

**WHICH WAY TO HAPPINESS: ‘GETTING AHEAD’ OR ‘GETTING
ALONG’?**

A thesis submitted to Royal Holloway, University of London, for the degree
of Doctor of Philosophy in the Faculty of Psychology

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DECLARATION OF WORK

I Kathryn Buchanan hereby declare that this thesis and the work presented in it is entirely my own. With regards to data collection, all the data in this thesis was collected by me with the exception of Studies 2 and 3, which Oliver P John (University of California, Berkeley) kindly provided the data for. It should be noted that this data had not previously been used to address the research questions examined in this thesis and that Oliver did not contribute to the analysis or writing of any of these studies or indeed any of this thesis. With regards to publication, some sections of this thesis have been rewritten and submitted for publication in peer reviewed journals. Specifically, Studies 2, 3, and 4 are under invited resubmission from the Journal of Personality.

Signed: K.E.Buchanan

ABSTRACT

This thesis examined happiness-enhancing behaviours using the framework provided by agency ('getting ahead') and communion ('getting along'). Agency entails a self-focused orientation and involves qualities such as ambition, independence, and competence. An example of an agency behaviour is, "strive to improve my skills". In comparison, communion entails an other-focused orientation and concerns connections with others, solidarity and co-operation. An example of a communion behaviour is, e.g., "spend quality time connecting with others". Three key research questions were addressed: (1) Are agency and communion behaviours beneficial for well-being? (2) Is a balance between agency and communion required for optimum well-being? (3) Are agency behaviours and communion behaviours beneficial for everyone or only for those who achieve a good person-activity fit, i.e., those whose traits fit with the behaviours? A series of studies were conducted involving correlational studies (Studies 1a to 4), naturalistic studies (Study 5, Chapter 6), and an intervention study (Study 6, Chapter 7). The findings revealed that agency and communion behaviours were positively related to and increased well-being. There was some support for the notion that a balance of agency and communion is needed for well-being. Specifically, analyses revealed that lower well-being was significantly associated with instances in which either dimension was so extreme it came at the cost of the other dimension (e.g., behaviour in which agency is performed at the cost of communion). Findings also showed that the co-occurrence of agency and communion in a single behaviour (referred to as a-c behaviour) was positively related to and increased well-being. With regard to person-activity fit, overall, the findings showed that the extent to which agency and communion behaviours were consistent with an individual's traits did not matter. However, the extent to which individuals perceived the behaviour as matching his or her traits did matter. Specifically, the more participants perceived the activity as matching a behaviour they were asked to enact, the more likely they were to experience gains in well-being. This thesis concludes with a discussion of the theoretical and applied implications of its findings and identifies some promising avenues for future research.

LIST OF CONTENTS

WHICH WAY TO HAPPINESS: ‘GETTING AHEAD’ OR ‘GETTING ALONG’?.....	1
DECLARATION OF WORK.....	2
ABSTRACT.....	3
LIST OF TABLES.....	13
LIST OF FIGURES.....	16
LIST OF APPENDICES.....	17
ACKNOWLEDGEMENTS.....	18
CHAPTER 1: WHAT IS HAPPINESS? CAN HAPPINESS BE INCREASED? WHY INCREASE IT?.....	19
1.1 What is happiness and how can we measure it?.....	19
1.1.1 The ability to select goods.....	19
1.1.2 Normative Ideals.....	22
1.1.3 The experience of individuals.....	24
1.1.4 The present thesis: Focusing on subjective well-being ...	29
1.2 Can happiness be increased?.....	30
1.2.1 Genetics.....	30
1.2.2 Hedonic adaptation.....	33
1.2.3 The Sustainable Happiness Model.....	34
1.2.4 The present thesis: Focusing on behaviours as a pathway to happiness.....	35
1.3 Why increase happiness?.....	36
1.3.1 The benefits of happiness: Better social relationships.....	37

1.3.2	The benefits of happiness: Productivity	37
1.3.3	The benefits of happiness: Health	37
1.3.4	Increasing happiness: A desirable aim	38
1.4	Summary	39
CHAPTER 2: LITERATURE REVIEW: AGENCY, COMMUNION, AND WELL-BEING		40
2.1	Overview	40
2.2	Applying a framework to examine happiness enhancing behaviours	40
2.2.1	Introducing the framework: agency and communion.....	41
2.2.2	Reasons for adopting the framework of agency and communion	43
2.3	The research questions	44
2.4	Conducting a literature review	45
2.5	Linking Agency and Communion to Well-Being	45
2.5.1	Trait Agency, Trait Communion and Well-Being.....	46
2.5.2	Disadvantages of the trait approach.....	47
2.6	Are agency and communion behaviours related to well-being?	48
2.7	Which is better for well-being – agency behaviour or communion behaviour?	52
2.8	Does each construct influence different aspects of well-being?	53
2.9	Are both agency and communion needed for well-being?.....	54

2.9.1	Occurrence of one dimension without the other.....	54
2.9.2	High levels of both agency and communion result in optimal well-being.....	56
2.10	The relationship between agency and communion	58
2.10.1	Negative (oppositional)	59
2.10.2	Independent (orthogonal)	59
2.10.3	Positive (the co-occurrence of both).....	61
2.10.4	Why the relationship between agency and communion is not clear cut	62
2.11	The contribution of person-activity fit	63
2.12	The present research.....	70
	CHAPTER 3: STUDY 1A	74
3.1	Introduction	74
3.2	Developing a Pool of Agency and Communion Behaviour Items	74
3.2.2	Generating additional items.....	77
3.3	A Pilot Study	77
3.3.1	Method.....	77
3.4.2	Results and Discussion	79
3.5	Research questions addressed in Study 1a	80
3.6	Method	81
3.6.1	Participants	81
3.6.2	Procedure	81
3.6.3	Measuring Behaviours.....	81

3.6.4	Measuring Well-being	84
3.6.5	Measuring traits: agency, communion and their unmitigated counterparts	86
3.6.6	Measuring traits: Extraversion and Neuroticism	87
3.7	Analytic Strategy	87
3.8	Results and Discussion	90
3.8.1	Examining the Behaviour Scale	91
3.8.2	Relations of behaviours to traits	96
3.8.3	Correlations between agency, communion and their unmitigated counterparts	97
3.8.4	Relations of agency, communion and their unmitigated counterparts to well-being	98
3.8.5	Examining the contribution of trait-behaviour fit to well- being	104
3.9	Study 1: Summary	106
CHAPTER 4: STUDY 1b.....		108
4.1	Introduction	108
4.1.2	Revision of the behaviour scales	108
4.1.3	Structural integrity: Further exploratory factor analysis and confirmatory factor analysis	110
4.1.4	Convergent, discriminant and predictive validity.....	110
4.1.5	Incremental Validity	113
4.1.6	Examining the Influence of Social Desirability	113
4.2	Method	114

4.2.1	Procedure	114
4.2.2	Participants	114
4.2.3	Measures	115
4.3	Results	118
4.3.1	Exploratory factor analyses	118
4.3.2	Confirmatory Factor Analysis	120
4.3.3	Convergent, Discriminatory, Predictive and Incremental Validity	123
4.4	Discussion	130
CHAPTER 5: STUDIES 1b, 2 AND 3		133
5.1	Introduction	133
5.2	Literature review	134
5.2.1	Values: Definition, content, structure and measurement	134
5.2.2	Why conceptualize person-activity as value-behaviour fit?	139
5.2.3	Measuring agency and communion values.....	140
5.2.4	Existing research: The direct relation between values and well-being	141
5.2.5	Existing research: Relating value-behaviour fit to well- being	143
5.3	Overview of Studies 2,3, and 4	145
5.4	Analytic Strategy.....	145
5.5	Study 1b: Method	146

