example, different types of life experiences and associated social and economic changes, and differing amounts of life experience and acquired knowledge and wisdom, are likely to influence the activities engaged in. Furthermore, support for changes in perceptions with age regarding happiness and its pursuit came from Study One's findings regarding some participants having a different (e.g., less materialistic and self-focused), view on attaining happiness now they were older (cf. when younger).

Theory

The present research demonstrates a link between intentional activities and happiness for older adults, which indicates support for Lyubomirsky, Sheldon, and Schkade's (2005) theory that intentional activities contribute to happiness. However, whilst higher intentional activity importance and engagement ratings were associated with greater happiness levels (both subtypes and collectively), the results also indicated that the contribution of intentional activities to happiness is not as substantial as suggested by the sustainable happiness model. This is important because it suggests that, for older adults at least, the influence of intentional activities on happiness may not be as great as proposed.

Study Three and Four have advanced on the work of Lyubomirsky and colleagues, and added to existing intentional activity research knowledge by extending research beyond the relationship between intentional activities and happiness, to other wellbeing and health variables. This research examined associations between intentional happiness-enhancing activities and a wider range of outcome variables than previous intentional activity research, with other wellbeing indicators (life satisfaction and life meaning) assessed in addition to happiness, and relationships with both concurrent and later physical and mental health also examined. The findings of associations between intentional activities, happiness, life satisfaction, life meaning, and physical and mental health, indicate support for the beneficial effects of intentional activities extending beyond happiness to other wellbeing and health outcomes. In addition, because the possible mediating role of wellbeing indicators in relationships between intentional activities and health has not been tested previously, the mediation results from Study Four add to the existing intentional activities research knowledge, with some support for intentional activities influencing physical and mental health through enhancing happiness, life satisfaction and life meaning.

As such, in addition to being the first research of its kind to examine older adults' intentional happiness-enhancing activities, this research has advanced on the work of Lyubomirsky and colleagues by demonstrating significant associations between intentional activities and happiness at the population level; by examining and providing support for intentional activities contributing to a wider range of wellbeing variables than previously identified; and by demonstrating support for

an intentional activity to wellbeing to health pathway. In addition, the identification of self-concordant work as an important and previously unrecognised type of intentional activity signifies the possibility of age-related differences or changes in intentional activities. Together, these findings contribute to the literature by supporting and adding to existing knowledge about the intentional activities in which older adults engage and their associations with wellbeing and health outcomes. They also signify avenues for further intentional activities research, which, along with research implications and limitations, are discussed below.

Limitations and Future Research

The Sustainable Happiness Model

The results from this research indicate that intentional activities are significantly associated with happiness, which is consistent with previous research (e.g., Fordyce, 1977; Fordyce, 1983; Seligman, Steen, Park, & Peterson, 2005; Sheldon & Lyubomirsky, 2006; Tkach & Lyubomirsky, 2006), and supports the sustainable happiness model proposition that intentional activities are a significant determinant of happiness. Therefore, intentional activities should be a focus of future happiness research. However, the results also indicate that the contribution of intentional activities to happiness may be much less than the 40% implied by the sustainable happiness model. The difference between the proportion proposed in the model (40%) and that identified in this research with older adults (10%) suggests further model testing and development may be required.

An avenue of inquiry that may shed light on a possible explanation for the difference concerns an examination of age-related differences. It may be that the intentional activities of older adults contribute less to their happiness than those of younger adults on whom most of the previous research has been based. Indeed, comparison of the results with those of research with younger adults (e.g., Tkach & Lyubomirsky, 2006) supports this idea of age-related differences, both in the contribution of intentional activities to happiness, and the types of intentional activities engaged in. Tkach and Lyubomirsky's (2006) research with younger adults assessing personality, as well as intentional activity model determinants, found intentional activities to account for 52% of the variance in happiness, with

16% of the variance above and beyond the influence of personality variables. The differences in proportions between the previous younger adults finding, and the finding of this research with older adults, supports the idea of age-related differences in the contribution of intentional activities to happiness. Together, the findings of the studies (with different age-groups) also support the idea that intentional activities may contribute much less than the suggested 40% of the sustainable happiness model when other proposed determinants are accounted for.

To fully test the sustainable happiness model, assessment of all three proposed determinants (intentional activities, personality, and circumstances), is required. Unfortunately, personality variables were not included in the data collection for this research due to space limitations and in an effort to reduce participant burden. Personality has been identified in past research as an important determinant of happiness and this research would have benefited from its inclusion by enabling an analysis of the contribution of all three proposed determinants of the sustainable happiness model. The inclusion of personality variables would also have enabled verification of the unique variance in happiness accounted for by intentional activities over and above personality (as well as circumstantial,) factors. Although Study Three and Four assessed the contribution of the different types of intentional activities over and above demographic circumstance variables, the inclusion of personality would be helpful to test the sustainable happiness model in its entirety. Whilst the focus of this research was on intentional activities and their contribution to older adults' happiness and health, future research testing the sustainable happiness model with all proposed factors is recommended to confirm the contribution of each proposed determinant to older adults' happiness.

Future research on the sustainable happiness model could also investigate if there are other age-related differences, such as in the impact of circumstances on happiness for different ages. While the personality component of happiness is not expected to change over time, as with intentional activities, the impact of life circumstances on happiness may also differ with age. For instance, significant life events for older adults such as retirement, losing loved ones and significant new health issues may impact more (or less,) on older adults than younger ones. While

the demographic variables assessed in Studies Three and Four were found to account for around only 1% of the variance in happiness, the inclusion of additional circumstance factors may significantly increase this proportion.

Measurement Limitations

With the HAPPI comprising only one of numerous scales in the 2008 health, work and retirement survey, the number of inventory items was necessarily restricted to fit specified space constraints and reduce participant burden. The HAPPI would benefit from development to include more specific items. For example, in line with the recommendation to further develop goal-focused items; personal goals may be better split into more specific items like health, holiday plans, and improving a relationship, etc.

Also concerning measurement, the combination of HAPPI importance and engagement frequency ratings was performed in a way that, whilst consistent with the theoretical understanding regarding both personal importance of and frequency of engagement in activities being important, has not been used before. Different combinations of the two were explored in the development and testing of the HAPPI (e.g., dichotomising engagement into 'do' and 'do not' engage in activity, different values assigned to response options), with similar patterns of results found across the different combinations boosting confidence in the combination of importance and engagement ratings. However, further development and testing of response options and scorings are recommended. A possibility could be to incorporate satisfaction with frequency into response ratings to identify which activities individuals would like to engage in more (and less).

As happiness can mean different things to different people, this may have introduced variation in the interpretation of the HAPPI items. Some respondents, for example, may have viewed happiness as a short-term emotion akin to joy, whereas others may have viewed it as a more stable sense of contentment. Although the findings from Study One generally indicated participants viewed happiness as more enduring than short-term mood, this may not have been the case with all the survey respondents. With that said however, the introductory instructions for the HAPPI and happiness questions were phrased in such a way as to suggest a more general (cf. transient), conceptualisation. Still, further

explication of the concept may have been beneficial, and may be useful to bear in mind for future work in this area.

Future research in this area would also benefit from the assessment of intentional happiness-enhancing activities of adults over 75 years of age. This research program was based on adults in the 55-75 year age group (the majority of who were yet to retire); however, research involving those beyond this age group may well identify different types of activities and differing contributions of these to wellbeing and health outcomes.

Cultural Representation

This thesis would have benefitted from a better representation of ethnic minorities. Although the two most prevalent cultural groups in New Zealand, those of European and Māori descent, were well-represented in this research, ethnic minorities including Pacifica Peoples and those of Asian descent were not. While Māori were over-sampled to ensure sufficient numbers for statistical analysis, there were insufficient numbers of other ethnic minorities for meaningful cross-cultural comparisons. Furthermore, these other minorities were not represented in the development of the HAPPI, so it is possible that the HAPPI is not an appropriate measure of intentional activities for these important groups. Cultural differences, although weak, were identified in Study Four, and have also been identified in regard to types and frequencies of activities in previous intentional activity research (e.g., Tkach & Lyubomirsky, 2006), and in more general older adult activity research (e.g., Janke, Davey, & Kleiber, 2006), as well as in research on the impact of intentional activities on wellbeing, (e.g., Boehm, Lyubomirsky, & Sheldon, 2011). As such, further research addressing this limitation is recommended (e.g., a fuller investigation of cultural differences regarding intentional activities engaged in and their impact on wellbeing outcomes).

Causality

Although the results from this research indicate significant, albeit mostly weak-moderate associations and small-medium effect sizes, the demonstration of support for predictions is promising and suggests that further research along these lines is warranted. However, in addition to further development of the HAPPI, confirmation of the direction of relationships is required before points stemming from the research can be resolved with confidence. Although older adults'

intentional activities were predicted to positively influence happiness and happiness in turn positively impact on health, and Study Four provided some longitudinal support with the temporal separation of intentional activities and happiness from health, causal pathways cannot be confirmed at this point in time. For example, while the results of this research are consistent with previous research on the relationship between intentional activities and happiness, and supports the prediction that intentional activities positively influence happiness, it is plausible that the direction may be reversed or that the relationship is reciprocal. That is, engaging in intentional activities may increase one's happiness, happier individuals may engage in more intentional activities, or a combination of the two may be the case. Although causality cannot be confirmed at this point, further longitudinal research may help clarify the direction of these relationships. However, this is not likely to be a simple task given that intentional activities can change over time and also given that there are other factors (e.g. significant life events) that may impact on happiness and health.

Changes over Time

Important life events and issues that older adults experience (e.g., retirement, losing loved ones, a significant new health issue) can involve some significant changes and adjustments that may impact on engagement in intentional activities. At this point the research cannot be used to determine how increases, or changes in intentional activities, impact on happiness and other wellbeing outcomes. As such, possible questions for future research to address include: what effect do such events and issues have on the intentional activities older adults engage in; and what effects do changes in levels of these intentional activities have on happiness and other wellbeing outcomes?

Although the research results indicate that intentional activities are associated with wellbeing, and suggest self-concordant and socially-oriented activities may be the most beneficial, further longitudinal research is needed before recommendations can be made regarding the efficacy of engaging in, or taking up more of, these activities. Longitudinal research assessing changes in intentional activities (e.g., engagement increase and decrease, acquisition and loss, types, and reasons), and their effect on wellbeing variables would increase knowledge in this area. In turn, this improved knowledge could then lead to valuable advances in

developing methods to help older adults enhance, or sustain, their wellbeing through such means as intervention programmes that focus on activities that are identified as being the most important.

Implications of Present Findings

Differential Effects of Intentional Activities

The research findings indicate differences in the strengths of associations between different types of intentional activities and wellbeing outcomes, which suggest that some intentional activities may be more beneficial than others. Support for the role of socially-oriented, spiritual, cognitive and goal-related activities, is consistent with previous research on younger adults' intentional happiness-enhancing activities and on older adults' more general leisure activities. In addition to these activities, and as indicated previously, this research also revealed self-concordant work to be another important type of activity. With the limited work conducted thus far on the intentional happiness-enhancing activities in which people choose to engage, I hesitate to draw strong conclusions. However, in terms of practical implications, the results of this research would indicate that educational initiatives should be tailored to identify and promote self-concordant and socially-oriented activities, interests, and goals. With the strongest results identified for self-concordant work, the findings point to the benefits of personally fulfilling activities, and the importance of personal strengths, abilities and values. A practical implication of the research results could be to look at ways to continue with, or identify new, self-concordant work activities (e.g., help individuals identify activities that are best suited to them in terms of fit with their interests and abilities, such as with the use of a strengths inventory).

Consistent with both previous and present research findings is support for a continued focus on socially-oriented activities, but with the caveat that it is not a 'one-size-fits-all' strategy. This is because individuals have different interests, concerns, priorities, circumstances, and abilities; and not all individuals may prefer or enjoy socially-oriented activities. While there is already an awareness of the health promoting value of social engagement (Pond, Stephens, & Alpass, 2010), the results of this research suggest that benefits may also be found for those who prefer more solitary activities. For example, if an individual is not inclined to participate in social activities, then engaging in personally rewarding solitary

activities that fit with interests and abilities, and are challenging but achievable, may be just as beneficial, if not more so.

In comparison to the support for self-concordant and socially-oriented activities, the results pertaining to spiritual and thought-related activities were relatively weak. The findings suggest cognitive strategies may not be as beneficial as popular psychology help books indicate –for this cohort at least. The findings were somewhat inconsistent with those of previous related research, such as Tkach and Lyubomirsky's (2006) finding of religion being one of the strongest predictors of current happiness (for younger adults). The lack of significant associations between spiritual and thought-related activities, and either concurrent or later physical or mental health, were also unexpected given previous findings of relationships between these types of activities and health for older adults, (e.g., Agahi & Parker, 2005; Ellison & Levin, 1998; Koenig, 2000; Lawler-Row & Elliott, 2009; Paillard-Borg, Wang, Winblad, & Fratiglioni, 2009; Schaie, Krause, & Booth, 2004). Possible explanations for the present research findings may relate to the complexity of associations between these activities and wellbeing and health variables, and differences in the specific activities examined in different studies. Bearing in mind the inconsistencies and possible explanations, further research is recommended to help clarify associations and better understand and assess this type of activity.

As was the case with spiritual activities, while goal-focused activity was reported to be one of the strongest predictors of happiness in previous research with younger adults (e.g., Tkach & Lyubomirsky, 2006), in comparison, the results of this research were less definitive. Study One revealed mixed findings regarding goals, with some participants identifying goal-centred activities as happiness-enhancing, while others indicated that long-term goals had either changed considerably or were no longer seen as important in relation to their happiness. Again the possibility of age-related changes in activities was signified. The quantitative results also indicate support for age-related differences with the finding that older respondents reported lower importance and engagement ratings for goals than younger respondents.

Another aspect relating to the importance of goal-focused activities was that while the quantitative results indicate that older adults with higher goal-focused

activity ratings are happier and healthier than those with lower ratings, when considered together, the research results suggest that goals are not as important as self-concordant work and socially-oriented activities are to happiness and health. However, given the mixed findings regarding goal-focused activity and the possibility of age-related differences, more research is recommended to delve deeper into this type of intentional activity, starting with further development of the HAPPI goal items to help identify if particular goal-focused activities are better than others (e.g., personal relationships vs. materialistic; short-term vs. long-term).

Policy and Initiatives

Support for the ability of intentional activities to increase happiness could have promising implications, especially given research findings regarding the flow-on effects of happiness. Research results will contribute to social policy and community service provision by increasing our understanding of the factors that influence well-being among older adults. This research aligns with the current focus on positive aging; with findings likely to contribute to policy and interventions designed to improve people's wellbeing and health. With the influence of intentional activities on wellbeing outcomes, and the directionality of these pathways confirmed, these new understandings can better inform policy and education initiatives that are aimed at the individuals who need them most. Sin and Lyubomirsky (2009) indicated in their review of intervention studies that depressed individuals, and older adults, benefitted the most from positive psychology interventions. However, the review identified only three studies with older adults, and the interventions employed in these studies were limited to mainly cognitive-based exercises. Further research with a wider range of strategies is recommended to confirm the efficacy of intervention programmes to enhance wellbeing for those the programmes are targeted towards (e.g., retirement communities, depressed individuals), before implementing initiatives on a larger scale.