5.6	Results	146
5.7	Study 2 Discussion	147
5.8	Overview: Study 3.....	149
5.9	Study 3 Method	150
5.9.1	Participants and Procedure	150
5.9.2	Measures	150
5.9.2.2	<i>Values.</i>	150
5.9.2.4	<i>Life Goals.</i>	151
5.10	Study 3 Results.....	151
5.11	Study 3 Discussion.....	154
5.12	Study 4 Method	155
5.12.1	Participants and Procedure	155
5.12.2	Measures	155
5.13	Study 4 Results.....	155
5.14	Study 4 Discussion.....	157
5.15	General Discussion.....	158
5.15.1	Implications, limitations and future directions	158
CHAPTER 6: STUDY 5		161
6.1	Introduction	161
6.2	The present research.....	161
6.2.1	Using a naturalistic design.....	161
6.2.2	The four activities and their relation to agency and communion	162
6.3	The activities and well-being	165

6.3.1	Attending a careers fair (an agency activity) and well-being	165
6.3.2	Volunteering (a communion activity) and well-being...	166
6.3.3	Mentoring (an agency and communion activity) and well-being	169
6.3.4	Innovation academy (an agency and communion activity) and well-being	171
6.3.5	Person-activity fit	172
6.4	Method	173
6.4.1	Procedure	173
6.4.2	Participants	174
6.4.3	Measures	177
6.5	Results	179
6.5.1	Preliminary analyses.....	179
6.5.2	Did the activities increase well-being?.....	183
6.5.3	Person-activity fit and well-being.....	187
6.6	Discussion	189
6.6.1	Did the activities involve agency and communion gains?	189
6.6.2	Did the activities increase well-being?.....	190
6.6.3	Person-Activity fit and well-being	194
6.6.4	Strengths and weaknesses.....	195
CHAPTER 7: STUDY 6.....		197
7.1	Introduction	197

7.1.1	Existing happiness-enhancing interventions involving the two dimensions	198
7.1.2	Predicting which behaviour will be the most effective in enhancing well-being.....	202
7.1.3	Person-activity fit	203
7.2	Pilot Study: Selecting a control behaviour.....	204
7.3	Study 6: Method	206
7.3.1	Participants	206
7.3.2	Procedure	207
7.3.3	Materials and Measures	208
7.4	Results	211
7.4.1	Preliminary Analyses.....	212
7.4.2	Can agency, communion and a-c behaviours increase well-being?	215
7.4.3	Objective person-activity fit	219
7.5	Discussion	220
7.5.1	Did agency, communion and a-c behaviour increase well-being?.....	220
7.5.2	Comparing the behaviours: which increased well-being the most?.....	221
7.5.3	Distinct consequences for well-being?	222
7.5.4	Person-activity fit	222
7.6	Limitations	224
7.7	Conclusion.....	224

CHAPTER 8: GENERAL DISCUSSION	226
8.1 Introduction	226
8.2 Summary of findings	226
8.2.1 Can agency and communion behaviours increase well-being?.....	226
8.2.2 Are both agency and communion needed for well-being?	233
8.2.3 Are agency behaviours and communion behaviours beneficial for everyone or only when they fit a person?	235
8.3 Assessing my contribution: Strengths and weaknesses.....	238
8.3.1 The framework	238
8.3.2 A new type of behaviour that can increase well-being..	243
8.3.3 Examining person-activity fit	245
8.4 Future research	246
8.4.1 Agency, communion and well-being: A bi-directional relationship?.....	247
8.4.2 Why do agency and communion behaviours increase well-being?.....	249
8.5 Summary and Conclusion	250
REFERENCES	253
APPENDICES	300
Total Word Count: 69,511.	

LIST OF TABLES

Table 1. <i>The behaviour items used from Bardi and Schwartz (2003)</i> .75	
Table 2. <i>Correlations between trait agency and trait communion and the values posited to represent them</i>.....79	
Table 3. <i>Exploratory factor analysis: Agency, communion and their unmitigated counterparts</i>.....93	
Table 4. <i>Exploratory factor analysis: A-C items</i> .....95	
Table 5. <i>Correlations between the traits and behaviours of agency, communion, and their unmitigated counterparts</i>.....96	
Table 6. <i>Correlations between traits, behaviours and the well-being measures</i> .....99	
Table 7. <i>Predicting well-being measures from each behaviour while controlling for extraversion and neuroticism</i> .....102	
Table 8. <i>The contribution of traits, behaviours and trait-behaviour fit to well-being measures</i> .....104	
Table 9. <i>Exploratory factor analysis on agency and communion behaviour items using oblimin rotation</i> .....119	
Table 10. <i>Exploratory Factor Analysis on A-C Behaviour Items</i> .....120	
Table 11. <i>Confirmatory Factor Analysis: Agency and Communion Behaviours</i> .....122	
Table 12. <i>Confirmatory Factor Analysis: A-C Behaviour Items</i> .....123	
Table 13. <i>Zero Order and Partial Order Correlations</i>.....123	
Table 14. <i>Relation of constructs to social desirability</i> .....128	

Table 15. <i>Correlations between the behaviours and traits, goals, values, motives and need satisfaction.</i>	130
Table 16. <i>Definitions of types of values and the items that represent and measure them</i>	135
Table 17. <i>Regression analyses showing the contribution of agency and communion motives, behaviours and motive-behaviour fit to well-being</i>	147
Table 18. <i>Regression analyses showing the contribution of agency and communion motives, behaviours and motive-behaviour fit to well-being.</i>	152
Table 19. <i>Regression analyses showing the contribution of agency and communion motives, behaviours and motive-behaviour fit to well-being.</i>	153
Table 20. <i>Regression analyses showing the contribution of agency and communion motives, behaviours and motive-behaviour fit to well-being.</i>	156
Table 21. <i>Regression analyses showing the contribution of agency and communion motives, behaviours and motive-behaviour fit to well-being.</i>	157
Table 22. <i>Participant demographics per activity and activity details</i>	174
Table 23. <i>Alpha coefficients for all measures by activity</i>	177
Table 24. <i>Correlations between trait agency and trait communion and the perceived and expected agency and communion gains</i>	180
Table 25. <i>Expected and perceived agency and communion gains and the results of paired sample t-tests for each activity</i>	182
Table 26. <i>Subjective well-being means and standard deviations for each activity at Time 1 and Time 2</i>	185
Table 27. <i>Means and standard deviations of expectation fulfilment by activity type</i>	186

Table 28. <i>Predicting well-being increases from traits per each activity</i>	188
Table 29. <i>Correlations between each behaviour type and well-being in the pilot study</i>	206
Table 30. <i>Descriptive statistics for the reasons participants chose not to proceed with the experiment</i>	212
Table 31. <i>Means and standard errors for pre and post experiment, and significance of differences by behaviour condition</i>	218

LIST OF FIGURES

<i>Figure 1.</i> Three factor that influence chronic happiness	35
<i>Figure 2.</i> The interpersonal circle.....	60
<i>Figure 3.</i> Ten values and their circular motivational structure.....	137
<i>Figure 4.</i> The 9-point scale used in the Schwartz Value Survey.....	139
<i>Figure 5.</i> The intervention study's procedure.....	208

LIST OF APPENDICES

Appendix 1. <i>Behaviour items used to measure agency, communion, their unmitigated counterparts, and a-c.</i>	300
Appendix 2. <i>Items used to measure the expected agency and communion gains participants anticipated obtaining from each activity in Study 5</i>	302
Appendix 3. <i>The behaviour instructions participants received in each condition in the intervention study</i>	303

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“Success is not final, failure is not fatal: it is the courage to continue that counts.”

– Winston Churchill

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CHAPTER 1: WHAT IS HAPPINESS? CAN HAPPINESS BE INCREASED? WHY INCREASE IT?