Although there is little information available on older adults' happiness-enhancing activities, such information is important to those working with older adults and is sought after for activity and wellness programmes. With this lack of, and need for, information in this area, I have already been asked to contribute to an international publication by the International Council on Active Aging (see

Appendix G for a copy of the published article). As their vice president of education notes, enhancing older adult happiness underlies the goals of most activity and wellbeing programmes for those in retirement communities and seniors' centres, and the findings of this research can help guide programming in these contexts (P. Ryan, personal communication, January 17, 2011). This said, as this research programme was based on community samples of 55-75 year olds, and given the possibility of age-related differences in intentional happiness-enhancing activities, research into the intentional activities of those over 75 years is recommended to better inform such initiatives.

Conclusion

This research investigated the intentional happiness-enhancing activities of older adults. The results indicated support for Lyubomirsky, Sheldon, and Schkade's (2005) theory that intentional activities are a major determinant of happiness, with older adults' intentional activities found to be significantly related to self-reported happiness. However, they accounted for much less of the variance in happiness than that suggested by the model. The findings of this research have also extended on previous intentional activities research by contributing new information about the associations of older adults intentional activities with various wellbeing and health outcomes. Considered together, the results from this research support the utility of investigating older adults' intentional activities as a determinant of happiness, and indicate that they also benefit health outcomes through enhancing happiness, life satisfaction, and life meaning.

Theoretical and practical implications stemming from this research demonstrate the potential usefulness of the conceptualization of intentional activities in the areas of wellbeing and aging. However, as little research has been conducted on the relationships between intentional happiness-enhancing activities and wellbeing and health among older adults, much is yet to be done. Recommendations to advance research in this area include further development and testing of the HAPPI measure, and sustainable happiness model, and confirmation of the direction of the intentional activity to wellbeing to health pathway. It is hoped that future intentional activities research will provide further information that will help older adults enhance their wellbeing and health.

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Appendix A. Study One Publication

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An Exploration of the Happiness-enhancing Activities Engaged in by Older Adults

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Abstract Although happiness has been found to relate to positive outcomes across a number of areas, there has been little research conducted on how to increase and sustain it. Intentional happiness-enhancing activities have been identified as a promising avenue of inquiry, but again this area is under-researched, particularly in relation to older adults. We address this gap by exploring the happiness-enhancing activities older adults engage in, with a thematic analysis of interview data from 23 adults (56–76 years old). Four main themes—‘other-focused’, ‘personal recreation and interests’, ‘thoughts and attitudes’, and ‘achievement-related’ activities—are identified and discussed, along with ‘spiritual activities’ and ‘self-concordant work’, which were found to span multiple themes. The findings fit with and add to extant research and theory related to enhancing happiness and will be used as the basis for inventory items to be included in the next wave of a major longitudinal study of older adults.

Keywords Subjective well-being · Happiness · Older adults · Activities · Strategies

The social and demographic changes of the aging population currently taking place call for conventional ways of looking at older age to be reconsidered (Hyde et al. 2003). With increases in life expectancy and a rapid increase in the older population due to aging ‘baby boomers’, the ‘face of aging’ is moving away from the once dominant negative, pathogenic view to a more positive, salutogenic one (Moody 2005). The concept of positive or successful aging provides a useful rallying position for enhancing the aging experience in society (Juengst 2005), and draws attention to such areas as well-being (Morrow-Howell et al. 2005) and health promotion as “means of adding life to years and not merely years to life” (Minkler and Fadem 2002, p. 229). As in many parts of the world, the number of adults in New Zealand over 65 years of age is expected to double in the next 25 years, and current estimates suggest they will require some care for 43% of their remaining lives (Statistics New

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Zealand 2004). Strategies to reduce this percentage will benefit all, and, accordingly, it is vitally important to identify the factors that enhance well-being among this growing older population.

In recent years, there has been an increasing interest in research on subjective well-being or happiness, and its propensity to change, which may provide an avenue to improve outcomes for this older population. In addition to being a popular goal, happiness has been found to relate to many positive outcomes, including health, friendship, income, work performance and marriage (see Lyubomirsky et al. 2005a). For example, in their review of cross-sectional, longitudinal and experimental research literature, Lyubomirsky, King, and Diener found happiness to be positively associated with successful outcomes across work, health and love life domains. Happiness was also associated with desirable behaviours, propensities and attributes such as sociability, likeability, pro-social behaviour, positive perceptions of self and others, coping, and creativity. A number of longitudinal studies found that happiness preceded successful outcomes, and that both short-term positive affect and long-term happiness preceded the desirable characteristics and resources. In addition, strong evidence was provided by experimental studies that successful behaviours are caused by short-term positive affect (a distinguishing feature of a happy individual). So, happiness is not only associated with numerous positive outcomes, but has been found to precede many of these outcomes.

Thus, happiness can be beneficial in numerous ways, which has positive implications for society as well as at an individual level, suggesting that happiness promotion is a wise investment in social and public health (Sheldon and Lyubomirsky 2007). Hence, increasing understanding about how people can boost their happiness levels is a worthy aspiration. However, compared to the past focus on ameliorating suffering, comparatively little research attention has been given to this area (Sheldon and Lyubomirsky 2004).

Past research on the determinants of happiness have focused predominantly on genetic inheritance and life circumstances, and the related concepts of a happiness set point and hedonic adaptation, with little room for individual change. Literature regarding genetic influences on happiness is often accompanied by discussion of the notion that happiness levels are more or less 'set'; that although they may fluctuate in relation to different circumstances, as people adapt, their happiness will generally revert back to their genetically determined 'set point' (Sheldon and Lyubomirsky 2004). The set point or range reflects one's temperament and personality (Sheldon and Lyubomirsky 2006a), suggesting that some people are predisposed to be happier than others (Sheldon and Lyubomirsky 2007). Research findings consistently show that well-being has a moderate amount of heritability (Diener et al. 2006). As Diener et al. (1999) conclude in their review of three decades of subjective well-being research, evidence indicates that genes have some influence, although estimates regarding the magnitude of this influence vary considerably. Subjective well-being heritability estimates generally range from around 25% to 55% (Harris et al. 1992; Lykken and Tellegen 1996; Roysamb et al. 2002). At the high end of proposed heritability figures, Lykken and Tellegen (1996) estimate, based on their twin study findings, that the heritability of happiness may be as high as 80%; though 50% is a more widely accepted proportion (Braungart et al. 1992; Tellegen et al. 1988).

Life circumstances have been found to have smaller and less sustainable effects. Estimates of the (overall) influence of life-circumstantial demographic factors range from less than 10% (Andrews and Withey 1974) to around 15% (Diener 1984) of the variance in happiness. More recent research has confirmed the small causal effects of demographic variables (Argyle 1999). Small associations have been found, for example, between subjective well-being and factors such as income, age, education, social status, and marriage; although significant variation exists in the reported associations of some variables (Lyubomirsky et al. 2005a). The literature regarding circumstantial factors frequently includes discussion of the idea of hedonic adaptation (Brickman and Campbell 1971; Frederick and Loewenstein 1999), which proposes that any increases in happiness do not last, as people rapidly adapt to change. So, although one's happiness may increase due to a change in circumstances (e.g., upgrading to a nicer house in a safer neighbourhood), such a change is quickly adapted to, and its effect on well-being diminishes and may even completely disappear (Sheldon and Lyubomirsky 2006a).

The evidence for set point and adaptations to life circumstances that suggest little possibility for change has been challenged, though. For example, Lucas (2007), in his review of large-scale panel studies, concluded that although happiness demonstrates moderate stability over time, significant and enduring changes are not precluded by this stability. Also contrary to the view that happiness cannot be increased, some researchers have reported success in increasing happiness using interventions (e.g., Fordyce 1977, 1983; Seligman et al. 2005; Sheldon and Lyubomirsky 2006b). For example, Fordyce (1977, 1983) instructed students in a program involving 14 'fundamental' happiness techniques (e.g., socialise more, strengthen close relationships, develop positive thinking, get more active). After completing the 6-week course, those instructed in the happiness techniques reported significant happiness level boosts relative to those reached by the control participants. In addition, the vast majority of a subset of students responding to a follow-up questionnaire (received 9–18 months after completing the program) reported sustained increases in happiness (Fordyce 1983). Such findings have contributed to the development of a model which integrates the evidence to date.

The Sustainable Happiness Model

Lyubomirsky et al. (2005b) describe a model of sustainable happiness, which proposes that in addition to genetic set point and circumstantial determinants, 'intentional activities' are a third major determinant of long-term happiness. To identify a quality that is malleable with time (and hence open to meaningful pursuit), but also more long-term than transient or daily happiness, they define chronic happiness level as "a person's characteristic level of happiness during a particular period in his or her life" (p. 115). Consistent with past research regarding genetics, circumstances, and potential happiness-enhancing strategies, their model states that genetic set point accounts for around 50% of the variance in happiness levels, circumstances around 10%, which leaves up to 40% for intentional activity. They describe intentional activities as practices or actions in which one chooses to engage, including a wide variety of thoughts and actions one may engage in on a daily basis.

Lyubomirsky, Sheldon, and Schkade identify behavioural, cognitive and volitional types of activity; though note that fully separating the three is impossible.

Lyubomirsky et al. (2005b) see intentional activities as a promising avenue for increasing long-term happiness levels. Some comparisons can be made between the proposed intentional activity-happiness link and research theory and findings relating older adults' activity engagement and well-being. Activity theory, for example, assumes that the more active a person is, the more satisfied they are likely to be with their life (Estes et al. 2001; Lemon et al. 1972). Whilst this theory focuses on life satisfaction as opposed to happiness per se, there is a general activity to well-being link, and a number of studies have found relationships between the number or frequency of activities engaged in and various well-being outcomes (e.g., Herzog et al. 1998; Lampinen et al. 2006, Lennartsson and Silverstein 2001; Menec 2003).

Activity theory suggests both frequency of engagement and intimacy level (e.g., informal social, formal, solitary) of activities are important (Menec 2003). Frequency of engagement is also referred to in Lyubomirsky et al.'s (2005b) discussion of the importance of timing, a factor they consider important in relation to implementing intentional activities. Lyubomirsky, Sheldon, and Schkade differ, though, in regard to their classification of activities and discussion of factors they consider important to the activity-happiness link. For example, whilst activity theory suggests (re level of intimacy) that informal activity has a higher association with life-satisfaction than formal activity, which in turn has a higher association than solitary activity, Lyubomirsky, Sheldon, and Schkade do not identify such differential effects. They do, however, discuss several factors they consider important, such as the roles of person-activity fit (how much an activity fits one's interests, strengths, and values), effort in initiating and maintaining an activity, and its ability to be varied.

Empirical support is emerging in regard to various facets of the sustainable happiness model (Sheldon and Lyubomirsky 2007). Tkach and Lyubomirsky's (2006) work, for example, explored what activities a sample of undergraduate university students intentionally engaged in to enhance happiness and the relationship of these intentional activities to happiness and personality variables. Factor analysis produced eight activity factors, which were found to account for an additional 16% of the variance in happiness after controlling for personality traits (which accounted for 46%). Their findings support the sustainable happiness model and previous research regarding the contribution of intentional activities and personality variables to happiness levels. Additional research support (e.g., Sheldon et al 2010; Sheldon and Lyubomirsky 2006a, b) suggests that sustainable increases in happiness are possible, and that intentional activities may offer a promising means of achieving them.

So, a body of research supports the idea of a general activity-well-being link, and in addition to this more general work, support emerging for Lyubomirsky et al.'s (2005b) sustainable happiness model includes research with a narrower focus on the intentional activities engaged in to enhance happiness. A limitation of this intentional activities research though concerns the generalisability of findings to date, which is limited given to the relatively homogeneous undergraduate student population from which samples have been drawn. Whilst younger adults' intentional happiness-enhancing activities have been explored, no such work appears to have

been conducted on what older adults do to enhance their happiness. This study aims to address gaps in the literature and contribute to positive psychology and gerontology fields with a qualitative investigation to identify the happiness-enhancing activities that older adults engage in.

Method

Participants

Data were collected through individual semi-structured interviews with 23 participants (14 females, 9 males), aged 56–76 years old. Participants were drawn from those who had volunteered to be interviewed as part of their participation in a longitudinal questionnaire survey. From this sample, introductory letters were sent to individuals located in two regions of New Zealand, including urban and rural settings, who had not previously been contacted about being interviewed in relation to the broader study.

Procedure

Prior approval for the study was obtained from the Massey University Human Ethics Committee. Participants initially received a letter outlining the study (including its aims, nature of participation, use of data, summary of rights) and inviting them to be interviewed. Several days later telephone contact was made and interviews were arranged with those who consented to participate.

Qualitative, semi-structured interviews were conducted to explore the types of activities older adults engage in to increase or maintain their happiness. This approach was deemed the best method for an exploratory investigation such as this, as semi-structured interviews facilitate rapport, greater flexibility of coverage, the possibility of accessing novel areas, and the tendency to produce richer data than more structured approaches (Smith and Osborn 2003). Such an open and flexible approach allowed the tailoring of questions to the position and responses of the participants; and in using a more natural, conversational style, information transpired that may not have through more structured methods.

The interviews were conducted by the first author and took place at a mutually agreed location, with most interviews being held in the participants' homes. Prior to beginning the interviews, participants were given a copy of the study information they had previously received and were asked if they had any questions before proceeding. The interviews initially explored the participants' perceptions of happiness, including its relation to retirement (which was the topic of the larger survey), followed by more specific questions and probes regarding each participant's happiness-enhancing strategies. The interviews ranged in duration from 15 to 70 min, with most lasting around 30–40 min. With the participants' consent, the interviews were audio-recorded and transcribed. On completion of the interviews, participants were offered a small gift as a token of appreciation for their time and involvement. Time was taken to reflect on each interview after its completion, noting activities identified and possible code and

theme ideas as they came to mind, along with possible improvements that could be made in future interviews.

Interviewing continued until saturation, as defined by Morse (1995), was reached (i.e., until it was determined that no new information was forthcoming in terms of identified happiness-relevant activities). The transcribed interviews were proof-read, and a copy was sent to each participant for their inspection prior to analysis.

Analysis

The transcripts were coded, using the software package ATLAS.ti (version 5.2.0) to assist in the coding, sorting and integration of the data. A thematic analysis of the qualitative data was conducted to identify common strategies participants use to increase or maintain their happiness. Thematic analysis is a theoretically flexible and useful qualitative analytic method used for identifying and examining patterns or themes within collected data (Braun and Clarke 2006). This method is able to provide a detailed and rich account of data, and through it key features of data sets can be usefully summarised, similarities and differences highlighted, and unforeseen insights generated (Braun and Clarke). Analysis included several waves of rereading, coding (sometimes recoding) transcript excerpts, and grouping codes; with theme names and descriptions developed and reworked and rearranged until a satisfactory grouping of themes and codes was achieved.

Findings

Four common themes or groupings of activities were identified from the analysis of the interviews: ‘other-focused’; ‘personal recreation and interests’; ‘thoughts and attitudes’; and ‘achievement’. The themes and sub-themes are listed in Table 1. In addition to these, two further types of activities, ‘self-concordant work’ and ‘spiritual

Table 1 Activity themes and sub-themes

Other-Focused
Time with significant others
Meeting others
Helping others
Personal Recreation & Interests
Pursuing hobbies
Entertainment & relaxation
External engagement
Thoughts & Attitudes
Giving thanks
Constructive thinking
Achievement-Related
Small achievements
Longer-term goal progress

activities', were identified which appeared to span multiple themes. The main themes will be described first.