The overarching objective of this thesis is to identify behaviours that could increase well-being. Given this aim, some important preliminary questions need to be addressed. Namely: ‘what is happiness?’, ‘can happiness be increased?’ and, ‘why increase happiness?’ The following chapter briefly addresses each of these questions.

1.1 What is happiness and how can we measure it?

What is happiness and how can we measure it? These questions are by no means small and could easily constitute a PhD in their own right. However, it is integral to consider these questions because if happiness is to be increased then it is necessary to both define and measure it. According to Brock (1993) there are three main philosophical approaches to defining “the good life”. These approaches have different inferences for the measurement of well-being and each approach contains information that is not contained in the other measures (Diener & Suh, 1997). In the following section I briefly outline each approach and evaluate the measurements of well-being they lead to.

1.1.1 The ability to select goods

The first approach posits that the good life is achieved when individuals obtain what they desire within the constraints of their resources. If well-being is conceptualised using the “ability to select goods” approach then it is measured using indicators of economic progress (Diener & Suh, 1993). For a long time quality of life was solely measured using GNP, i.e., the higher that level in a country, the better the life of its citizens was presumed to be (Veenhoven, 1999). Such an approach may seem appropriate when we

consider that some of the unhappiest nations are some of the poorest (Stevenson & Wolfers, 2008) and that there is a relatively substantial correlation between a country's GNP and the self-reported well-being of its inhabitants (e.g., Diener et al., 2009; Inglehart, Foa, Peterson, & Welzel, 2008). In addition, having more money tends to result in having more benefits such as a higher social status, increased personal control and the opportunity for philanthropy (for a review see Diener & Biswas-Diener, 2002). These benefits may lead to an environment in which well-being is more easily obtained. However, there are several fundamental problems with the ability to select goods approach.

Firstly, the relationship between economic progress and well-being is not clear cut and there are numerous examples of research demonstrating this. For instance, Biswas-Diener et al. (2005) found that despite relatively impoverished living conditions the Maasai, Amish and Inghuit cultures report levels of well-being above neutral. While Myers (1993) found that although US citizens net income almost doubled between 1960 and 1990 the percentage of people describing themselves as “very happy” remained at 30% (pp. 41—42). It seems material wealth explains well-being only to a certain extent (Csikszentmihalyi, 1999). Empirical data obtained from almost half a million Americans shows that those with higher incomes experience more daily positive affect but that these emotional benefits taper off for annual incomes over \$75,000 (Kahneman & Deaton, 2010). Such findings are in line with assertions that “greater economic prosperity at some point ceases to buy more happiness” (Clark, Frijters & Shields, 2008, p.123).

Secondly, critiques of the GDP have often commented that “measuring the market value of economic production tells us very little about the broader health of the community” (Salvaris, 2000, p.5). Indeed, Diener and Suh (1999) note that economic progress does not necessarily lead to greater well-being because it does not guarantee other important factors such as absence of crime. In fact it may even lead to conditions that are worse for well-being such as less leisure time (see review in Brajša-Žganec, Merkaš, Šverko, 2011) as well as detracting from facets that are important for the good life such as meaning, love and personal growth.

Finally, aside from the fact that the relationship between economic progress and well-being is complex, what an individual desires may not necessarily increase their well-being (Diener & Suh, 1999). Indeed, this approach presumes a degree of rationality that humans may not have (Varey & Kahneman, 1992). Indeed, a comprehensive review of the literature shows people systematically fail to predict or choose what maximizes their happiness and extensively outlines the reasons for this (Hsee & Hastie, 2006, see also Kasser & Ryan, 1993, 1996; Wilson & Gilbert, 2003). For instance, often advertising leads people to desire materialistic goods such as smart phones, cars, cosmetic surgery etc. Yet research suggests this pre-occupation with materialism is associated with negative emotions and the failure to satisfy the core needs required for psychological well-being, i.e., autonomy, competence and relatedness (Kashdan & Breen, 2007; Kasser & Ahuvia, 2002; Ryan & Deci, 2001). For instance, a study found subtly priming participants with money cues led them to be less sociable, thus affording them less opportunity for relatedness satiation (Vohs, Mead, & Goode, 2006). Moreover, there is

some neurological data supporting the notion as wanting and liking appear to be governed by two different neural systems (Berridge, 1996).

1.1.2 Normative Ideals

The second approach posits that the good life entails characteristics that are based on the normative ideals of religious, philosophical, or other systems. For example, if one's religion stresses kindness then a necessary condition for a good life may entail helping others. If well-being is conceptualised according to this "normative ideal" approach then it is measured using social indicators (Diener & Suh, 1997). According to one of the most publicized definitions a social indicator is defined as follows (United States, Department of Health, Education, and Welfare, 1969, p.97).

"A social indicator as the term is used here, may be defined to be a statistic of direct normative interest, which facilitates concise, comprehensive and balanced judgements about the condition of major aspects of society. It is in all cases a direct measure of welfare and is subject to the interpretation that, if it changes in the 'right' direction while other things remain equal things have gotten better, or people are 'better off'. Thus statistics on the number of doctors or policemen could not be social indicators where figures on health or crime rates could be."

In other words, social indicators are measured using quantitative units and are an objective means of assessing well-being as they reflect concrete information or social facts independent of personal evaluations (Noll, 2002). The use of social indicators arose out of dissatisfaction with economic measures of quality of life which were posited to be too narrow to accurately reflect the many features of society that contribute to "the good life"

(Veenhoven, 1996). Hence, social indicators encompass a broad range of variables. For instance, infant mortality, doctors per capita, and longevity are assessed in the health domain, and homicide rates, police per capita, and rates of rape are assessed to detect crime-related quality of life (Diener & Suh, 1997). This wide range of social indicators demonstrates that the kind of indicators chosen for empirical measurement depend largely on the underlying conceptualization (Noll, 2002). The primary strength of this approach is that it measures information beyond that contained in economic measures and it is not contaminated by subjective measures reliant on self-report methods, although notably this so called objective measure is based on subjective judgements regarding which indicators are appropriate to measure “the good life”.

However, there are a number of different problems with this approach. It relies on the assumption that living conditions can be judged as good/bad by comparing real conditions with normative criteria. This is a questionable assumption to rely on because it requires a consensus to be reached about (a) the dimensions necessary for the good life, (b) what is considered good or bad living conditions and (c) the direction in which society should move (Noll, 2002). Such a consensus may not often be reached. Indeed, the normative ideals which social indicators are based on are highly variable, differing within and between countries as well as across time and generations (e.g., Diener & Suh, 2003; OECD, 2009). This does not allow for comparisons over time and without this information it becomes impossible to judge whether quality of life improves (Veenhoven, 1996). Moreover, the fact this objective measure is based on subjective opinion is reflected in researchers’ tendencies to use

different indices to evaluate quality of life conditions. For instance, Kane (2003) evaluated QOL conditions by using indicators of income, health status, mental health status, disease profiles, educational level, and housing situation to measure the overall quality of life, whereas Gregory et al. (2009) regarded wealth, employment, environment, health, education, recreation and leisure time, and social belonging as the key indicators reflecting the standard of quality of life.

Additionally, sole reliance on social indicators entirely overlooks an individual's feelings and perspective (Andrews & Withey, 1976; Argyle, 1999; Campbell et al., 1976). After all, it is entirely plausible that an individual could live in an area where there are low crime rates and high levels of employment but yet still not feel they are experiencing "the good life". Indeed, research has found that scores of personal satisfaction are not very consistent with people's scores of satisfaction with social indicators such as income, healthcare and education (Lin, 2013).