Other-focused Activities

The first major theme includes activities which involve, and indeed are largely focused on, other people. This theme was further broken into three subthemes: 'time with significant others', 'meeting others', and 'helping others'. Spending time with significant others was the most frequent activity mentioned, with significant others largely comprising family and close friends. Here the focus was not on the type of activity but on time communicating with or simply 'being' with significant others. Examples included talking on the phone to relatives and/or friends, spending quality time with their partner, and watching or looking after grandchildren. The importance of family in particular came up often throughout the interviews. Indicative comments include:

Just being able to do things together I guess. Being able to see our children and grandchildren.

Doing things with them, seeing my family, my brothers and sisters when we do gather for family functions, I always love meeting up with them again, its just great. I am pretty family orientated.

The second subtheme, 'meeting others', described activities relating to socialising with others, particularly those with whom they shared some 'common thread'. This generally involved friends and interest groups (e.g., book group, wine tasting group, golf club, church groups). Common remarks included:

Getting out of the house and meeting people, ... socialise in some way, that to me is very important.

It comes back to people, we enjoy people and we welcome any opportunities to mix with people.

You meet a lot of diverse people, they're all different walks of life and all age groups, so you have a sort of a common thread.

A third subtheme, 'helping others' describes participants' experiences of voluntary work. Participants identified activities such as: meals on wheels, foodbank, CAB, and community-based church groups; helping family also featured quite strongly with some participants. The essence of this type of activity was expressed by one participant as:

in some way, shape, or form to be doing something that makes a contribution of some kind, whether it's to a particular group that anyone might be a member of, or whether it's to the wellbeing of people in general, or.. you know just supporting your favourite charity or whatever, but that sense of making some contribution I think undergirds a lot of happiness stuff for people

Personal Recreation and Interests

The second major theme concerned participant reports of personally fulfilling activities, which included the subthemes of ‘pursuing hobbies’, ‘entertainment and relaxation’, and ‘external engagement’. The hobbies identified were often creative pursuits, involving some degree of skill, passion and applied effort, and generally resulting in some kind of physical output. They included cooking, gardening, woodwork, painting, sewing and writing. As one participant summarised:

It’s all to do with creativity, it’s weird but it’s true and that really gives me a buzz, I love it. I don’t need to show other people, I just love to do it for me, I love it.

Gardening in particular was identified as important to many, with indicative comments including:

I just love planting things, I like looking at nice things... I like getting my hands in the garden, in the soil.

I enjoy it, it gives me peace, it’s a good... it’s just a nice peaceful place to be, out in the garden... you finish and you sit down and you look over and think that was a good day, yeah.

In comparison to hobbies, entertainment and relaxation activities generally had less physical involvement; were more low-key and often centred on audio and/or visual senses and activities. Examples included following sports, watching movies, and reading. These activities appeared to be just as important to some participants as more physically active ones were to others, as exemplified by the following comments:

Sport, I like my football, but in the summertime I always go down to watch the soccer down at the Arena, I always watch it every weekend and never miss,.. every weekend on the television.

I just keep the radio on all the time, I have to have a radio, that’s without a shadow of a doubt. ..I love, surf the sports and national station and finish up listening to the easy listening on the coast there, whatever takes my fancy at the time, that keeps me going day to day.

Always reading as well, that would probably be the one pursuit that has given me happiness that has followed me all the way through.

The third subtheme, ‘external engagement’ involved getting out and about, away from the house and engaging in the world outside. Walking was a commonly identified activity, with other examples of physical exercise including going to the gym and golf. Short trips to various places and trying new experiences (e.g., bungy-jumping, ballooning) were other examples of external engagement. An interesting point was made in relation to novel experiences:

Well we both do get a kick out of doing something new that we haven’t done before and as you get older, it gets quite hard you know to do something you haven’t done before.

Thoughts and Attitudes

The third major theme concerned participant reports of thought-centred activities, which were further broken into ‘giving thanks’ and ‘constructive thinking’. Giving thanks or counting one’s blessings centred on reflection of and gratitude for past and present situations, circumstances and experiences. As participants said:

It’s been almost a daily part of our lives is to give thanks for life itself and for just the good things, the daily blessings I suppose you would call it.

I guess the key underlying thing is that somewhere in there, is a sense of thankfulness, I think that’s a key somewhere.

Gratitude was not just reserved for the good experiences though. As one participant described:

I am grateful that every—as I say, every vicissitude of life that’s caused me stress,.. that helps turn you into the person that you are, so if I—now it would seem that I live on mountain tops all the time saying wow, wow, wow isn’t life wonderful, isn’t everything lovely,.. that wouldn’t mean anything if I hadn’t been down in the valleys

Constructive or positive thinking centred on dismissing the negative and framing things more positively. This outlook was often identified as a ‘learnt’ way of viewing things, which required effort to develop and maintain. Indicative comments include:

Learning to find—learning to look for I guess the hidden gift in what appears to be, well disaster, challenge, tragedy, whatever it might be, what’s the hidden gift, what’s the opportunity that’s in there, what might be grown out of this? I think it’s that kind of attitude all around that for me is the biggest change from the kind of person I used to be.

being positive with yourself, being positive and being very accepting of other people would be one of my things, you know.. and life is, they say life is short, but in reality life is more precious you know, you just grab those while you can. Just get on with life and just take each day as it comes. Be thankful for small mercies. Lots and lots of good things. Thinking good things all the time really

Achievement-related Activities

The fourth major theme was further broken into ‘small achievements’ and ‘longer-term goal progress’. The smaller, short-term achievements often involved simple daily goals, such as making the most of each day, meeting small self-made targets (e.g., exercise, work), and short trips away. Examples of these included:

My goal would be to live each day well.. yeah, I know that sounds trite, but it’s just the simple things, like the joy out of an old friend ringing up

Do something that turns a dollar, or do something that is a mental or physical challenge.

Short-term goals revolve once again around my family, its sort of doing things with them ... so we plan something for the holidays and it's usually a trip away from home for 2 or 3 days.

Longer-term goal progress on the other hand related to progress and attainment of larger, more future-oriented goals, and generally involved goals relating to personal aspirations, work/retirement, property (e.g., building or moving to a smaller place), travel and family (e.g., visiting family overseas). As one participant commented regarding the relationship between goals and happiness:

They give us something to plan and look forward to.

Personal goals identified included improving some skill (e.g., golf, computer, painting), and completing personal long-term projects (e.g., study, writing projects). In regard to work goals, for those still working, retirement was often mentioned either in terms of plans for scaling down the amount of time working, stopping altogether, or wanting to stay working until a certain age—depending on how participants felt about their present work situation. As one participant put it:

I just want to keep working until I'm 70, that's my ambitionI enjoy it and it gets me out of the house, it gives me something else to think about.

Although a number of long-term goals were identified by participants, the changing nature and importance of long-term goals was also apparent, with such goals often identified as having been achieved already or not important anymore in relation to happiness. Indicative comments were:

I used to have heaps of goals,.. but as you get older your goals become good health.. and being happy really, not materialistic goals, not really.

I've probably achieved all the goals that I'm really interested in.

Spanning Multiple Themes

Further to the four main themes identified, two kinds of activities appeared to span multiple themes, namely: 'spiritual activities' and 'self-concordant work'.

Spiritual activities Spiritual activities included activities such as praying, going to church services, and participating in other faith-related groups and activities. These kinds of activities related to all the other-focused and thoughts and attitudes sub-themes, as well as personal recreation and interests, and achievement. Examples of comments which related spiritual activities to each of these sub-themes include:

Well I would have to say being part of the church for us brings us tremendous happiness. We enjoy going to services, we enjoy being part of a big group, we

enjoy worshipping God,.. it's something we have done since we were teenagers, its part of our life. We enjoy the company and the fellowship of others who think similarly to us. We enjoy the social life that that brings and just getting alongside people who are going through stuff. (other-focused)

I work out what I can change and what I can't change and most of the things I care about I can't change... so I've learned to let go and because I believe in God, I just place it all in his hands. (thoughts and attitudes)

You get out there and you are with nature. I start talking to the plants, outside,.. and I start talking to God,.. it might sound silly but it is one place that I have found him. (recreation and interests)

There's theological reflection involved, there's personal journey involved, there's all sorts of things involved, it feels like a very big challenge... Well I mean in terms of my own spirituality and understanding, which is core to my own happiness. (achievement)

The pervasiveness of this kind of activity is summarised by this participant's statement:

My spirituality and the church comes into everything,.. it's not separate, it's built in

Self-concordant work Self-concordant work also appeared to span multiple themes, though to a lesser extent than spiritual activities. Self-concordant work refers to work that 'fits' a person, often combining one's interests and skills; work that they really enjoy and find rewarding and important to them. A high degree of autonomy featured quite strongly, with the majority of the participants discussing such work as being self-employed or largely their 'own boss'. Examples of the types of occupations identified include farmer, builder, real-estate agent, writer, hospice worker.

For some, other people were identified as playing an important part in their work life (e.g., working with people they enjoy being around, helping others), while others preferred solo activities. Self-concordant work was mostly tied up with interests, other-focused activities, and achievement related activities. The following comments are illustrative of those made regarding this type of activity:

My work is very important; I really enjoy what I do

I always wanted to be a farmer and I'm still... it's just, just something about it, you know.. Yeah. I've been doing it since I was about 12, but it's still, it's just.. Yeah, just so rewarding.

I feel good about doing it, I feel good that we are able to give them some normalisation in what's left of their life. So that's important to me too, and I have ...a good feeling about doing what I do at work. Its good, and I work with a really good team, which makes it that much better.

I didn't want to go back to an office, I wanted to be able to write somehow and use that somehow to create an income and a life. So essentially I am doing what I aspired to.

Discussion

The purpose of this study was to explore the happiness-enhancing activities of older adults. Four main themes were identified: 'other-focused', 'personal recreation and interests', 'thoughts and attitudes', and 'achievement'. In addition, 'spiritual activities' and 'self-concordant work' were found to span multiple themes. The findings fit with, and add to, extant research literature and theory related to enhancing happiness. Participants identified and discussed a number of different intentional strategies they employed to increase their happiness, which supports Lyubomirsky et al.'s (2005b) theory regarding the potential impact intentional activities may have on one's happiness. Furthermore, the types of activities identified in this study generally fit within the behavioural, cognitive, and volitional activity categories identified by Lyubomirsky, Sheldon, and Schkade; namely, thoughts and attitudes fit with cognitive activity, achievement-related activities relate to volitional activity, and most other-focused activities and personal recreation and interests would likely fit under behavioural activity. Depending on the specific activity, self concordant work and spiritual activities would again seem to fit into multiple categories. The lack of definition or clear differentiation of the three categories identified by Lyubomirsky, Sheldon, and Schkade, however, makes categorization of some types of activity difficult. The present findings point to ways in which the conceptual categories may be developed and clarified.

Although not the focus of this study, several factors Lyubomirsky et al. (2005b) identified as important in regard to implementing happiness-enhancing activities were often alluded to by participants in relation to particular activities. For example, personal interests and self-concordant work in particular seem to fit with Lyubomirsky, Sheldon, and Schkade's notion of person-activity fit. Also consistent with this notion, it was apparent that most participants had particular activities that seemed to 'fit' them more, as suggested by words such as 'love' and 'very important' often featuring in relation to such activities, as well as the increased enthusiasm and time spent talking about them.

This notion of person-activity fit may also point to a possible explanation for mixed findings in previous research regarding the relationship between more solitary activities and measures of subjective well-being. While some studies have found a significant association between solitary activities and well-being (e.g., Beck and Page 1988; Menec 2003), others have not (e.g., Litwin 2000; Longino and Kart 1982). It may be that some people find a better 'fit' with particular solitary activities, whilst others prefer more social activities, with the differences within samples providing a plausible explanation for the mixed results. So this suggests it may be the fit with the person, rather than the type or intimacy level of activity (e.g., informal, formal, solitary) that is more important. Bearing this in mind, more attention to this concept of person-activity fit in future research is warranted.

A number of the activities reported in previous, more general research on older adults' activity engagement (e.g., Lennartsson and Silverstein 2001; Menec 2003) show similarities to some of the happiness-enhancing activities identified in the present study. For example, the sub-themes of time with significant others, meeting others, entertainment, and pursuing hobbies identified in this study encompass activities such as several of those reported by Menec (e.g., visited family or relatives, social groups, sports or games, handwork hobbies) and by Lennartsson and Silverstein (e.g., visit friends, read books, work in garden). Understandably though, differences also exist, likely due at least in part to the different focus of the studies (general activity engagement vs more focused intentional happiness-enhancing activities), and the generally older samples involved in previous broader studies.

Turning from comparisons with broader studies of activity engagement to those relating specifically to happiness-enhancing activities, a number of similarities can be seen. For example, some of the themes identified correspond with several of the fundamental happiness techniques noted by Fordyce (1983) to be reported as the most helpful in relation to increasing happiness, namely: spend more time socialising, stop worrying, and develop positive, optimistic thinking. Similarities can also be seen with activities employed in some intervention studies. For example, Lyubomirsky et al. (2005b) report studies in which increases in happiness were found to be associated with the activities of 'counting one's blessings' and 'performing random acts of kindness'—activities that fit with this study's identified subthemes of giving thanks and helping others.

Several similarities were also found between some of the themes identified here and several of the general happiness-enhancing strategies extracted by Tkach and Lyubomirsky's (2006) factor analysis. For example, their factors labelled social affiliation, active and passive leisure, religion, and goal pursuit show similarities to the other-focused, recreation and interests, spirituality, and achievement-related activities (respectively) identified in this study. Also, support for the importance of spiritual activities comes from Tkach and Lyubomirsky's finding that religion was one of the strongest unique predictors of current happiness.

On the subject of spirituality, the finding that spiritual activities spanned multiple themes points to the multifaceted nature of spirituality. This is worth bearing in mind for future research, particularly given the positive relationship between well-being and different measures of spirituality, which some studies have found to be more robust among older people (Moreira-Almeida et al. 2006). Unfortunately though, spirituality is often measured with only one or two items (e.g., religious affiliation, church attendance), and thus only taps limited aspects of this construct. Only measuring religious affiliation, for example, tells us little about what spirituality or religiosity is, or about its importance in an individual's life (Moreira-Almeida et al.). Given these limitations, more attention to better understanding and assessing this complex and possibly underestimated factor may prove fruitful. An exploration of how people view spirituality and its relation to well-being, for example, may help shed more light on this multifaceted construct.

Although a number of similarities with previous research are evident, some disparities were also identified. For example, the importance of family stood out from the interviews, though previous research on intentional activities involving primarily younger, student samples did not identify family as important. This difference points to possible age-related changes or differences in sources of

happiness (i.e., family may become more important to happiness as one gets older). Although not evident in research conducted with younger samples, support for the importance of family to older adults comes from related research involving older samples (e.g., Menec 2003; Weiner et al. 2001). For example, in Weiner et al.'s content analysis of (33–77 year old) physicians' wellness promotion practices, "being involved in and spending time with family" (p.21) was included under the 'relationships' theme, which was one of the five main categories of wellness promotion practices identified.

Possible age-related changes may also relate to the mixed opinions regarding goals. Although 'instrumental goal pursuit' was reported by Tkach and Lyubomirsky (2006) to be "one of the most effective strategies" (p.211) for their young student sample, several participants in the present study of older adults pointed out that long-term goals had either changed considerably or were no longer considered important in relation to their happiness. However, given that the nature of this study prevents generalisability of the findings, further testing of the importance of goals with a larger representative sample should shed more light on this area.

In summary, with a diverse range of happiness-enhancing activities identified, the findings of this study have contributed new information about the intentional activities older adults engage in. The present exploration has indicated support for Lyubomirsky et al.'s (2005b) theory and the activities identified have shown a number of similarities with previous studies. At the same time, some differences to previous intentional activities research involving younger samples have also been identified, suggesting the possibility of age-related differences or changes in sources of happiness, and suggestions for further research have been made. To answer questions regarding the prevalence of engagement in these activities and their influence on happiness and other well-being outcomes, the identified strategies will be used as the basis for inventory items for future questionnaire surveys.

Support for the ability of intentional activities to increase happiness could have promising implications, especially given research findings regarding the flow-on effects of happiness. Research results will contribute to social policy and community service provision by increasing our understanding of the factors that influence well-being among older adults. This research aligns with the current focus on positive ageing, with findings likely to contribute to policy and interventions designed to improve people's mental and physical health.

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Appendix B. Study Two Publication

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RESEARCH PAPER

The Happiness-Enhancing Activities and Positive Practices Inventory (HAPPI): Development and Validation

Annette Henricksen · Christine Stephens


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Abstract Whilst research indicates that happiness-enhancing activities can boost happiness, the measurement of intentional happiness-enhancing activities has thus far been inadequate. This paper describes the development and initial empirical testing of the Happiness-enhancing Activities and Positive Practices Inventory (HAPPI), a self-report inventory designed to measure older adults' happiness-enhancing activities. An exploratory factor analysis of the HAPPI responses from a population sample of 2,313 older adults identified four factors: self-concordant work, personal recreation and people, spiritual and thought-related, and goal-focused activities. Results demonstrated evidence of reliability, convergent and discriminant validity and support for the predictive utility of the HAPPI. The subscales derived from the factor analysis correlated as expected with measures of subjective well-being and other relevant measures, and showed moderately high subscale intercorrelations and satisfactory internal consistency. The results provide a basis for continuing to develop and clarify the types of intentional activities people engage in. Differences between our results and studies with younger adults are discussed, including possible age-related differences in the types of happiness-enhancing activities engaged in and the potential influence of these activities on happiness. The HAPPI is a relatively brief, easily administered inventory that shows promise as a useful tool for the measurement of happiness-enhancing activities and can be employed to follow cohorts to determine which domains demonstrate the greatest contribution to happiness and other well-being outcomes, which have implications for social policy, education and intervention programmes to enhance well-being.

Keywords Happiness · Subjective well-being · Intentional activities · Strategies · Older adults · Activity

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1 Introduction

Happiness relates to positive outcomes across a number of areas, including health, relationships, work performance and income (for a review see Lyubomirsky et al. 2005a). For example, in their review of cross-sectional, longitudinal and experimental research literature, Lyubomirsky et al. (2005a) found happiness to be positively associated with desirable behaviours and attributes such as sociability, likeability, pro-social behaviour, positive perceptions of self and others, coping, and creativity. Longitudinal studies demonstrated that happiness preceded these successful outcomes. In addition, experimental studies provided strong evidence to support the prediction that a range of behaviours paralleling success are caused by short-term positive affect (a distinguishing feature of a happy individual). Accordingly, enhancing happiness levels is a goal worthy of pursuit.

Happiness is a widely used term that has been conceptualised in a number of ways and at times used interchangeably with several other terms (e.g., subjective wellbeing, well-being, positive affect) in the positive psychology literature. Different meanings ascribed to, and associations made between happiness and related terms illustrate the ambiguities encountered in conceptualising this construct. For example, happiness has been indicated in some publications as an aspect of subjective wellbeing (along with life satisfaction and affect balance; e.g., Keyes 2006; Keyes and Magyar-Moe 2003), in others subjective wellbeing has been identified as a hedonic component of happiness (e.g., Delle Fave et al. 2011), and in yet others the two terms have been indicated as synonyms (e.g., Diener and Diener 1996; Vella-Brodrick et al. 2009; Linley and Joseph 2004). In contrast to narrower hedonic conceptions relating to short-term feelings, the view of happiness taken in this paper aligns with broader conceptualisations (e.g., Delle Fave et al. 2011; Waterman et al. 2008) that include eudaimonic (relating to behaviour in line with fulfilling one's unique potential; Waterman 1984, 1993) as well as hedonic components; with these components stemming from contrasting philosophical traditions often referred to in the positive psychology literature (e.g., Delle Fave et al. 2011; Peterson et al. 2005; Waterman 1993; Ryan and Deci 2001).

Inconsistencies regarding the association of happiness and wellbeing present another example of definitional differences, with happiness indicated as synonymous with wellbeing in some publications, but as a component of wellbeing in others (e.g., Delle Fave et al. 2011). Also in line with recent depictions in the literature (e.g., Delle Fave et al. 2011; Seligman 2011), happiness is viewed here as coming under a broader wellbeing construct.

A central focus of happiness research to date has been on determinants of happiness, with much of the past work in this area centred on genetics and circumstances. Estimates of the influence of life-circumstances range from less than 10% (Andrews and Withey 1976) to around 15% (Diener 1984) of the variance in happiness. Small associations have been found between happiness and factors such as income, age, education, social status, and marriage (Lyubomirsky et al. 2005a). As far as genetics are concerned, estimates of heritability vary widely, though around 50% is a generally accepted proportion (Braungart et al. 1992; Tellegen et al. 1988).

Alongside the literature regarding circumstantial and genetic determinants there has been discussion of the idea of hedonic adaptation (Brickman and Campbell 1971; Frederick and Loewenstein 1999) which proposes that any increases in happiness do not last as people rapidly adapt to change. So, although happiness may increase due to a change in circumstances (e.g., upgrading to better accommodation in a safer neighbourhood), as people adapt to the change the effect of that change on well-being soon diminishes, and

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happiness will generally revert back to its genetically determined ‘set point’ (Sheldon and Lyubomirsky 2006a, 2004). However, evidence also exists that challenges theories of adaptation to almost any life event and fluctuations around a rarely changing set point. Lucas (2007) concludes in his review of large-scale panel studies that although happiness demonstrates moderate stability over time, significant and enduring changes are not precluded by this stability. In line with this, he reports evidence supporting the notion that lasting changes in long-term happiness may be possible. In addition to research findings regarding the impact of life events, further evidence in support of the concept of enduring happiness change comes from interventions to increase happiness (Fordyce 1983, 1977; Seligman et al. 2005; Sheldon and Lyubomirsky 2006b). Results from these intervention studies have shown sustained increases in happiness.

To integrate these perspectives, Lyubomirsky et al. (2005b) have proposed a sustainable happiness model. Lyubomirsky et al. (2005b) define *chronic happiness level* as “a person’s characteristic level of happiness during a particular period in his or her life” (p. 115). They propose that in addition to genetic set point and circumstantial determinants, ‘intentional activities’ are a third major determinant of long-term (or chronic) happiness level. Consistent with past research, this model includes a genetic set point accounting for around 50% of the variance in happiness levels, circumstances for around 10%, which leaves up to 40% of the variance in happiness to be accounted for by intentional activities.

Lyubomirsky et al. (2005b) consider intentional activities to be the most promising avenue for sustainably increasing happiness (i.e., enhancing happiness and maintaining the gain). They describe intentional activities as “discrete actions or practices in which people can choose to engage” (p. 118), although this choice may have become habitual. They also assume that a degree of effort is required in enacting intentional activities (i.e., one must purposefully perform the activity). Intentional activities are engaged in with the intention of enhancing happiness, and the sustainable happiness model predicts that these intentions impact on the efficacy of the activities (Lyubomirsky et al. 2011). This conception of intentional activity includes a wide variety of thoughts and actions that people may engage in. Lyubomirsky et al. (2005b) give examples of three types of activity: behavioural (e.g., exercising), cognitive (e.g., counting your blessings) and volitional (e.g., pursuing personal goals), and identify relevant research to support the positive effects of each.

Empirical support for the sustainable happiness model is emerging. For example, Tkach and Lyubomirsky (2006) studied 500 undergraduate students’ ratings for frequency of engagement in 66 happiness-enhancing strategies (those most frequently listed in a pilot study). Factor analysis extracted eight broad factors (Social Affiliation, Partying and Clubbing, Mental Control, Instrumental Goal Pursuit, Passive Leisure, Active Leisure, Religion, and Direct Attempts) which point to different types of intentional activities. Multiple regression analyses found these strategies to account for a sizeable 52% of the variance in reported happiness levels. This was more than that accounted for by ‘the Big Five’ personality traits (46%), with activities continuing to account for 16% of the variance after the contribution of personality was controlled for. This research supports the model’s inclusion of intentional activities as an important determinant of happiness, as well as being consistent with previous research regarding the influence of personality variables.

Support has also been reported for the role of several factors identified by Lyubomirsky et al. (2005b) in implementing happiness-enhancing activities. These include person-activity fit (how much an activity fits one’s interests, strengths, and values), effort in initiating and maintaining an activity, regularly initiating the activity, attending to optimal timing of the activity, and varying the way the activity is engaged in. For example, ‘counting one’s blessings’ once a week was found to be associated with increases in

well-being, although doing so three times a week was not (Lyubomirsky et al. 2005b). In addition to the role of timing, findings related to the roles of engagement and person-activity fit have also been reported, as in Sheldon and Lyubomirsky's (2006b) intervention study, in which 67 students were randomly assigned to either cultivate a sense of gratitude, think about their 'best possible selves', or pay attention to life details (control condition) over a 4-week period. Person-activity fit predicted performance of (i.e., effort engaging in) the activities, with continued performance in turn predicting more positive mood. Another finding, that the visualisation exercise yielded greater benefits than the gratitude exercise, supports the idea that certain activities may be inherently better than others in regard to their potential influence on happiness levels.

However, work to date has been undertaken by a limited group of researchers and also has some important limitations including the generaliseability and theoretical basis of the evidence to date. Generaliseability of the findings is limited by the use of student samples so that a number of the reported strategies in this research are oriented to student life (e.g., try to do well academically, go out to clubs/bars, study). Although, as Tkach and Lyubomirsky (2006) note, specific strategies are likely to differ for different sectors of the population, they expect that the general strategies would resemble a similar form; a prediction further research is required to substantiate. In regard to the definition of these forms, the distinction of behavioural, cognitive, and volitional activity identified by Lyubomirsky et al. (2005b) is also an empirical distinction that requires theoretical development. Although examples of each type are provided, these authors fail to provide any clear explanations of these three types of intentional activity.

1.1 A Measure of Intentional Activities for Older People

Governmental policy makers and public health services are increasingly concerned about the ageing population in many countries. Increasing life expectancy and declining fertility rates are resulting in an ageing population, with "baby boomers" reaching 65 years set to accelerate the trend (Anderson and Hussey 2000). Population projections indicate the proportion of the global population over 60 years of age will double over the next 40 years, from 11% in 2010 to 22% in 2050 (Lutz et al. 2008). According to estimates, among industrialized countries approximately one-third to one-half of the total spent on health care goes on those over 65 years old (Anderson and Hussey 2000). The potential burden on public health and welfare systems of population ageing will likely continue to draw increased political, scientific and public concern over the coming years (Lutz et al. 1997). A positive approach to ageing has already been adopted as social policy in many Western countries as a response to these concerns regarding the ageing population.

Studies of the health and well-being of older people have become increasingly important in order to inform this social policy and planning. There are presently many calls to shift the focus of this research from the once dominant negative pathogenic view to a more positive salutogenic one (e.g., Hyde et al. 2003; Moody 2005). The promotion of happiness is an important aspect of a positive ageing focus and the concept of 'intentional activities' provides a promising approach to understanding well being in this way. Because the research to date has not included older people, additional development and testing of the sustainable happiness model is required. To begin this research, the first requirement is an instrument to assess older adults' intentional happiness-enhancing activities. This paper describes the development and validation testing of a measure of the intentional activities that older adults engage into enhance their happiness.

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1.2 Item Development

1.2.1 *Qualitative Study of Older Adults' Intentional Activities*

A qualitative study was conducted to develop the conceptual categories of intentional activities proposed by Lyubomirsky et al. (2005b) and to explore the specific strategies used by older people (see Henricksen and Stephens 2010 for details). Thematic analysis of interviews (regarding the activities purposefully engaged into enhance happiness) with 23 adults aged between 56 and 76 years, resulted in the identification of four types of activities: 'other-focused', 'personal recreation and interests', 'thoughts and attitudes', and 'achievement'. In addition, 'self-concordant work' and 'spiritual activities' were found to span multiple activity types. This qualitative study formed the basis for the development of inventory items. Item generation included examining the themes and codes identified in the data, and using the participants' words to develop a set of 24 items which captured the essence and breadth of activities identified.

1.2.2 *Content Validity of Developed Items*

A content validity exercise was conducted as a first test of the construct validity of the items. It involved presenting an 'expert' panel (comprising 12 psychology academics and doctoral students) with background information including an outline of the sustainable happiness model and our interest in the intentional happiness-enhancing activities engaged in by older adults, along with the 24 items. Participant feedback helped identify problematic items, which were re-examined, altered to remove any ambiguous statements, and a final grouped set chosen for the pilot study.

1.3 Pilot Study

The resulting set of 24 items was pilot tested on a convenience sample (using a snowball sampling technique) of 60 adults with a mean age of 64 years ($SD = 8.6$, range = 48–82). The item responses were designed to tap different aspects of each activity: person-activity fit was assessed as the *importance* of the activity for enhancing happiness, and effort and timing were assessed by *how often* participants engage in each activity. Participants were also asked to indicate how satisfied or dissatisfied they were with the amount of time spent on important activities. There were two broad aims of this study:

1. *To test two response formats.* The sample was split with one type of response format tested on each half.
 - a. Two sets of scales were employed in the first format. Importance of the activity for enhancing happiness was rated on a 4-point scale anchored on the ends by 'extremely important' and 'not important at all'. Frequency of engagement was rated on a 6-point scale, anchored at 'daily or more often' and 'never or not applicable'. Instructions were to rate each activity on frequency of engagement in the activity and importance of the activity for enhancing happiness. In addition, a single item rating 'satisfaction with time spent on the activities you consider important for your happiness' used a 7-point scale response (anchored by 'extremely satisfied' and 'extremely unsatisfied').
 - b. The second format requested scores in each of three columns (labelled importance, frequency and satisfaction) with the same scale scores for each dimension as the first

format. Unlike the first format, this format requested satisfaction ratings for each activity.

Participants responded more favourably to the first format (which was found easier to follow). Also, there was no significant difference between the scores on the single item rating satisfaction and the mean of the itemised satisfaction responses for both groups. Accordingly the first format was chosen.

2. *To test face validity.* For both formats, in addition to responding to each item, ratings were also requested regarding ease of understanding the instructions, completing the questionnaire, following the response format, and understanding the item content. Space was also provided for participants to suggest additional items and to make comments. Data analysis and participant comments were used to test face validity and item wording to ensure comprehensibility and usability.