1.1.3 The experience of individuals

The third approach states that the good life is based on the experience of the individuals. Therefore, if an individual's experiences his or her life to be good then it is assumed to be so. According to this approach the best way to find out if an individual is happy is to ask them. This approach to assessing well-being has typically dominated the social sciences and in particular positive psychology, defined as, "the scientific study of optimal human functioning" (Linley, Joseph, Harrington, & Wood, 2006, p. 6).

Within this approach, there are two main conceptualisations of well-being that are increasingly used by positive psychologists: hedonic and

eudaimonic (Ryan & Deci, 2001; Ryff, 1989; Ryff & Singer, 1998; Waterman, 1993). Summarised simplistically, hedonic well-being refers to pleasure attainment and pain avoidance, and eudaimonic well-being refers to living life in full in accordance with one's potential (Ryan & Deci, 2001). Typically, research has found that hedonic and eudaimonic well-being load separately onto two independent but related factors (e.g., Keyes, 2002a; Linley et al., 2009; McGregor & Little, 1998).

1.1.3.1 Hedonic Well-Being

Subjective well-being has frequently been labelled as hedonic well-being (e.g., Kahneman, Diener, & Schwartz, 1999). Subjective well-being or reported happiness¹ is operationalized as the presence of positive affect, the absence of negative affect, and a high degree of personal life satisfaction (see review in Diener, Eunkook, Lucas, & Smith, 1999). Positive and negative affect are measured by asking individuals to use a Likert scale to indicate the extent to which they have experienced positive feelings (e.g., interested) and negative feelings (e.g., distressed). Life satisfaction is measured by asking individuals to make cognitive judgements about their own lives by indicating to what extent they endorse statements such as, "In most ways my life is close to my ideal". Some researchers have objected to the classification of subjective well-being as hedonic, arguing that its inclusion of the cognitive

¹ Research often uses the terms happiness and subjective well-being interchangeably (e.g., Diener, Kesebir, & Tov, 2009; Kahneman, Diener, & Schwartz, 1999; Lyubomirsky, 2001)

measure of life satisfaction means it is not purely affect based (Deci & Ryan, 2008; Keyes, Shmotkin, & Ryff, 2002) but also reflects individuals perceived distance from their aspirations (Campbell, Converse, & Rodgers, 1976).

The three factor structure of positive affect, negative affect and life satisfaction has been confirmed in several studies (see Lucas, Diener, & Suh, 1996). Also consistent are research findings showing positive affect and negative affect are uncorrelated (e.g., Cacioppo, Gardner, & Bernston, 1999; Diener, Smith, & Fujita, 1995; Keyes, 2000; McCrae & Costa, 1980; Watson & Clark, 1997; Zautra, Potter, & Reich, 1997).

1.1.3.2 Eudaimonic Well-Being

Proponents of the eudaimonic well-being approach tend to conceptualize eudaimonic well-being as involving self actualization or reaching one's true potential, "through engagement with existential challenges of life" (Keyes et al., 2002, p. 1007, see also Ryff, 1989, Waterman, 1993). In contrast to hedonic well-being, there is no single prominent theory of eudaimonic well-being and this 'umbrella' term seems to encompass many theories and constructs (providing they do not include an explicit affective measure), such as psychological well-being (Ryff, 1989), personal expressiveness (Waterman, Schwartz, & Conti, 2008), self-determination (Ryan & Deci, 2000, 2001), and flow (Csikszentmihalyi, 1990). Because of this eudaimonic well-being is less clearly defined and debates have raged about how to conceptualize and measure it and if the distinction between hedonic and eudaimonic well-being is even useful (e.g., Deci & Ryan, 2008; Kashdan, Biswas-Diener, & King, 2008; Waterman, 2008).

Notably this method of utilising self-report methods to assess well-being is vulnerable to a number of criticisms (e.g., Nisbett & Wilson, 1979; Nisbett & Ross, 1980). From the social constructionist perspective happiness may be viewed as a label people have learned to apply to themselves and others to “describe, explain, or otherwise account for the world we live in” (Gergen, 1985, p. 266). This learning can be seen as an outcome of socialization, hence, according to this perspective, ideas of the good life or happiness are socially constructed and are greatly influenced by wider culture and shared history (Veenhoven, 2006). This suggests that happiness is culturally variable and indeed, some research suggests well-being varies both within and between cultures (Biswas-Diener, Vitterso, & Diener, 2005). Consequently it may be less than ideal to use self-report measures of well-being as they (a) may not capture accurately what happiness means to each and every individual and (b) may not allow for meaningful comparisons across nations. However, it has been argued there is considerable agreement as to what happiness means and whether it has been achieved (e.g., Freedman, 1978; Lyubomirsky & Lepper, 1999). For instance, Argyle (2001, p.1) notes, “it is sometimes said that the concept of happiness is obscure and mysterious. But it is clear that most people know what it is”. People can identify others who are chronically happy, even in face of adversity, or people who are consistently unhappy, despite the best of circumstances (Myers & Diener, 1995). Moreover, people are capable of reporting how they are feeling, and in social surveys such questions get 99% response rates, noticeably higher than the average response rate to other questions (Layard, 2003). Additionally, subjective well-being measures have been extensively validated with other

more objective measures such as peer rated measures of well-being and smiling behaviours (see review in Diener, Kesebir, & Tov., 2009). In a similar vein, a recent study using a sample of one million Americans across 50 states found there is a close match between people's subjective life-satisfaction scores and objectively estimated quality of life (Oswald & Wu, 2010). Even more convincingly, research in the field of neuro science has shown that positive feelings correspond to brain activity in the left side of the pre-frontal cortex, and negative feelings correspond to brain activity in the right side of the cortex (Davidson, Jackson, & Kalin, 2000). There is doubtlessly some truth in the notion that happiness may be jointly constructed through interaction. However, if the meaning of happiness was vastly variable then it would not be possible to objectively verify these subjective measures of well-being. Additionally, if happiness is a 'reality' socially constructed through language then it seems appropriate to utilise a measure of the same medium to reproduce this 'reality'. Hence, using language to ask questions about how happy people are may help them uncover how 'happiness' comes about.

Another criticism of self reported measures of happiness is that they are seen as lacking scientific credibility (Diener & Suh, 1993). This is somewhat surprising given that they have stood up to numerous tests of reliability and validity. For instance, measures of global subjective well-being show temporal stabilities ranging from .5 to .7 over a period of several years (Diener, 1994) and have been associated with a variety of other well-being indicators including daily mood ratings, number of positive and negative events recalled, and clinical interviews (Pavot, Diener, Colvin & Sandvik, 1991; Sandvik, Diener, & Seiditz, 1993). This skepticism towards measuring

well-being using self report methods implies a belief that individuals are not the ones best placed to report on their own well-being. Yet as Gilbert (2006) points out, reporting on one's own well-being is comparable to a scientific practise taken very seriously: optometry. "The one and only way for an optometrist to know what your visual experience is like is to ask you, 'Does it look clearer like this or (click click) like this?'" Given that well-being is experienced internally by individuals it seems bizarre to suggest that anyone other than "whoever lives inside a person's skin" (Myers & Diener, 1995, p.11; see also Diener, 1994) is deemed qualified to report on such matters. Nonetheless, critics have noted that reports of happiness may be influenced by response artifacts such as social desirability (Carstensen & Cone, 1983). For example, if a person believes it is socially desirable to be happy they may falsely inflate their reports of well-being. However, research suggests that reports of subjective well-being are not unduly subject to social desirability bias (Vella-Brodrick & White, 1997). Moreover, research has also found a measure of social desirability to be a significant predictor of objective measures of well-being as well as subjective measures of well-being (Diener, Sandvik, Pavot & Gallagher, 1991). Diener et al., consequently suggest that social desirability may be a substantive personality characteristic which enhances well-being, rather than being a response artefact and source of error variance.

1.1.4 The present thesis: Focusing on subjective well-being

The present thesis will focus mainly on subjective well-being (Studies 1, 2, 5 and 6) There are several reasons for this. Firstly, happiness is undeniably subjective, varying both within and between cultures (Biswas-

Diener, Vitterso, & Diener, 2005). As Keyes et al. (2002, p. 1007) acknowledge, “Though people live in objectively defined environments, it is their subjectively defined worlds that they respond to”. Hence it is appropriate to use an approach that recognizes individuals are best placed to evaluate their own lives using both affective and cognitive judgments. In line with this, Sheldon and Lyubomirsky (2007) point out that it is senseless to claim a person is happy if he/she does not acknowledge being happy. Secondly, unlike the eudaimonic approach, the conceptualization of subjective well-being has been widely examined and is commonly employed (Ryan & Deci, 2001; Sheldon & Lyubomirsky, 2007). Using a frequently endorsed approach has the advantage that much is known about the reliability and validity of the scale (for a review see Diener, 1994). Moreover, it also means that my own research can be understood in the wider context of existing and forthcoming research. In particular, intervention studies examining happiness enhancing behaviours have tended to measure subjective well-being (see meta-analysis in Sin & Lyubomirsky, 2009).

1.2 Can happiness be increased?

There is considerable scepticism surrounding the notion that happiness can be increased. In particular, two key factors call into question the possibility of increasing well-being: genetics and hedonic adaptation. In the following section I address these arguments before reviewing a model and supporting studies which argues that well-being can be increased.

1.2.1 Genetics

The powerful role genetics play in determining our well-being has caused declarations that, “trying to be happier is as futile as trying to be taller”

(Lykken & Tellegen, 1996, p.189). Set point theory proposes that despite good or bad events an individual's default level of happiness is constrained by pre-determined genetics (Diener & Diener, 1995). Several research studies support the notion that happiness has a genetic component with heritability estimates ranging from .25 to .55 (Bergeman, Plomin, Pedersen, & McClearn, 1991; Harris, Pedersen, Stacey, McClearn, & Nesselroade, 1992; Lykken & Tellegen, 1996; Røysamb, Harris, Magnus, Vittersø, & Tambs, 2002). Sensitive to criticisms that such high correlations may be the result of a shared environment, research has examined identical and non-identical twins raised separately and together and found that common environmental effects shared by twins did not lead to more similar levels of happiness (Lykken & Tellegen, 1996; Tellegen et al., 1988). More recently, research has even identified a happiness gene thought to be accountable for our life satisfaction (De Neve, 2011; De Neve, Christakis, Fowler, & Frey, 2010).

Genes may contribute to happiness in a number of different ways. For instance, genes may influence the production and regulation of serotonin and dopamine, brain chemicals with close linkages to reported happiness (Ebstein, Novick, Umansky, Priel, & Osher, 1996; Hamer, 1996). Genes may also influence happiness via personality traits, which in turn have been correlated with both subjective and psychological well-being (Grant, Langan-Fox, & Anglim, 2009). Indeed, research based on a large and representative twin sample, suggests that subjective well-being and personality may share a common genetic structure (Weiss, Bates, & Luciano, 2008). A consistent finding within personality research is the positive correlation between extraversion and subjective well-being and the negative correlation between

neuroticism and subjective well-being (for a meta- analysis see DeNeve & Cooper, 1998). These two personality traits have even been found to predict subjective well-being 20 years later (Costa & McCrae, 1980; McCrae & Costa, 1984). In line with this, Headey (2006) reports that the people who are most likely to record large changes in life satisfaction are those who score highly on the personality traits of extraversion and/or neuroticism.

However, it is worth noting that research in this area views personality as a stable construct. Yet, there is evidence that some characteristics (e.g., neuroticism, sensation seeking) may diminish with age (Costa & McCrae, 1980; Neyer, 2000) and recent cross sectional and longitudinal analyses have shown that personality can and does change, to the same extent that income, unemployment and marital status change (Boyce, Wood & Powdthavee, in press). Hence, personality may not necessarily be as big an obstacle to enhancing happiness as previously thought by other researchers (e.g., Lyubomirsky, Sheldon & Schkade, 2005). Nonetheless, the evidence reviewed suggests genetics undeniably contribute to an individual's potential subjective well-being and in doing so provide preliminary support for the set point theory. Notably, subsequent authors have critiqued the notion of a set *point*, instead arguing for a set *range* on the basis that our happiness is influenced by factors other than genetics (Sheldon, & Lyubomirsky, 2012; Sheldon, Boehm, & Lyubomirsky, in press). From this view point, "the happiness-increase question becomes: "how can one reach, and stay in, the upper end of one's set range?" (Sheldon & Lyubomirsky, 2007, p. 135). Although research has indicated that genetics undoubtedly play a role in

happiness, even the highest heritability estimates indicate that they are just half the story of an individual's happiness.

1.2.2 Hedonic adaptation

Another serious obstacle that stands in the way of increasing well-being is the process of adaptation, sometimes referred to as the hedonic treadmill. Adaptation refers to the weakening of a response after one or more exposures to a stimulus (Wilson & Gilbert, 2008). The "hedonic treadmill" refers to the constant battle of man, "to seek new levels of stimulation merely to maintain old levels of subjective pleasure" (Brickman & Campbell, 1971, p. 289). Essentially, both concepts refer to the notion that happiness is fleeting due to the unavoidable process of adjustment. Support for the hedonic treadmill can be found in the adaptation of individuals after significant events. For instance, Brickman et al., (1978) found individuals with paraplegia were substantially less happy than individuals who won the lottery. Further support can be found in the ability of people to adjust to major life events such as spinal cord injuries (Silver, 1982 as cited in Lucas, Clark, Georgellis & Diener, 2003), incarceration (Flanagan, 1980; Mackenzie, & Goodstein, 1985; Zamble & Proporino, 1990), and the death of a spouse (Bonanno et al., 2002; Bonanno, Wortman, & Nesse, 2004). The myriad of evidence supporting the hedonic treadmill (for a review see Frederick & Lowenstein, 1999) implies sustained increases in happiness are not possible. However, longitudinal data shows that for approximately 25% of people long-term levels of happiness do change (Fujita & Diener, 2005). Furthermore, some studies have shown certain events (e.g., repeated spells of unemployment, marriage, unexpected death of a child, cosmetic surgery, etc.) can lead to medium and perhaps

permanent changes to happiness set points (Clark, Georgellies, Lucas, & Diener, 2004; Lucas et al., 2003; Wortman & Silver, 1986). Longitudinal studies have also demonstrated happiness appears to alter over people's life spans (Charles, Reynolds, & Gatz, 2001; Mroczek & Spiro, 2005).

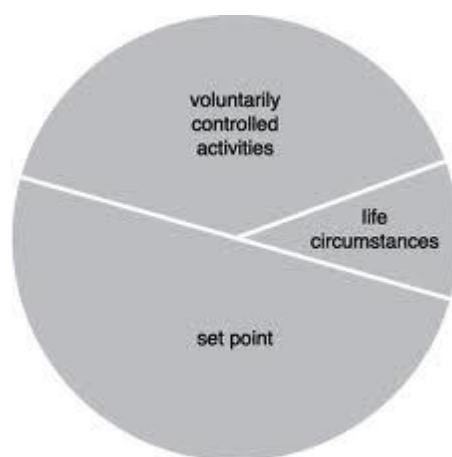
1.2.3 The Sustainable Happiness Model

The Sustainable Happiness Model (Lyubomirsky et al., 2005) provides a theoretical framework for experimental intervention research on how to increase and maintain happiness (Beohm & Lyubomirsky, 2009). It states there are three major determinants of happiness: genetics, circumstances and intentional activities. The variance in an individual's happiness is 50% determined by genetics, 10% by circumstances, and 40% by intentional activities. Circumstances are defined as including factors such as a person's national or cultural region, demographics (e.g., gender, ethnicity), personal experiences (e.g., past traumas and triumphs), and life status variables (e.g., marital status, education level, health, and income)". Intentional activities are defined as, "discrete actions or practices that people can choose to do" (Lyubomirsky, et al., 2005, p. 8). According to the Sustainable Happiness Model, genetics and circumstances are decidedly doubtful routes to happiness. This argument is made on the basis that there is little that people can do about their own genetics and/or the constant nature of circumstances which makes them vulnerable to the effects of adaption. However, as noted earlier there is some empirical support for the notion that people's set points of happiness can change in response to certain circumstances or events (Clark et al., 2004; Lucas et al., 2003; Wortman & Silver, 1986). Hence, the Sustainable Happiness Model proposes that a far more promising route to increasing