Based on the analysis of this feedback, three items were removed owing to redundancy (i.e., the best option of two similar items was retained), leaving 21 of the 24 piloted items retained. Also based on participant feedback, another item ('Doing something you find amusing') was added, providing 22 items. This paper describes the further development and validation of this Happiness-enhancing Activities and Positive Practices Inventory (HAPPI).

2 Methods

2.1 Participants

The revised inventory was included in the second data collection wave of a longitudinal 'Health, Work and Retirement' study involving a population sample of 3,200 New Zealand adults aged 55–73 years (see <http://hwr.massey.ac.nz> for further information). Institutionalized (prison, nursing home, dependent care) individuals were not included in the survey population. Although 2495 (78% return rate) returned questionnaires, 182 had 50% or more missing responses over the variables of interest in this study and were excluded from further analyses. The remaining 2,313 participants were 55–73 years of age, with a mean age of 63.2 years (SD = 4.6). This sample comprised 55.1% New Zealanders of European descent, 41.3% New Zealanders of Māori descent and 3.6% 'other' ethnicities. With Māori comprising only 7% of the target age group population (Statistics New Zealand 2009a), coupled with estimated attrition rates (see Towers 2007), this key indigenous ethnic minority was oversampled to maximize participant recruitment, and allow a better representation of this population.

In comparison with estimates within the 55–70 year old age range taken from 2006 census population statistics (Statistics New Zealand 2009b), the gender split of the sample (53% females) was similar (51% females). In regard to education levels, a higher proportion of the sample (44%) reported no secondary school qualification (32%); however, there were also a higher proportion of tertiary qualifications reported in the sample (29% vs. 20%). So, while a greater proportion of the sample reported higher qualification levels than the general population, individuals with no formal qualifications were also well represented.

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2.2 Measures

Intentional Activities The Happiness-enhancing Activities and Positive Practices Inventory (HAPPI) comprises 22-items that assess the importance and engagement of various happiness-enhancing activities. Items are designed to assess activities in six categories: ‘Other-focused’ (speaking to or doing something with family, speaking to or doing something with good friends, spending quality time with your partner, meeting with others who share something in common, spending time helping others); ‘Personal recreation and interests’ (spending time on hobbies or interests, spending quality time alone doing your own thing, doing something you find amusing, going on trips, going on outings, spending time with a pet/animal, exercising or doing some other form of physical activity); ‘Thoughts and attitudes’ (counting your blessings, framing things in a more positive light); ‘Achievement’ (working on something you get a sense of achievement from, doing something you find mentally challenging, devoting effort to a work goal, working towards achieving a property goal, devoting time to an important personal goal); ‘Spiritual’ (spiritual activities e.g., praying, meditating, worshipping); ‘Self-concordant work’ (doing something that uses your particular strengths and skills, working in a role that you enjoy). To reduce participant burden while covering the range of possible activities, some items included examples of more specific kinds of activities (see “Appendix” for details).

Items were rated on how important each was considered for enhancing happiness and on frequency of engagement. Importance was measured using a five-point scale anchored at ‘not important at all’ and ‘extremely important’, and engagement in each activity was employed as an ordinal weighting variable (0 = never; 4 = daily or more often). Importance and engagement scores for each item were multiplied to form composite scores (0–20), with higher scores representing higher importance and engagement ratings for the corresponding activity. This scoring method is based on evidence which suggests that both person-activity fit and effort engaging in activities are important aspects of the activity-happiness relationship (e.g., Lyubomirsky et al. 2005b; Sheldon and Lyubomirsky 2006b).

Happiness was assessed with a shortened (two item) version of Lyubomirsky and Lepper’s (1999) measure of subjective happiness, which asked respondents to rate their happiness in general, and in comparison to most their peers. Each item was assessed on a seven-point scale and the two scores were averaged to form a composite score. Higher scores reflected higher self-assessments of happiness ($M = 5.71$, $SD = 1.18$, $\alpha = .86$).

Quality of life (QOL) was assessed with a single item (‘How would you rate your quality of life?’) from the World Health Organization Quality of Life (WHOQOL)-BREF (World Health Organization 2004), with a five-point response scale anchored at ‘very poor’ and ‘very good’ ($M = 4.28$, $SD = .76$).

Life satisfaction was assessed with a single item (‘How satisfied are you with your life at present?’), using a five-point response scale anchored at ‘very dissatisfied’ and ‘very satisfied’ ($M = 4.17$, $SD = .85$).

Life meaning was assessed with a single item (‘To what extent do you feel your life to be meaningful’) from the WHOQOL-BREF (World Health Organization 2004), using a five-point response scale anchored at ‘not at all’ and ‘an extreme amount’ ($M = 3.95$, $SD = .78$).

In addition to the HAPPI and general measures of subjective well-being, the following were used to assess convergent and discriminant validity of the HAPPI subscales:

Job satisfaction was assessed with Brayfield and Rothe’s (1951) 18 item Job Satisfaction Index. Items were rated on five-point scales anchored at ‘strongly agree’ and

‘strongly disagree’. Eight items were reverse-scored before summing scores, with higher scores representing higher job satisfaction ($M = 67.58$, $SD = 8.96$, $\alpha = .89$).

Satisfaction with social relationships was assessed with the social relationships subscale of the WHOQOL-BREF (World Health Organization 2004). It comprised three items concerning satisfaction with personal relationships, sex life and support from friends, which were rated on five-point scales anchored at ‘very dissatisfied’ and ‘very satisfied’. Scores were combined and transformed to form a composite score (0–100), with higher scores representing higher satisfaction ratings ($M = 72.94$, $SD = 18.25$, $\alpha = .69$).

Volunteering was assessed with a single item about contribution of time and/or labour to volunteer activities, with response rated on a five-point scale anchored at ‘never’ and ‘very often’ ($M = 3.08$, $SD = 1.31$).

Religious Faith and Meeting Attendance Importance of religious faith was assessed with a single item and used a five-point scale anchored at ‘not important at all’ and ‘extremely important’ ($M = 2.84$, $SD = 1.42$). Religious meeting attendance was also assessed with a single item and used a three-point scale anchored at ‘no’ and ‘yes regularly’ ($M = 1.57$, $SD = .81$).

Retirement planning was assessed with two items from Noone et al. (2010) Process of Retirement Planning Scale: ‘I am actively developing ways to spend my time when or if I retire’ ($M = 2.96$, $SD = 1.46$) and ‘by the time I retire I will have sufficient income, investments, and/or superannuation to ensure the standard of living I want’ ($M = 3.00$, $SD = 1.42$). Each was rated on a five-point scale anchored at ‘not true for me at all’ and ‘definitely true for me’.

Economic Living Standards Index (ELSI) The ELSI-short form (Jensen et al. 2002) assesses restrictions in the ownership of household items (8 items), restrictions in social participation (6 items), the extent to which respondents economised to keep living costs down (8 items), and 3 self-rated indicators of living standards. Scores were combined and transformed (for details, see Jensen et al. 2002) to form a composite score (0–31), with higher scores reflecting greater economic living standards ($M = 22.83$, $SD = 6.32$, $\alpha = .89$).

Other demographic measures included age, gender, relationship status, education, employment status, body mass index and smoking behaviour.

2.3 Procedure

Multiple contact points were employed to maximise survey participation (in accordance with Dillman 2000). Initial letters providing information about the study and inviting participation were sent to those people who had indicated an interest on their first HWR survey to participate in the second data collection wave. A week later, surveys were distributed via post, each with an information sheet and pre-paid self-addressed envelope for returning completed surveys. After 3 weeks, the whole sample was sent reminder postcards. After 6 weeks, all non-respondents were sent replacement questionnaires. And after 11 weeks, remaining non-respondents were sent a final postcard.

2.4 Data Analyses

Data were analysed using SPSS Statistics 17.0 software (SPSS Inc 2008). Correlations and factor analyses were conducted to test the reliability (internal consistency) and validity of the inventory.

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2.4.1 Missing Data

In accordance with Hair et al.'s (2006) recommendation, cases with 50% or more missing data were identified and omitted from further analyses. Overall, 4.1% of the data values were identified as missing over the study variables. Significant Chi-square results indicated non-random processes. Separate variance t-tests were then employed to indicate where the non-random processes were. SPSS multiple imputation was used to impute missing values for the HAPPI composite item responses and other non-dichotomous study variables with linear regression automatically chosen based on a scan of the data, and five imputations created (for comparisons in analyses). Analyses run with and without imputed missing data produced similar results, supporting confidence in the results.

2.4.2 Outlier Analysis

Square root transformations (for positive skewness) of four HAPPI variables (trips, outings, helping others, working on a property goal) improved the normality of the distributions. Z-scores identified no univariate outliers on the study variables. There were no multivariate outliers. Analyses were run on datasets including the transformed variables and those with untransformed variables. As little differences were found results for analyses with untransformed data are reported.

2.4.3 Factor Analysis

An exploratory factor analysis was used to reduce the data to a smaller set of summary variables, to explore the underlying structure of the happiness-enhancing activities, and to assess construct validity. The results were also employed to explore theories regarding the data structure, including an examination of how the observed factor structure compares with the activity types identified by Lyubomirsky and colleagues, and with the themes from a previous qualitative study of older adults (Henricksen and Stephens 2010). In line with the objective of identifying underlying dimensions that were theoretically meaningful (cf. just data reduction), the principle-axis factoring method was employed. The factor analysis was also run on split samples to gauge the stability of the factor structure.

2.4.4 Validity Testing

A series of Pearson product-moment correlations was computed between the subscale scores derived from the factor analysis and other self-report measures to test convergent and divergent validity. The HAPPI was compared with four well-being measures that, based on previous research (e.g., Tkach and Lyubomirsky 2006) were expected to be related to such activities. We expected that the HAPPI subscales would be positively related to happiness, quality of life, life satisfaction and life meaningfulness measures.

Correlation analyses were also conducted with eight measures that could be including irrelevant common factors for each subscale. For example, the item 'I contribute my time and/or labour to volunteer activities' was expected to correlate slightly more strongly with the subscale containing an item about volunteering than with the other three subscales, but not to correlate so strongly with the subscale that it may be seen as a proxy for this measure of intentional activity.

Divergent validity was also assessed by comparing the HAPPI with measures not expected to be directly related to the intentional activities subscales (e.g., smoking and

body mass index). The relationships between different demographic variables (e.g., age, gender, paid employment, education) and each of the factors were also tested.

The predictive validity of the HAPPI was assessed by using correlation and regression analyses to evaluate the relations between the intentional activity subscales and self-reported happiness, and the extent to which these intentional activities account for differences in happiness levels.

3 Results

3.1 Factor Analysis

Principal axis factoring with oblique (*oblimin*) rotation was performed through SPSS. The Kaiser–Meyer–Olkin measure of sampling adequacy was .870, and Bartlett’s test of sphericity revealed an approximate $\chi^2 = 11832$, $df\ 120$, $p < .001$, indicating correlations between items were sufficiently large for factor analysis. A four-factor solution was indicated by parallel analysis, scree plot and eigenvalue criteria. Two items (spending time with a partner and spending time with pets/animals) were removed due to low KMO values and communalities. A further four items (spending time alone, exercising, doing something amusing, and hobbies) were removed due to low communalities, and multiple factor loadings.

The factor analysis yielded a four-factor solution that explained 45.1% of the variance. Table 1 presents the pattern matrix for the items contained in each factor, along with corresponding item means, standard deviations, item-total correlations, and factor eigenvalues and variance explained. The use of oblique rotation was supported by the resulting moderate correlations among the four HAPPI subscales (see Table 2).

We labeled the first factor “Self-Concordant Work” (SCW), the second factor “Personal Recreation and People” (PRP), the third factor “Spiritual and Thought-Related” (STR), and the fourth factor “Goal-Focused” (GF). A confirmatory principle components analysis showed the same factor structure with 58% variance explained. The factor structure was also consistent across split samples, with transformed and untransformed data, and both original data and datasets including imputed missing values, further supporting its stability. Results based on the entire sample ($n = 2313$) with untransformed data are reported.

The four factors were scored as subscales of the HAPPI by computing the mean of the composite (importance \times frequency) item scores within each factor. Mean subscale scores were: self-concordant work = 11.51 (SD = 4.42), personal recreation and people = 8.32 (SD = 2.99), spiritual and thought-related = 9.41 (SD = 5.51), and goal-focused = 8.13 (SD = 4.64). The mean total HAPPI score for this sample was 148.58 (SD = 49.98).

Each subscale showed reasonable internal consistency, with coefficient alphas of .80 for self-concordant work, .74 for Personal Recreation and People, .72 for spiritual and thought-related, and .70 for goal-focused. Coefficient alpha for the total HAPPI was .86.

3.2 Correlational Analyses

Table 2 shows the correlations between the HAPPI subscale scores and all other measures. The HAPPI total score and subscales showed moderate positive relationships with the measures of subjective well-being (happiness, quality of life, life satisfaction, and

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Table 1 Pattern matrix, eigenvalues, variance explained and descriptive statistics for the HAPPI items

Factor and items	Factor				M	SD	Item-total r
	1	2	3	4			
<i>Self-concordant work</i>							
Doing something that uses your particular strengths and skills	.84	.05	.06	.01	11.77	5.39	.68*
Working on something you get a sense of achievement from	.80	.06	.03	.03	11.86	5.31	.68*
Doing something you find mentally challenging	.57	.03	-.05	.01	11.38	5.54	.58*
Working in a role that you enjoy	.46	.00	-.09	.15	11.03	6.19	.59*
<i>Personal recreation and people</i>							
Going on trips	-.06	.62	.09	.13	5.81	3.50	.45*
Going on outings	.04	.60	.06	.04	6.72	3.72	.48*
Speaking to or doing something with good friends	.11	.55	-.01	-.09	10.41	4.78	.49*
Meeting with others who share something in common	.00	.55	-.24	-.09	7.76	5.07	.55*
Spending time helping others	.20	.41	-.19	-.05	7.00	4.77	.60*
Speaking to or doing something with family	-.02	.39	-.06	.07	12.20	5.42	.44*
<i>Spiritual and thought-related</i>							
Counting your blessings	.05	-.05	-.79	.05	11.46	7.19	.62*
Spiritual activities	-.12	.12	-.61	-.01	6.23	7.18	.48*
Framing things in a more positive light	.29	-.05	-.55	.08	10.55	6.22	.66*
<i>Goal-focused</i>							
Working towards achieving a property goal	-.05	.06	-.02	.73	6.41	5.70	.51*
Devoting effort to a work goal	.24	-.02	-.03	.56	7.94	6.03	.59*
Devoting time to an important personal goal	.24	.15	-.11	.34	10.04	5.85	.63*
Eigenvalue	5.25	1.68	1.34	1.01			
Variance explained (%)	29.6	7.2	5.0	3.4			

A cut off of .32 was employed for inclusion of a variable in interpreting a factor, with loadings over .32 shown in bold

* Correlation is significant at the .001 level (2-tailed)

meaningfulness). Self-concordant work and personal recreation and people subscales demonstrated the strongest associations, and spiritual and thought-related activities the lowest.

Table 2 also shows that items related to the subscales in activity content were weakly correlated, but more strongly correlated than those not conceptually related. For example, the item ‘I contribute my time and/or labour to volunteer activities’ correlated more strongly with the personal recreation and people subscale than with any of the other three subscales. However, these correlations were lower than the correlations between the subscales themselves. The exception to this was the stronger correlations between the importance of religious faith (.59) and attending religious meetings (.51) with the spiritual and thought related sub-scale. The demographic measures were also weakly related to the sub-scales.

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Table 2 Pearson’s correlations between the HAPPI subscales and various measures

Variables	SCW	PRP	STR	GF	Total scale
<i>HAPPI subscale</i>					
Self Concordant Work (SCW)					.80***
Personal Recreation and People (PRP)	.43***				.76***
Spiritual and Thought Related (STR)	.41***	.44***			.73***
Goal-Focused (GF)	.56***	.39***	.34***		.73***
<i>Subjective well-being variable</i>					
Happiness	.25***	.25***	.20***	.21***	.30***
Quality of life	.20***	.17***	.11***	.16***	.21***
Life satisfaction	.20***	.22***	.12***	.16***	.23***
Life meaningfulness	.35***	.29***	.26***	.27***	.39***
<i>Divergent validity variable</i>					
In paid employment (N/Y)	.27***	-.03	-.02	.20***	.14***
Job satisfaction index score	.38***	.17***	.11***	.14***	.22***
Satisfaction with social relationships	.16***	.24***	.14***	.17***	.23***
Volunteer status	.19***	.36***	.26***	.12***	.32***
Importance of religious faith	.08***	.26***	.59***	.12***	.35***
Attend religious meetings	.07**	.25***	.52***	.06**	.30***
Retirement planning—spending time	.01	.12***	.06*	.15***	.11***
Retirement planning—living standard	.07*	.10***	-.04	.10***	.08**
<i>Demographic variable</i>					
Economic living standards index	.16***	.10***	-.06*	.07**	.10***
Sex (M/F)	.21**	.08**	.32**	.00	.21**
Age	-.12***	.06**	.03	-.11***	-.04*
Have post-secondary or tertiary qualification (N/Y)	.16***	.05*	.07**	.05*	.11***
Relationship status (no partner/partner)	.01	.05*	.12**	-.03	.05*
Body mass index	.02	.08***	.05*	.03	.06**
Regular tobacco smoker	-.01	.02	.02	-.02	.01

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

3.3 Regression Analyses

The results of regression analysis are displayed in Table 3. The HAPPI sub-scales were significant predictors of self-reported happiness levels. Together, intentional activities predicted 10.4% of the variance in happiness ($Adj R^2 = .104$, $F(4,2262) = 66.70$, $p < .001$). Betas show that all four sub-scales were significant unique predictors of happiness, with personal recreation and people being the strongest single predictor, followed by self-concordant work, spiritual and thought-related, and goal-focused.

4 Discussion

The present study sought to develop and validate a measure of older adults’ intentional happiness enhancing activities, and to clarify the theoretical structure of such activities.

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Table 3 Summary of regression analyses predicting happiness ratings from the HAPPI subscales

Predictor	Regression coefficients			<i>R</i>	Adj <i>R</i> ²
	<i>B</i>	SEB	β		
Self-concordant work	.005	.001	.114*	.325	.104
Personal recreation and people	.011	.002	.146*		
Spiritual and thought-related	.003	.001	.083*		
Goal-focused	.004	.001	.082*		

* $p < .001$

Four stable factors or groupings of activities were identified: self-concordant work, personal recreation and people, spiritual and thought-related, and goal-focused activities. The consistency of this factor structure over split samples, and with both transformed and untransformed data provided support for the stability of this interpretation. Similar results for both principal axis factoring and principal components methods of factor analysis, and for both original data and including imputed missing values supported confidence in the results. The factor analysis of items derived from an empirical study of older people's activities develops initial categorisations of happiness-enhancing activities and provides support for a clearer categorisation of intentional happiness-enhancing strategies. Taken together, these results provide a basis for continuing to develop and clarify the types of intentional activities engaged in by older people.

The factor analysis results are comparable to previous research findings. The 'other-focused' and 'personal recreation and interests' themes identified in a qualitative analysis of interviews with older adults (Henricksen and Stephens 2010) mapped onto one factor (personal recreation and people). Similarly, the 'spiritual' and 'thoughts and attitudes' themes previously identified also loaded onto one factor (spiritual and thought-related). The separate self-concordant work and goal-focused factors were not anticipated. These results indicate that goal-focused activities should be considered separately to other work or achievement-related activities. Self-concordant work was observed to span multiple themes in the qualitative analysis, and in the present study at least one item from each of the other factors (e.g., positive framing, helping others, work goal, personal goal) was related (loading $> .2$ on the self-concordant work factor). Future study of these items should consider the possibility of the multidimensionality of this type of activity. The factors found in this study provide some refinement of Lyubomirsky et al.'s (2005b) broad categorisation of activities. A separate goal-focused factor matches their notion of volitional activities, the personal recreation and people factor is related conceptually to their behavioural category, and the spiritual and thought-related factor fits under their cognitive category. However, the self-concordant work factor contributes an additional dimension.

The factors identified in the present study of older people may be age-related. Tkach and Lyubomirsky's (2006) factor analytic study of 500 undergraduates identified eight broad factors (social affiliation, partying and clubbing, mental control, instrumental goal pursuit, passive leisure, active leisure, religion, and direct attempts). Similarities may be found between the young participants' 'instrumental goal pursuit' and the present goal-focused factors; the 'mental control' and 'religion' compare with spiritual and thought-related factors; 'passive leisure' and 'social affiliation' fit with personal recreation and people. However, self-concordant work is again an additional factor. That self-concordant work has been identified as an important factor in both qualitative and quantitative analyses of

older adults' intentional happiness-enhancing activities suggests age-related differences in the strategies employed. Although Tkach and Lyubomirsky (2006) predicted that strategies would take a similar form across different segments of the population, an initial comparison of findings from the two different populations does not provide support for this view. People of different age groups may engage in different happiness-enhancing activities, suggesting possible cohort or developmental effects. For example, this older group has very different life experiences and associated social and economic changes (e.g., different amounts of formal education, travel, social norms, experience of war and associated hardships). In addition to the differing types of life experiences, differing amounts of life experience and the knowledge gained as a result are also likely to impact on the activities engaged in. Changes in perceptions with age was indicated by comments made in an earlier study (Henriksen and Stephens 2010) by some participants who spoke of striving for materialistic things when younger, and having a different view on attaining happiness now they were older.

Results of the factor analysis also provide support for the construct validity of the HAPPI. Correlations with the derived sub-scales showed that the activities were weakly to moderately related to subjective well-being, whilst also signifying that the HAPPI is not a proxy for such measures. The weaker correlations of the HAPPI subscales with subscale-specific items also provided support for convergent and discriminant validity, showing that none of the subscales acts as a proxy for another measure. However, the finding that the spiritual and thought-related subscale shared a stronger relationship with two religious items than with the other subscales, coupled with this subscale being identified as one of the weakest predictors of happiness, suggests a need for further investigation in this area. It may be that such activities are not considered as important for happiness per se, with other factors considered more important motivators for engagement. The stronger relationship found between the spiritual and thought-related subscale and life meaningfulness (cf. happiness), for example, suggests one such factor. The finding of an association between gender and spiritual and thought-related activities is consistent with past findings regarding gender and religiosity (e.g., Brajša-Žganec et al. 2010; Maselko and Kubzansky 2006; Miller and Hoffmann 1995), and may indicate that gender is another factor at play in the activity and well-being relationship. For example, females may consider spiritual activities more important and engage in them more often, but the overall relationship with happiness may be weakened by the lower importance for males. These factors indicate additional avenues for further investigation.

The results also showed evidence for reliability, with each sub-scale and the overall measure demonstrating adequate internal consistency. The moderate correlations among the four components of the HAPPI (higher than the correlations with conceptually related items) and the high internal consistency of the total HAPPI suggest that self-concordant work, personal recreation and people, spiritual and thought-related, and goal-focused activities can be viewed as different dimensions of the same underlying construct.

The sub-scales were generally related to subjective well-being, although the strength of associations with happiness varied between the factors. Self-concordant work and the personal recreation and people subscales demonstrated the strongest relationships with happiness (and the other subjective well-being measures), providing support for the suggestion that certain activities may be better than others in relation to their influence on happiness levels (Lyubomirsky et al. 2005b). Tkach and Lyubomirsky (2006) also found that social affiliation was one of the most robust predictors of happiness. However, given the correlational nature of both study designs, no definitive conclusions can be made regarding the direction of causality between particular activities and happiness. Whilst

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some intervention studies indicate support for certain activities having more influence on happiness than others (e.g., Sheldon and Lyubomirsky 2006b; Fordyce 1983), further research is required to investigate these suggestions.

The finding that the intentional activities together accounted for 10.4% of the variance in self-reported happiness supports the sustainable happiness model's inclusion of intentional activities as a predictor of happiness, although this proportion falls well below the prediction that intentional activities may account for up to 40% of the population variance in happiness level unaccounted for by genetic and circumstantial factors (Lyubomirsky et al. 2005b). The intentional activities identified in this study also account for less variance in happiness than those reported in Tkach and Lyubomirsky's (2006) study of a younger sample. It is possible that the explanations for the differences again include age. For example, intentional happiness-enhancing activities may not be engaged in as much, or considered as important to older adults whose accumulated life experiences, associated knowledge and changed perceptions and priorities may alter attitudes to the pursuit of happiness as a goal in itself. The finding that the total HAPPI as well as each subscale had a higher association with life meaningfulness than happiness supports a suggestion that older adults favour activities they believe will contribute meaning to their lives rather than happiness per se. Increasing limitations (e.g., physical, financial, family-related) may also limit the type, number, and frequency of activities in which older people are able to engage. With the transition to retirement, while adults may have more time to take up more activities, life changes could well impact on the range of activities in which people actually engage. Support for less frequent engagement in activities with age is provided in a study by Brajša-Žganec et al. (2010). Their results indicate that older adults engage less frequently than younger ones in 15 common leisure activities, with only church attendance and watching TV engaged in more often by the older age group (61+ years). They also found differences between three age groups in the relative contribution of different types of leisure activities to subjective well-being. Of the three identified groupings of leisure activities, 'family and home activities' were significant contributors for all age groups, however 'visiting cultural events' were significant only for those over 31 years old, while 'active socialising and going out' contributed to subjective well-being for only the 31–60 year old age group. Further testing of the HAPPI measure on relevant age cohorts should help shed some light in this area.

Another possible explanation for the low variance in happiness accounted for concerns the measure of intentional activities used in this study (the HAPPI). The validity results are encouraging, however, additional development and refinement of the HAPPI, including item revision and validation over different populations, is suggested by the present findings. For example, more items that tap a wider range of activities and further development of the response scales and scoring may help increase the amount of variance accounted for.

The HAPPI may also be improved by refining or changing the wording of particular items. The personal goals variable had the lowest factor loading, which may be due to lack of clarity of the item. This construct may be better tapped with more items describing more specific goals (e.g., working towards a specific health goal; working towards a holiday goal). Making the future orientation aspect of the goals more explicit may help improve the clarity of such items. More focussed research and development in the above areas will allow both happiness enhancing measures and the sustainable happiness model to be tested more comprehensively.

In summary, a small literature indicates that happiness-enhancing activities can increase happiness. However, the measurement of intentional activities has thus far been inadequate. In the absence of validated measures we have relied on theory and empirically

derived factors to develop a measure appropriate for older people. Our results provide empirical support for a clearer categorisation of intentional happiness-enhancing strategies and evidence to support the reliability and potential utility of the HAPPI. The HAPPI is a relatively brief, easily administered inventory that can be employed in research settings, although it would benefit from further development and requires additional evaluation with other samples in multiple settings. Research utilising the HAPPI will be able to follow cohorts to determine which domains demonstrate the greatest contribution to happiness and other well-being outcomes of older adults. This knowledge will have important implications for social policy, education and intervention programmes, including helping to elucidate the role that intentional activities play in relation to enhancing happiness and other well-being outcomes.

Appendix: Inventory Items

Spending quality time with your partner.
 Speaking to or doing something with family (e.g., children, grandchildren).
 Speaking to or doing something with good friends.
 Meeting with others who share something in common (e.g., interest groups, support groups, faith-related).
 Spending time helping others (e.g., providing expertise, money, time, effort).
 Spending time on hobbies or interests (e.g., gardening, reading, following sports).
 Exercising or doing some other form of physical activity (e.g., walking, cycling).
 Spending time with a pet animal/animals.
 Going on outings (e.g., going out for a meal or function, time out in nature).
 Going on trips (e.g., visiting family or friends, day trips, holidays away).
 Spending quality time alone doing your own thing (e.g., relaxing, watching something, treating yourself).
 Doing something you find amusing (e.g., winding someone up, watching a comedy).
 Spiritual activities (e.g., praying, meditating, worshipping).
 Counting your blessings.
 Framing things in a more positive light.
 Working on something you get a sense of achievement from.
 Doing something you find mentally challenging.
 Devoting time to an important personal goal (e.g., a relationship, health, holiday).
 Working towards achieving a property goal (e.g., grounds, new house, vehicle).
 Devoting effort to a work goal (e.g., cutting back workload, reaching a target).
 Working in a role that you enjoy (either paid or unpaid).
 Doing something that uses your particular strengths and skills.

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Appendix C. Interview Study Contact Letter



Older Adults' Happiness Strategies

Information Sheet

Dear

When completing your Health, Work & Retirement Survey, you indicated your interest in being interviewed. As part of this study, we are asking about how people understand happiness and the things they do to stay happy or improve their happiness. You can contact me (Annette Henricksen) at any time using the details below. This research is being undertaken for the purpose of my PhD qualification, under the supervision of Dr Christine Stephens from the School of Psychology, Massey University, Palmerston North.

What is the study about?

The aim of this study is to identify what actions or strategies adults employ to increase or maintain their levels of happiness.

Am I eligible to take part?

If you wish to take part in this study you should be aged 55 to 75 years old

What will be expected if I participate?

You will meet with me at a mutually agreed place, at a time that suits you. You will discuss your perceptions of happiness and happiness related strategies for about 30-60 minutes (or for as long as you wish to talk about the topic).

What will happen to the interview information?

What is said in the interviews will be tape-recorded. The transcribed interviews will be analysed to identify commonly used strategies and perceptions. These will be used to develop questionnaire items about happiness for the next HWR questionnaire survey of the wider population. The findings of this work will be reported as part of my PhD thesis, in scientific journals and conferences, and to government departments and providers who are interested in the well-being of older adults. It will contribute to an understanding of happiness and its causes among older adults, and possibly to the development of future services to help enhance the ageing experience of older adults.

You can also check and keep a copy of what you have said, and receive a summary of all the results at the end of the study. To protect your privacy and the confidentiality of any records generated by this research, only authorised personnel will have access to the data from the interviews. The audio files will be stored securely and will be destroyed at the end of the research project. Your name and any other identifying information will be stored separately and will not appear in any reports or documents that may be published as a result of this research project.

Summary of your rights

You are under no obligation to participate in this study. If you choose to participate you have the right to:

- Contact the researchers at any time during the study
- Decline to answer any particular question
- Ask for the recorder to be turned off at any time during the interview
- Read and check a copy of your interview
- Receive information about the results at the end of the study
- Participate in the study with confidence that your personal details are confidential
- Decline to take part or withdraw from the study at any time

Thank you for your interest in this research. Within a few days I will telephone to discuss the research further and to ask if you would like to make an appointment for an interview.

If you would like any further information or have any questions about the study please do not hesitate to contact me at the address above, or e-mail Annette.Henricksen.1@uni.massey.ac.nz, or phone 0800 100 134.