happiness is intentional activities. Activities that people choose to do are naturally variable therefore making them less susceptible to adaption. So far research has demonstrated practising activities from anywhere between 1 to 12 consecutive weeks can significantly increase well-being (for meta-analyses see Mazzucchelli, Kane & Rees, 2010; Sin & Lyubomirsky, 2009). Even more promisingly, some research has shown increases in happiness from these activities can persist for as long as 9 months, relative to control groups (Emmons & McCullough, 2003; Lyubomirsky, Dickerhoof, Boehm, & Sheldon, 2011; Seligman, Steen, Park, & Peterson, 2005). In support for the Sustainable Happiness Model, research has found well-being increases are maintained following activity based changes but not circumstantial changes (Sheldon & Lyubomirsky, 2006a).

Figure 1.

Three factors that influence chronic happiness (Lyubomirsky, et al., 2005)



1.2.4 The present thesis: Focusing on behaviours as a pathway to happiness

As noted above, the sustainable happiness model proposes that intentional activities, i.e. behaviours that people can enact, offer the most promising

pathway to happiness and empirical studies have provided support for this assertion. Accordingly, the present thesis focuses on the enactment of certain behaviours as a fruitful avenue for increasing well-being. In addition to being in accordance with existing theory and research such a decision is also justifiable in terms of practicality. Specifically, behaviours meet a number of criteria necessary if well-being is to be increased. Firstly, they are amenable to change. It is far easier for individuals to enact certain behaviours than it is for them to try and change their personality or alter their genes. Secondly, behaviours offer enormous scope for variety which in turn helps avoid adaption of the hedonic treadmill. For instance, one author lists 365 different ways of enacting kind behaviours (Wallace, 2004). Thirdly, behaviours are easily incorporated into daily routines. This gives them a higher chance of increasing well-being because people are more likely to practise them (Cantor & Sanderson, 1999). Finally, using behaviours that potentially anyone could enact without specialist knowledge or assistance provides everyone with the opportunity to increase their own happiness.

1.3 Why increase happiness?

Increasing happiness is seen by some as a controversial objective because of the negative side effects it may cause for individuals and society. Such side effects include selfish individualism, idleness borne out of contentment and engaging in unhealthy hedonistic behaviours (Veenhoven, 1988). In response to this, an ever growing body of research using an array of methodologies and populations has consistently found that well-being is associated with numerous benefits including social relationships, work performance, health and improved cognitive functioning (for reviews see

Argyle, 2003; Fredrickson, 2003; Jacobs Bao & Lyubomirsky, in press; Huppert, 2009; Lyubomirsky, King, & Diener, 2005).

1.3.1 The benefits of happiness: Better social relationships

Contrary to the notion that happiness is a selfish endeavour, happy people tend to judge new people positively, become more interested in social interaction, self-disclose more and trust and help others; all virtues which contribute to building and maintaining social relationships (see review in Diener et al., 2009). In line with this argument, research has found that those that are the happiest are also those that have excellent social relationships (Diener & Seligman, 2002).

1.3.2 The benefits of happiness: Productivity

Far from being idle, happy individuals are more likely to graduate from college, receive call backs for interviews, secure jobs that entail autonomy, meaning and variety, be considered competent by their supervisors and have financial independence (see Lyubomirsky et al., 2005). Moreover, a rich body of empirical findings suggests positive moods can facilitate superior cognitive functions, including ability to think broadly, rapidly integrate information and think creatively (see Fredrickson, 2003; Fredrickson & Branigan, 2005).

1.3.3 The benefits of happiness: Health

In opposition with the idea that happy people live for the moment and engage in unhealthy hedonistic behaviours, research has found that well-being is negatively related to smoking, eating unhealthily and drug/alcohol abuse (Graham, Eggers, & Sukhtankar, 2004; Piko, Gibbons, Luszczynska & Tekozel, 2002). Moreover, two comprehensive reviews of research show that

actually well-being predicts health and longevity in healthy populations (Diener & Chan, 2011; Veenhoven, 2008).

1.3.4 Increasing happiness: A desirable aim

Hence, the many benefits of well-being mean enhancing well-being is an objective endorsed not only by the present research and in positive psychology but also by world governmental policies including the United Kingdom (DEFRA, 2007). Prime minister, David Cameron has outlined well-being as a key government agenda, stating the serious business of government is, “finding out what will really improve lives and acting on it” (Cameron, 2010, p. 1; see also Aked, Michaelson, & Steuer, 2010). In line with this sentiment, steps towards taking account of the nation’s well-being have already begun and in April 2010, for the first time, the Office of National Statistics included questions about people’s well-being and the responses are expected to help inform government policy (Swinson, Jacobs, Olliff-Cooper, Taylor, & Seaford, 2011). However, it is not just the British government who have recognized the importance of well-being, increasing happiness is a stated policy goal of other world governments such as France and Canada (Stiglitz, Sen, & Fitoussi, 2009) and for a number of years Bhutan has also tracked general well-being alongside gross national product (Frey & Stutzer, 2002). In addition, educational institutions at all levels and also employers often outline well-being as a key priority in their mission statements. Hence, it is clear that because of the benefits of happiness, enhancing well-being is an aim shared by positive psychology, governments and educational and workplace institutions alike.

1.4 Summary

The present thesis follows existing research in conceptualizing happiness as subjective well-being which consists of the presence of positive affect, absence of negative affect and high levels of life satisfaction. On the basis of the Sustainable Happiness Model and existing intervention studies, there is good reason to believe that happiness can be increased by engaging in certain activities or behaviours. Happiness is associated with a myriad of benefits which makes increasing it a desirable aim for governments, educational institutions and corporate bodies. Hence, the objective of this thesis, to identify behaviours that can increase well-being, is of value.

CHAPTER 2: LITERATURE REVIEW: AGENCY, COMMUNION, AND WELL-BEING

2.1 Overview

In Chapter 1 I noted the primary objective of my thesis was to identify behaviours that could increase well-being. I propose to meet this objective by applying a broad theoretical framework to examine happiness-enhancing behaviours. In Chapter 2, I explain why this thesis applies a framework and outline how doing so may advance existing research. I then introduce the framework this thesis applies and extensively define the key constructs before explaining why this framework is appropriate for meeting the proposed objective. I then explicitly state the research questions this thesis aims to address and conduct a literature review to demonstrate how these questions build on existing research.

2.2 Applying a framework to examine happiness enhancing behaviours

This thesis applies a broad theoretical framework to examine happiness enhancing behaviours. The application of a framework to examine happiness-enhancing behaviours presents one aspect of novelty my thesis offers. This is because previous research in this area has not stemmed from an overarching framework but instead has identified a seemingly disparate list of happiness enhancing behaviours ranging from practising acts of kindness to imagining best possible selves (for meta analyses see Mazzycchelli, Kane, & Rees, 2010; Sin & Lyubomirsky, 2009). Yet, I propose employing a broad theoretical framework could advance existing research by enabling (a) comparisons about

the effectiveness of different categories of happiness enhancing behaviours and (b) the design of a happiness enhancing intervention using a top-down approach whereby behaviours could be derived from constructs known to positively influence well-being.

2.2.1 Introducing the framework: agency and communion

The concepts of agency and communion were first introduced by David Bakan (1966) as two fundamental dimensions of human existence. Bakan proposed that both agency and communion are essential modes of functioning for humans and produce distinct ways of being and behaving across the multiple contexts of people's lives. Bakan defined the two constructs as follows:

“I have adopted the terms “agency” and “communion” to characterize two fundamental modalities in the existence of living forms, agency for the existence of an organism as an individual, and communion for the participation of the individual in some larger organism of which the individual is a part. Agency manifests itself in self-protection, self-assertion, and self-expansion; communion manifests itself in the sense of being at one with other organisms. Agency manifests itself in the formation of separations; communion in the lack of separations. ... Agency manifests itself in the urge to master; communion in non-contractual cooperation.” (pp. 14–15)

Bakan's definition has been described as being, “among the most influential pairings of abstract psychological distinctions” (Trapnell & Paulhus, 2012, p.39) and many researchers have used his definition to inform their operationalizations of the dimensions (e.g., Hagemeyer & Neyer, 2012; Horowitz, et al., 2006; Frimer et al., 2012, McAdams, 2001; Trapnell &

Paulhus, 2012; Saragovi et al., 1997). The vast influence agency and communion have had can also be seen in the diverse range of research areas this framework has informed, ranging from stereotypes (e.g., Cuddy, Fiske & Glick., 2008; Judd, James, Yzerbyt, & Kashima, 2005; Phalet & Poppe, 1997) to interpersonal therapy (Kiesler & Auerbach, 2003; McMullen & Conway, 1997). This has sometimes led to the fundamental dimensions being referred to by different names. For instance, agency and communion have also been referred to as competence-warmth (Cuddy et al. 2008; Fiske, Cuddy, Glick, & Xu, 2002; Judd, et al., 2005), instrumentality-expressiveness (Parsons & Bales, 1955), individualism- collectivism (Markus & Kitayama, 1991) and personal-relational concerns (Kumashiro, Finkel & Rusbult., 2008).

Despite the different names used for the two dimensions, authors have noted there is frequently a convergence in the two dimensions' operationalizations (Abele, Cuddy, Judd, & Yzerbyt, 2008). Indeed, a review of some of the most frequently cited papers clearly shows this to be the case (Abele & Wojciske, 2007; Brunstein, Schultheiss, & Grassmann, 1998; Frimer, Dunlop, Walker, Lee, & Riches, 2011; Helgeson, 1994; Hogan; 1983; Horowitz et al., 2006; Kuiper & Borowicz-Sibenik, 2005; Kumashiro et al., 2008; McAdams, 2001; Mosher & Danoff-Burg, 20005; Trapnell & Paulhus 2012; Wiggins, 1992; Woike & Polo, 2001). Hence the present thesis defines agency and communion in line with these convergences and also Bakan's (1966) original conceptualisation. Accordingly, agency, characterized as 'getting ahead', is defined as involving a self-focused orientation which manifests itself in self-advancement and self-reliance and entails pursuing self-orientated goals, striving for achievement, environmental mastery,

autonomy and independence. In comparison, communion, characterized as ‘getting along’, involves an other-focused orientation which manifests itself in benevolence and developing and maintaining interpersonal connections. It entails consideration of others, helping, caring, affiliation, social connectedness and solidarity.

Although these two dimensions can be operationalized at a number of levels, research has tended to operationalize them at the trait level utilising the Bem Sex Role Inventory (BSRI; Bem, 1974) and the Personal Attributes Questionnaire (PAQ; Spence, Helmreich, & Stapp, 1974). The PAQ measures personality traits that comprise two independent subscales originally referred to as masculinity and femininity. This is because Bakan (1966) originally noted that agency is more characteristic of males and communion more characteristic of females, though as noted later there is mixed support for this assumption. However, subsequent criticisms that the scales fail to capture the multifaceted nature of masculinity and femininity have led to their re-categorisation as agency and communion, respectively (Helgeson, 1994; Spence 1984). Examples of agency traits are “independent”, “active” and “never gives up”, whereas examples of communion traits are “kind”, “helpful” and “aware of others feelings”.

2.2.2 Reasons for adopting the framework of agency and communion

The present thesis proposes that the framework provided by agency and communion is ideal to examine happiness-enhancing behaviours. Besides from being hugely influential and informing a number of diverse research areas (see Abele & Wojciszke, 2007; Judd et al., 2005; Kiesler & Auerbach,

2003; McMullen & Conway, 1997) these two dimensions have already been linked to well-being (e.g. Helgeson, 1994). Moreover, the considerable breadth of these constructs means that they can encompass a wide range of specific behaviours including those examined in past intervention studies. For example, goal pursuit behaviours that enhance one's self reflect agency and kind behaviours reflect communion (see the previous interventions of Buchanan & Bardi, 2010; Lyubomirsky et al., 2005; Macleod, Coates & Hetherington, 2008; Sheldon, Kasser, Smith, & Share, 2002). Yet, to date, intervention studies have not considered the questions raised by implicitly favouring either 'getting along' or 'getting ahead' behaviours. Hence the framework provided by agency and communion allows the present thesis to consider such implications, integrate past findings and in doing so will enable a deeper understanding of the broad psychological factors that lead to increases in well-being.

2.3 The research questions

The broad objective of the present thesis is to identify behaviours that could increase well-being within the framework of agency and communion. However, in addressing this objective a number of research questions naturally arise. Firstly, are agency and communion behaviours related to well-being and can they increase it? Secondly, which is better for well-being – agency or communion or do they each influence different aspects of well-being? Thirdly, are both agency and communion needed for well-being? Finally, can agency and communion behaviours increase well-being for everyone or will individual differences moderate the relationship of agency and communion behaviours to well-being (i.e., will only those high in trait agency

benefit from agency behaviours and will only those high in trait communion benefit from communion behaviours?).

2.4 Conducting a literature review

A systematic literature review was conducted with the goal of thoroughly examining each of the existing research questions outlined above. Literature was only included that was (a) published in peer-review journals and written in English, (b) included the following keywords: agency and communion (c) contained information relevant to one or more of the research questions outlined. These keywords were used to search for literature in the following databases: Google Scholar, Psycinfo, and Web of Science. Abstracts were read thoroughly to discern if the literature met the inclusion criteria outlined above. When literature met these criteria papers were read in full and the references list were scanned for further relevant literature.

2.5 Linking Agency and Communion to Well-Being

As noted above, one of the reasons the present thesis adopted agency and communion as a framework to examine behaviours that increase well-being is that past research has already linked these constructs to well-being. However, typically it has done so at the trait level with just a handful of studies examining the relation between agency and communion behaviours and well-being. One of these studies (Saragovi et al., 1999) reports the findings in a way that makes it impossible to distinguish which aspect of agency and communion relate to well-being – the traits or the behaviours? Moreover, there are no intervention studies showing that deliberate enactment of agency and communion behaviours can significantly increase happiness. In the following section I review literature relating agency and communion as

traits to well-being. I then explain why relating agency and communion as traits to well-being is less than ideal. Research is then reviewed that examines the relation of agency and communion behaviours to well-being.