Yours sincerely

Annette Henricksen

This project has been reviewed and approved by the Massey University Human Ethics Committee: Southern B, Application 07/31. If you have any concerns about the conduct of this research, please contact Dr Karl Pajo, Chair, Massey University Human Ethics Committee: Southern B, telephone 04 801 5799 x 6929, email humanethicsouthb@massey.ac.nz

Appendix D. Interview Guide

What does happiness or being happy mean to you? How would you define happiness?

Do you think your perceptions/definition of happiness have changed much over the years?

-[If so] how?

How does your general happiness level now compare to in the past (e.g., as a young adult)?

-[if it has changed] why/how has it changed?

Do you think it will change in the future?

Retirement

In relation to retirement, do you think your level of happiness will change / has changed with retirement?

-Why/how?

What makes you happy/happier?

What do you usually like to do to cheer yourself up or make yourself happier?

[e.g., physically, thoughts, plans/goals]

-What do you think about the idea of thoughts affecting happiness? How much of an affect do you think thoughts have on happiness?

-How much of an affect do you think activities related to personal goals and plans have on happiness?

Short-term & long-term

What kinds of things do you do to make yourself happier on a day-to-day/weekly basis?

What activity/activities brought you the most happiness in the last week?

Is there anything you do now that may not necessarily make you happier in the short-term, but that you think will make you happier further down the track?

-[Anything else/ any others?]

Is there anything that you would like to do that you think would make you feel happier, but that you don't do or are unable to do at present?

-[If so] why don't/can't you?

-Is there anything else you can think of that you don't currently do, but that you think would make you happier?

Effectiveness of Strategies?

Of all the things you do, which activity/activities do you think is/are the most effective for increasing your happiness?

-What about this makes it the most effective?

Anything else?

Is there anything else you can think of that you may do to make yourself happier?

-[Are there any others you can think of?]

Is there anything (else) you would like to add, or any aspect of your experience that the questions didn't cover?

Appendix E. Interview Study Summary Letter



OLDER ADULTS' HAPPINESS STRATEGIES

Dear

Thank you very much for meeting with me last year and taking part in my study of older adults' happiness strategies. I really enjoyed talking to you and appreciated your openness and input into my study. This letter is to thank you and give you a brief summary of the main findings.

THE RESEARCH FINDINGS

The main aim of the study was to identify what actions or strategies adults use to increase or maintain their levels of happiness. Interviews were conducted with 23 people aged 56-76 years, in the Manawatu and Hawkes Bay regions. In the interviews people discussed aspects of happiness and many different types of activities to enhance happiness. The main findings from this study are about these happiness increasing activities. They were often related to the importance of other people, personal interests, personal thoughts or achievements. Within these four main types of activities there were many different ways in which people told us that they worked towards happiness

OTHER PEOPLE

Focussing on other people included three sorts of activities which we called: 'time with significant others', 'meeting others', and 'helping others'. People most frequently talked about spending 'time with significant others'. This meant mostly family and close friends. Examples of this sort of activity are visits with family, talking on the phone and watching or looking after grandchildren. 'Meeting others' describes activities relating to socialising with others, particularly those with some common bond (mostly friends and interest groups). 'Helping others' includes volunteer work activities such as, helping at meals on wheels, food bank, or other community-based organisations and church groups. Helping family members also featured quite strongly.

PERSONAL RECREATION & INTERESTS

Those activities that were around personal interests included those we described as: 'pursuing hobbies', 'entertainment and relaxation', and 'outside activities'. The hobbies people described were often creative pursuits, with examples including cooking, gardening, painting, sewing, and writing. 'Entertainment and relaxation' activities included those such as following sports, watching a movie, and reading. 'Outside activities' involved getting out and about, away from the house and engaging in the world outside. Examples include physical exercise (such as walks,

golf, and going to the gym), short trips to various places, and trying new experiences.

THOUGHTS & ATTITUDES

Thought-centred activities included both 'giving thanks' and 'positive thinking'. 'Giving thanks' or counting one's blessings centred on thinking about with gratitude for past and present circumstances and experiences. Positive thinking on the other hand was more present and future oriented, and centred on dismissing the negative ways of looking at life, and framing things more positively. This is an outlook that many people saw as a 'learned' way of viewing things.

ACHIEVEMENT

Achievement-related activities included both 'small achievements' and 'longer-term goals'. The smaller achievements often involved simple daily goals, such as to live each day well, or meet small, usually self-made challenges, such as mental or physical targets. 'Longer-term goals' on the other hand related to progress on and reaching larger, future-oriented goals. These generally involved goals relating to property, work or retirement, travel and family.

ACROSS EVERYDAY LIFE

Further to the four main types of activities we identified, two were described that were often an important part of many different activities. These were 'spiritual activities' and 'self-concordant work'.

'Spiritual Activities' (e.g., praying, going to church services, church community groups, participating in other faith-related activities) were often part of other activities such as spending time with significant others, helping others, socialising, pursuing interests, giving thanks, constructive thinking, and achievements.

'Self-Concordant Work' (i.e., work that 'fits' a person's interests, skills, and values) was often an important aspect of a person's personal interests or hobbies, helping others, meeting others, and achievements.

WHAT HAPPENS TO THESE RESULTS?

The initial results of this study are of great interest to those who are conducting research on positive aspects of ageing. They have been presented at a recent seminar in the School of Psychology in Palmerston North, and will also be presented shortly at the '4th European Conference on Positive Psychology' in Croatia. The findings will also be published in academic journals, and as these publications become available they will be included on the 'Health, Work, and Retirement' (HWR) web site: <http://hwr.massey.ac.nz>

These results were used to develop questionnaire items about happiness strategies for the latest HWR questionnaire survey of the wider population, which was sent out recently. If you are taking part in this survey you may have come across them (question 34). This questionnaire can also be viewed on the HWR website. The questionnaire results will contribute to an understanding of happiness and its causes among older adults, and possibly to the development of future services to help enhance the ageing experience of older adults.

If you would like any further information or have any questions about the study please do not hesitate to contact me at the address above, or e-mail Annette.Henricksen.1@uni.massey.ac.nz, or phone 0800 100 134.

Thank you once again for the opportunity to meet with you and for your valued time and input into my study.

Yours sincerely

Annette Henricksen
(PhD Candidate)

Appendix F. Pilot Study Information and Inventory Format Options



Older Adults' Happiness Strategies Information Sheet

I am developing a questionnaire to obtain information on the things adults do to increase or maintain their happiness. This research is being undertaken for the purpose of my PhD qualification, under the supervision of Dr Christine Stephens from the School of Psychology, Massey University, Palmerston North.

I would greatly appreciate it if you could complete the accompanying questionnaire and return it in the self-addressed envelope provided. It should only take a few minutes of your time to answer the questions, and I would really value any feedback you are able to provide. Your feedback will be used to help identify whether the format needs to be modified, or any items need to be altered or removed, before including it in a larger survey of the wider population.

Please complete your questionnaire today (or as soon as possible) and drop it in the mail; answer every question as well as you can. Because only a relatively small number of people are being surveyed, your response is very important to me.

If you decide to participate, your answers and comments will, of course, be strictly confidential. Completion and return of the questionnaire implies consent. If you would like any further information or have any questions about the study please do not hesitate to contact me at the address above, or phone 0800 100 134, or e-mail Annette.Henricksen.1@uni.massey.ac.nz.

Thank you in advance for your time and effort.

Sincerely

Annette Henricksen
(PhD Candidate)

This project has been reviewed and approved by the Massey University Human Ethics Committee: Southern B, Application 07/31. If you have any concerns about the conduct of this research, please contact Dr Karl Pajo, Chair, Massey University Human Ethics Committee: Southern B, telephone 04 801 5799 x 6929, email humanethicsouthb@massey.ac.nz



Massey University

**HEALTH WORK
AND RETIREMENT**



**E tū te huru mā,
haramai e noho**

LONGITUDINAL STUDY

Happiness-Enhancing Activities & Positive Practices Inventory



**Pilot
Survey**



Inventory Format Option One:

Instructions: Please indicate how important you find each activity for increasing or maintaining your level of happiness, and how often you engage in each activity.

(Please tick two boxes for each activity: one regarding importance, and the other regarding frequency)

Example: If you find spending time talking to or doing something with close friends contributes a great deal to your happiness (i.e., it is very important), and you do this about once or twice a week (i.e., several times a month), your response is likely to be:

Activity	Importance				Frequency					
	Very important	Moderately important	Slightly important	Not important at all	Daily or more often	Several times a week	Several times a month	Several times a year	Yearly or less often	Never/not applicable
Speaking to or doing something with friends who are important to you	<input checked="" type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input checked="" type="checkbox"/> 7	<input type="checkbox"/> 8	<input type="checkbox"/> 9	<input type="checkbox"/> 0

Activity	Importance				Frequency					
	Very important	Moderately important	Slightly important	Not important at all	Daily or more often	Several times a week	Several times a month	Several times a year	Yearly or less often	Never/not applicable
(a) Spending time on hobbies or interests (e.g., gardening, reading, following sports)	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	<input type="checkbox"/> 8	<input type="checkbox"/> 9	<input type="checkbox"/> 0
(b) Exercising or doing some other form of physical activity (e.g., going for a walk, cycling, playing a sport)	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	<input type="checkbox"/> 8	<input type="checkbox"/> 9	<input type="checkbox"/> 0
(c) Spending time with your partner	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	<input type="checkbox"/> 8	<input type="checkbox"/> 9	<input type="checkbox"/> 0
(d) Speaking to or doing something with family (e.g., siblings, children, grandchildren)	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	<input type="checkbox"/> 8	<input type="checkbox"/> 9	<input type="checkbox"/> 0
(e) Speaking to or doing something with friends who are important to you	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	<input type="checkbox"/> 8	<input type="checkbox"/> 9	<input type="checkbox"/> 0
(f) Spending time with a pet animal/animals	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	<input type="checkbox"/> 8	<input type="checkbox"/> 9	<input type="checkbox"/> 0
(g) Meeting with others who share something in common (e.g., interest groups, support groups, faith-related gatherings)	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7	<input type="checkbox"/> 8	<input type="checkbox"/> 9	<input type="checkbox"/> 0

Activity	Importance				Frequency					
	Very important	Moderately important	Slightly important	Not important at all	Daily or more often	Several times a week	Several times a month	Several times a year	Yearly or less often	Never/not applicable
	1	2	3	4	5	6	7	8	9	0
(h) Having an outing (e.g., going out for a meal, attending a function/show, time out in nature)	1	2	3	4	5	6	7	8	9	0
(i) Going on trips (e.g., visiting family or friends, day trips, holidays, going overseas)	1	2	3	4	5	6	7	8	9	0
(j) Spending time helping others	1	2	3	4	5	6	7	8	9	0
(k) Spending quality time alone doing your own thing (e.g., relaxing, watching something, writing, treating yourself)	1	2	3	4	5	6	7	8	9	0
(l) Spiritual activities (e.g., praying, meditating, worshipping)	1	2	3	4	5	6	7	8	9	0
(m) Working in a role that you enjoy (either paid or unpaid)	1	2	3	4	5	6	7	8	9	0
(n) Giving of yourself (e.g., expertise, money, time, effort) to a worthy cause	1	2	3	4	5	6	7	8	9	0
(o) Getting absorbed in something that takes your mind off everything else	1	2	3	4	5	6	7	8	9	0
(p) Activities that get you thinking (e.g., puzzles, games)	1	2	3	4	5	6	7	8	9	0
(q) Doing something you find mentally challenging	1	2	3	4	5	6	7	8	9	0
(r) Counting your blessings	1	2	3	4	5	6	7	8	9	0
(s) Framing things in a more positive light	1	2	3	4	5	6	7	8	9	0
(t) Working on something you get a sense of achievement from	1	2	3	4	5	6	7	8	9	0
(u) Devoting time to an important personal goal (e.g., improving a relationship, health)	1	2	3	4	5	6	7	8	9	0
(v) Working towards achieving a property goal (e.g., new house, vehicle, land/grounds,)	1	2	3	4	5	6	7	8	9	0
(w) Devoting effort to a work goal (e.g., cutting down your work load, reaching a work target)	1	2	3	4	5	6	7	8	9	0
(x) Working towards a trip or holiday	1	2	3	4	5	6	7	8	9	0
(y) Any others? (please specify and rate)	1	2	3	4	5	6	7	8	9	0
(z)	1	2	3	4	5	6	7	8	9	0

Overall, thinking about the above activities, please indicate how satisfied or dissatisfied you are with the amount of time you spend on the activities you consider important for your happiness. Answer by ticking the box that best reflects how you feel. (Please tick one box)

	Extremely satisfied	Very satisfied	Moderately satisfied	I'm not sure	Moderately unsatisfied	Very unsatisfied	Extremely unsatisfied
	▼	▼	▼	▼	▼	▼	▼
Amount of time spent on activities	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7

Please indicate your age (in years): _____

How did you find the questionnaire?

Thinking about the questionnaire, please indicate how easy or difficult you found the following aspects of the questionnaire. Answer by ticking the box that best reflects how you found it. (Please tick one box on each line)

	Very easy		Neither easy nor difficult		Very difficult		
	▼		▼		▼		
(a) Understanding the instructions	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7
(b) Completing the questionnaire	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7
(c) Following the response format	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7
(d) Understanding the item content	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7

Did you find any particular item(s) confusing or difficult to understand?

No	<input type="checkbox"/> 1
----	----------------------------

Yes (Please specify which one/s below): 2

**Comments and/or suggestions for improvement:
(e.g., instructions, specific item wording, layout)**

Thank you for taking the time to complete this survey

Inventory Format Option Two:

Instructions: Using the guide below, could you please respond by indicating how important you find each activity, how often you engage in each activity, and how satisfied you are with the amount of time you presently spend on each activity.

In Column A , indicate how important you find it to be for increasing or maintaining your level of happiness, using:	In Column B , indicate how often you engage in each activity, using:	In Column C , indicate how often satisfied you are with the amount of time you spend on each activity, using:
4= Extremely important 3= Very important 2= Moderately important 1= Slightly important 0= Not at all important	5= Daily or more often 4= Several times a week 3= Several times a month 2= Several times a year 1= Yearly or less often 0= Never/not applicable	4= Very satisfied 3= Somewhat satisfied 2= Neither satisfied nor unsatisfied 1= Somewhat unsatisfied 0= Very unsatisfied

Example: If you find spending time talking to or doing something with friends contributes a great deal to your happiness (i.e., it is extremely important), you do this about once or twice a week (i.e., several times a month), and you're very happy with the amount of time you presently spend with them, then you might put a "4" in Column A, a "3" in Column B, and a "4" in Column C.

<i>Activity</i>	A <i>Importance</i>	B <i>Frequency</i>	C <i>Satisfaction</i>
Speaking to or doing something with friends who are important to you	4	3	4

	<i>Activity</i>	A <i>Importance</i>	B <i>Frequency</i>	C <i>Satisfaction</i>
(a)	Spending time on hobbies or interests (e.g., gardening, reading, following sports)			
(b)	Exercising or doing some other form of physical activity (e.g., going for a walk, cycling, playing a sport)			
(c)	Spending time with your partner			
(d)	Speaking to or doing something with family (e.g., siblings, children, grandchildren)			
(e)	Speaking to or doing something with friends who are important to you			
(f)	Spending time with a pet animal/animals			
(g)	Meeting with others who share something in common (e.g., interest groups, support groups, faith-related gatherings)			

	A <i>Importance</i>	B <i>Frequency</i>	C <i>Satisfaction</i>
(h) Having an outing (e.g., going out for a meal, attending a function/show, time out in nature)			
(i) Going on trips (e.g., visiting family or friends, day trips, holidays, going overseas)			
(j) Spending time helping others			
(k) Spending quality time alone doing your own thing (e.g., relaxing, watching something, writing, treating yourself)			
(l) Spiritual activities (e.g., praying, meditating, worshipping)			
(m) Working in a role that you enjoy (either paid or unpaid)			
(n) Giving of yourself (e.g., expertise, money, time, effort) to a worthy cause			
(o) Getting absorbed in something that takes your mind off everything else			
(p) Activities that get you thinking (e.g., puzzles, games)			
(q) Doing something you find mentally challenging			
(r) Counting your blessings			
(s) Framing things in a more positive light			
(t) Working on something you get a sense of achievement from			
(u) Devoting time to an important personal goal (e.g., improving a relationship, health)			
(v) Working towards achieving a property goal (e.g., new house, vehicle, land/grounds,)			
(w) Devoting effort to a work goal (e.g., cutting down your work load, reaching a work target)			
(x) Working towards a trip or holiday			
(y) <i>Any others? (please specify and rate)</i>			

Overall, thinking about the above activities, please indicate how satisfied or dissatisfied you are with the amount of time you spend on the activities you consider important for your happiness. Answer by ticking the box that best reflects how you feel. (Please tick one box)

	Extremely unsatisfied	Very unsatisfied	Moderately unsatisfied	I'm not sure	Moderately satisfied	Very satisfied	Extremely satisfied
Amount of time spent on activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please indicate your age (in years): _____

How did you find the questionnaire?

Thinking about the questionnaire, please indicate how easy or difficult you found the following aspects of the questionnaire. Answer by ticking the box that best reflects how you found it. (Please tick one box on each line)

	Very easy		Neither easy nor difficult		Very difficult
(a) Understanding the instructions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b) Completing the questionnaire	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c) Following the response format	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(d) Understanding the item content	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Did you find any particular item(s) confusing or difficult to understand?

No

Yes (Please specify which one/s below):

Comments and/or suggestions for improvement:

(e.g., instructions, specific item wording, layout)

Thank you for taking the time to complete this survey

Appendix G. Article for the International Council on Active Aging

	Vol. 9 No. 2 March-April 2011	
	<h1>FUNCTIONAL</h1> 	
<p>Table of contents</p> <p>1 Happiness-enhancing activities for older adults by Annette Henricksen and Christine Stephens, PhD</p> <p>10 Team Ironman . . . for every age and ability! by Linda Schmidt</p> <p>13 Active Aging Week</p> <p>14 Minutes to motivate exercise by Patricia Ryan, MS</p> <p>17 Client handout: Motivating minutes</p> <p>18 Comment: Just keep going</p>	<p>Happiness-enhancing activities for older adults</p> <p>by Annette Henricksen and Christine Stephens, PhD</p> <p>People generally agree that happiness is desirable. In addition to being a popular goal, researchers have found that happiness is associated with other good things in life, like health, friendship, income, work performance and marriage.</p> <p>Happiness usually comes along with desirable behaviors and attributes, such as sociability, likeability, pro-social behavior, positive views of self and others, coping and creativity (Lyubomirsky, King & Diener, 2005). Happiness has been suggested to cause many of these outcomes. Thus, happiness can be beneficial in numerous ways, which has positive implications for individuals and society and suggests that promoting happiness is a wise investment in social and public health (Sheldon & Lyubomirsky, 2007).</p> <p>In recent years, there has been an increasing interest in research on happiness and the possibilities of increasing happiness, which may provide an avenue to enhance the general health and well-being of older adults.</p> <p>In this article, we will summarize key points from the literature on happiness, then use research findings to identify some situations and activities you can apply in your work with older adults.</p>	 <p>What is happiness?</p> <p>Happiness is generally viewed as a subjective quality—a presence that can only be decided by the individual. The terms “happiness,” “life satisfaction,” and “subjective well-being” are often used interchangeably in literature in this area.</p> <p>While some ambiguity and variation exists in regard to definitions, happiness is often described in terms of: high life satisfaction, frequent positive mood and infrequent negative mood (Lyubomirsky, Sheldon & Schkade, 2005).</p> <p>Happiness is viewed as a malleable characteristic that may change over time.</p> <p>Continued on page 2</p>
<p>www.icaa.cc C h a n g i n g t h e W a y W e A g e .</p>		



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What influences happiness?

Research on the determinants of happiness looks at several factors:

- Genetic inheritance
- Life circumstances (such as income, age, social status, marriage)
- Hedonic adaptation (for example, changed circumstances such as moving to a new home)
- Sustainable happiness change (via intentional activities to increase happiness)

Genetic inheritance. It is known that some of our propensity to be happy is inherited and so not open to change. Estimates of how much happiness potential is inherited vary somewhat, although around 50% is a generally accepted proportion (Braungart, Plomin, DeFries & Fulker, 1992; Tellegen et al., 1988).

Life circumstances. Circumstances— income, age, social status and marriage— are also often beyond our control. Estimates of the influence of life circumstances range from less than 10% (Andrews & Withey, 1976) to around 15% (Diener, 1984) of the variation in happiness.

Hedonic adaptation. Alongside the literature regarding circumstantial and genetic determinants there has been discussion of the idea of hedonic adaptation (Brickman & Campbell, 1971; Frederick & Loewenstein, 1999), which proposes that any increases in happiness do not last because people rapidly adapt to change.

As a result, happiness may increase due to a change in circumstances (e.g., upgrading to better accommodation in a safer neighbourhood), but as people adapt to the change the effect of that change on

well-being soon diminishes, and happiness will generally revert back to its genetically determined 'set point' (Sheldon & Lyubomirsky, 2004, 2006a).

However, there is also evidence from the happiness literature that challenges 'set point' theories of adaptation.

Sustainable happiness change.

Although happiness demonstrates moderate stability over time, it can also change (Lucas, 2007). Evidence in support of the concept of sustainable happiness change comes from interventions to increase happiness (Fordyce, 1977, 1983; Seligman, Steen, Park & Peterson, 2005; Sheldon & Lyubomirsky, 2006b). In these studies, people have been instructed to intentionally change their behaviour (e.g., use their personal strengths or practice gratitude), with results indicating, on average, sustained increases in well-being (Sin & Lyubomirsky, 2009).

While these intervention studies have predominantly employed young student samples, a few studies employing older adult samples have also reported relationships between positive psychology interventions and well-being outcomes (Cook, 1998; Davis, 2004; Kremers, Steverink, Albersnagel & Slaets, 2006). Findings from these studies indicate promise for increasing older adults' happiness, and indeed, Sin and Lyubomirsky (2009) suggest older adults may benefit more than younger adults from such interventions.

To integrate these perspectives on determinants of happiness, Lyubomirsky, Sheldon, et al. (2005) have proposed a model of sustainable happiness. In line with previous well-being research, it states that genetic set point accounts for around 50% of the variation in happiness, and

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circumstances account for around 10%, which leaves up to 40% of the variation in happiness for intentional activities.

Lyubomirsky, Sheldon, et al. consider **intentional activities** to be the most promising avenue for sustainably increasing happiness. They describe intentional activities as practices or actions in which one chooses to engage. They also assume that a degree of effort is required in enacting intentional activities (i.e., one must purposefully perform the activity). This conception of intentional activity includes a wide variety of thoughts and actions that people may engage in on a daily basis.

A substantial body of research in the gerontological literature has shown a link between older adults' activity and well-being; however, research focusing specifically on intentional activities and happiness has largely employed undergraduate student samples. In consequence, while younger adults' intentional happiness-enhancing activities have been explored, the intentional activities of older adults and their relationship with happiness and health have yet to be established.

Accordingly, we addressed this gap with an exploration of older adults' intentional happiness-enhancing activities.

Exploring older-adult happiness

Lyubomirsky, Sheldon and Schkade (2005) initially suggested three broad types of activities: behavioural, cognitive and goal-related. We were interested in the types of activities chosen and described by older people themselves.

First, we interviewed 23 older people who were 56-76 years old to identify common strategies used to enhance happiness



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(Henricksen & Stephens, 2010). People described a variety of activities, which were grouped under four main themes and used as the basis of items for the Happiness-enhancing Activities and Positive Practices Inventory (HAPPI).

Then, the HAPPI was included in a representative survey of 2,495 older adults, 55-73 years of age. The group was comprised of 55% New Zealanders of European descent, 41% New Zealanders of Maori descent and 4% "other" ethnicities. Education level was measured as an indicator of socioeconomic status, with 29% of the people having more than a secondary school education and 44% reporting no secondary school qualification (Henricksen & Stephens, 2011).

Types of activities

A factor analysis was conducted to show the underlying structure of the types of intentional activities engaged in by these older adults. Four groupings of activities were identified:

1. self-concordant work (personally rewarding activities that fit one's interests and strengths)

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Types of activities engaged in by older adults

Self-concordant work

- Doing something that uses your particular strengths and skills
- Working on something that gives you a sense of achievement
- Doing something you find mentally challenging
- Working in a role that you enjoy

Personal recreation and people

- Going on trips
- Going on outings
- Speaking to or doing something with good friends
- Meeting with others who share something in common
- Spending time helping others
- Speaking to or doing something with family

Spiritual and thought-related

- Counting your blessings
- Spiritual activities
- Framing things in a more positive light

Goal-focused

- Working towards achieving a property goal
- Devoting effort to a work goal
- Devoting time to an important personal goal



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2. personal recreation and activities with other people
3. spiritual and thought-related activities
4. goal-focused activities

You'll find more details on the activities on the previous page ("Types of activities engaged in by older adults").

The findings provided support for a clearer categorization of intentional happiness-enhancing strategies and helped to clarify the types of intentional activities engaged in by older people.

Activities and happiness

How are the intentional activities related to happiness? Further analysis of the study results indicated that the extent to which people engaged in each type of activity that was personally important to them was related to their self-reported levels of happiness.

The intentional activities together accounted for over 10% of the variation in self-reported happiness in the study group, which supports the sustainable happiness model's inclusion of intentional activities as a determinant of happiness.

The intentional activities had stronger relationships with life meaningfulness than with happiness, which supports a suggestion that older adults favor activities they believe will contribute meaning to their lives, rather than happiness per se.

Which activities are most important?

The four groups of intentional activities were all found to be related to happiness, although there were some differences in the importance of the different types of activities. The strongest relationships with



happiness, in order from most important to least, were:

1. personal recreation and activities with other people, and
2. self-concordant work followed by
3. spiritual and thought-related activities, and
4. goal-focused activities.

These priorities support the notion that certain activities may be inherently better than others in relation to their potential influence on happiness levels.

Social activities are well-known to be associated with higher levels of well-being, so there are no surprises in terms of the people-centered activities being first on the list. These include things such as spending time with family and friends, volunteer activities, day trips, holidays, taking part in interest groups. However, some people may prefer more solitary types of activities.

Personally rewarding self-concordant activities (which may or may not include others) came out as almost as important for happiness in our sample. Self-concordant activities by their nature are

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expected to vary somewhat from person to person (because they are about individual preferences) but share the characteristics of being challenging but achievable and personally rewarding. Examples from an earlier interview study (Henricksen & Stephens, 2010) depicting the diversity of this type of activity include farming, building, selling, writing, hospice work and other helping activities.

This finding relates to the idea of person-activity fit: the activities an individual engages in should be those that are considered important to them for optimal benefit. This notion is supported by findings that personal activity preferences and choices influence engagement in activities (Schueller, 2010) and subsequent well-being gains (Sheldon & Lyubomirsky, 2006b; Sin & Lyubomirsky, 2009). Social activities may not be best for all.

Weaker relationships were found between self-rated happiness and goal-focused and spiritual and thought-related activities. These types of activities may not be considered as important for happiness as they are for other motivators of engagement, such as life meaning.

The weak relation for spiritual and thought-related activities may also be confused by an association found with gender. We found that women are more likely to engage in religious activities and this is consistent with past findings regarding gender and religiosity. Thus, women may be more likely to find more happiness in spiritual activities, a suggestion that requires further investigation.

For the most part, the results also supported the prediction that the activities lead to happiness, and happiness in turn affects health. Spiritual and thought-related activities proved to be the exception. In addition to having a relatively weak

Resources

Authentic happiness: Using the new positive psychology to realize your potential for lasting fulfillment
M. Seligman
Free Press (Simon & Schuster, 2002)
www.simonandschuster.com

Authentic Happiness website
University of Pennsylvania
questionnaire for happiness, personal strengths, emotions
www.authentic-happiness.org/resources.aspx

The How of Happiness: A Scientific Approach to Getting the Life You Want
S. Lyubomirsky
Penguin reprint (2008)
<http://us.penguin-group.com/>

association with happiness, this type of activity did not relate to either physical or mental health.

Intentional happiness

Research on intentional activities that lead to happiness in older adults has promising implications, especially given research findings regarding the positive flow-on effects of happiness to other areas such as health, relationships and productivity.

In terms of enhancing happiness and health, it may be beneficial to identify and focus on activities that (1) fit individual interests and strengths, (2) work towards achieving personally fulfilling goals, and (3) offer the ability to engage in valued leisure and social activities.

Asking individuals to identify and rate the importance of various happiness-enhancing

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activities can help identify those activities that best 'fit' them. The HAPPI includes importance and frequency of engagement ratings (see page 8) that you can use to help identify the activities that best fit individuals.

Once you have determined the importance of different activities, you can probe to identify more specific activities an individual may want to spend more time doing. Another approach is for individuals to use an online personal strengths inventory, which may provide information on valued activities.

Take-home messages are that certain activities are intentionally undertaken by older adults to enhance happiness, and some of these activities seem to be more beneficial than others.

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Happiness-Enhancing Activities & Positive Practices Inventory

Here is a list of activities people often engage in to enhance their happiness. Please indicate how important you find each activity for increasing or maintaining your level of happiness, and how often you engage in each activity.

(Please tick two boxes for each activity: one regarding importance, and the other regarding frequency)

Activity	Importance					Frequency				
	Extremely Important	Very Important	Moderately Important	Slightly Important	Not at all Important	Daily or more often	Several times a week	Several times a month	Several times a year or less	Never, not applicable
Speaking to or doing something with family (e.g., children, grandchildren)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Speaking to or doing something with good friends	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Meeting with others who share something in common (e.g., interest groups, support groups, faith-related)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Going on outings (e.g., going out for a meal or function, time out in nature)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Going on trips (e.g., visiting family or friends, day trips, holidays away)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Spending time helping others (e.g., providing expertise, money, time, effort)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Doing something that uses your particular strengths and skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Working in a role that you enjoy (either paid or unpaid)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Doing something you find mentally challenging	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Working on something you get a sense of achievement from	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Counting your blessings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Spiritual activities (e.g., praying, meditating, worshipping)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Framing things in a more positive light	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Devoting time to an important personal goal (e.g., a relationship, health, holiday)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Working towards achieving a property goal (e.g., grounds, new house, vehicle)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Devoting effort to a work goal (e.g., cutting back workload, reaching a target)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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