2.5.1 Trait Agency, Trait Communion and Well-Being

Helgeson (1994) was one of the first to theorize the relations of agency and communion to well-being. This was prompted by the observation that males have higher rates of mortality and females have higher incidences of psychological illnesses (Case & Paxson, 2005; Verbrugge, 1985). Helgeson (1994) argues that these sex differences in psychological and physical well-being may be mediated by sex role differences that occur as a result of socialisation. For example, men are socialized to be adventurous and to take risks, characteristics which may contribute to greater mortality from accidents whereas women are socialized to be more other-orientated which may lead to psychological distress (e.g., depression). This is because women are more responsive to the stressors that afflict others and relationship concerns. This argument led Helgeson to examine the contribution of trait masculinity and femininity to well-being, which she refers to as agency and communion respectively. Helgeson (1994) proposed that both trait agency and trait communion are beneficial for well-being. The direct evidence cited in support of agency's positive effect on psychological well-being included its association with fewer health complaints, reduced anxiety and reduced depression (Holahan & Spence, 1980; Nezu & Nezu, 1987; Nezu, Nezu, & Peterson, 1986; Robbins, Spence, & Clark, 1991; Roos & Cohen, 1987). Further support was cited in a meta-analysis of 32 studies which revealed trait agency had a moderately strong relationship with high adjustment and low

depression (Bassoff & Glass, 1982) – a result that echoes the findings of previous meta-analyses (Taylor & Hall, 1982; Whitley, 1984). The evidence cited for the beneficial effects of trait communion on well-being included findings that it has positive associations with adjustment, social support and a willingness to seek professional help for psychological problems (Burda, Vaux, & Schill, 1984; Butler, Giordano, & Neren, 1985; Johnson, 1988; Vaux, Burda, & Stewart, 1986; Whitley, 1984). Yet, meta-analyses do not reveal any strong relation of trait communion to mental health or depression (Basoff & Glass, 1982; Whitley, 1984). The studies reviewed by Helgeson are suggestive of the benefits agentic and communal personality traits may have for well-being. However, the majority of the studies cited emphasise the absence of psychological health problems rather than the presence of increased well-being. This means there is a lack of knowledge since well-being is more than the absence of ill-being and deserves to be studied in its own right (see Huppert, 2009). Hence, more relevant to the present research are findings indicating that individually both agency and communion, measured at the personality trait level, may be beneficial for well-being. Specifically, traits agency and communion have both been associated with higher positive affect, lower negative affect and enhanced life satisfaction and self-esteem (Aube; 2008; Bruch, 2002; Helgeson & Fritz, 1999; Kuiper & Borowicz-Sibenik, 2005; Saragovi et al., 1997).

2.5.2 Disadvantages of the trait approach

Notably, the majority of studies linking agency and communion to well-being have done so at the trait level (e.g., Aube; 2008; Bruch, 2002; Helgeson & Fritz, 1999; Kuiper & Borowicz-Sibenik, 2005; Saragovi et al.,

1997). Helgeson (1994) notes this sole reliance on the use of personality measures to relate agency and communion to well-being as a limitation and proposed that, “the measurement approach needs to be broader than a personality trait instrument but more clearly defined than...an open-ended interview assessment” (1994, p. 421). Indeed, measuring agency and communion solely at the trait level and relating them to well-being is less than ideal, both theoretically and practically. Theoretically, traits encompass behaviours. This is evident both in definitions of personality such as “those characteristics...that account for consistent patterns of feeling, thinking and *behaving*” (Pervin & John, 2001, p.4, italics added). Indeed, some items used to represent trait agency and trait communion are behavioural items (e.g., “stands up well under pressure”, “very warm in relations of others”, see Spence et al., 1974). This overlap makes it impossible to disentangle which aspect of agency and communion relate to well-being – the traits or the behaviours? This distinction is also of practical importance, because a link between traits and well-being implies well-being cannot be changed (see McCrae & Costa, 1990) whereas a link between behaviours and well-being implies that it can be changed (Boehm & Lyubomirsky, 2009). Given this, the present thesis proposes it is important to examine the contribution of agency and communion as behaviours to well-being.

2.6 Are agency and communion behaviours related to well-being?

The literature review revealed just three studies that contain the variables necessary to directly examine the relationship between agency and communion behaviours and well-being. However, one of these studies comprised agency and communion measures of a mixture of traits and

behaviours and as no analyses were conducted examining the effects of the individual behaviour categories (e.g., just agentic behaviours or just communal behaviours) it is difficult to draw meaningful inferences from these results. Hence, only two studies have provided results indicating the relations of agency and communion behaviours to well-being. One study conducted by Saragovi and colleagues (2002) analysed the correlations between each behaviour category and two well-being measures – global self-report (how participants felt “in general”) and daily self-report. Agentic behaviours were significantly positively associated with global measures of positive affect ($r = .26, p < .01$), life satisfaction ($r = .22, p < .01$), social satisfaction ($r = .13, p < .05$) and negatively associated with negative affect ($r = -.19, p < .05$). In comparison, communal behaviours were only significantly positively associated with the global measure of social satisfaction ($r = .18, p < .05$). Both agentic and communal behaviours were significantly positively associated with daily positive affect (respectively, $r = .20, r = .23, p < .05$) but only communal behaviour was positively associated with daily social satisfaction ($r = .17, p < .05$). Surprisingly, agentic behaviour was positively correlated with daily negative affect ($r = .21, p < .05$). Such findings provide some initial evidence that higher subjective-well-being is sometimes associated with the performance of both ‘getting ahead’ and also ‘getting along’ behaviours. However, a considerable limitation of the Saragovi et al. (2002) study is the measurement used to assess agency and communion behaviours. Following Bakans (1966) assumption that agency is characteristic of males and communion of female the measure was created using a panel of judges to classify behaviours and leisure interests taken from the sex-role-

behaviour-scale as agentic or communal (SRBS, Orlofsky & O’Heron, 1987; Orlofsky, Ramsden, & Cohen, 1982). The SRBS consists of masculine and feminine sex appropriate interests and behaviours. An example of an agency (masculine) behaviour is, “deciding what to do or where to go on a date” whereas a communion (feminine) behaviour would be, “laughing at a date’s joke more to make them feel good rather than because the joke was amusing”. This measure is questionable on a number of different levels. Firstly, the sex role behaviour scale was specifically designed to capture stereotypical male and females behaviours not agency and communion behaviours. Secondly, this measure is based on the assumption that agency is a male trait and communion a female trait and this assumption is no longer supported by empirical research (e.g., Abele, 2003; Bozionelos & Bozionelos, 2003; Fritz, Nugurney, & Helgeson, 2003; Mosher & Danoff-Burg, 2005, 2007; Saragovi, et al., 1997, 2002; Sheldon & Cooper, 2008). In particular, a meta-analysis showed females and males do not significantly differ on agency characteristics, although females still score higher than males on communion (Twenge, 1997). This finding is also echoed in other research (e.g., Spence & Buckner, 2000) , as well as more recent research of Helgeson’s where findings show the gender gap in trait agency between the sexes becomes non-significant as females adolescents mature and become more agentic (Helgeson & Palladino, 2012). Moreover, the validity of the sex role behaviour scale is questionable and it seems likely the scale, now designed decades ago, is outdated (Colley, Mulhern, Maltby, & Wood, 2009; McCreary, Rhodes & Saucier, 2002). Indeed, the internal consistencies for some of the scales were low (communion role behaviours, alpha coefficient = .43, Saragovi et al.,

1997). Given the questionability of the measure used to assess agency and communion behaviours, the previous results cannot be used to firmly establish the relationship of agency and communion behaviours to well-being.

The only other study that enables examination of the relationship between agency and communion behaviours and well-being asked participants to record their agency and communion behaviours and affect following any social interactions of at least 5 minute durations, every day for 20 days (Fournier & Moskowitz, 2000). Following the approach taken by Wiggins (1992), agency was conceptualised as the difference between dominance and submissiveness and communion as the difference between agreeableness and quarrelsomeness (Moskowitz, 1994). Such an approach is limited in its practical applications as it does not enable the identification of specific behaviors individuals could enact to increase their well-being. Findings showed that both behaviours significantly predicted higher levels of event-contingent affect.

To summarise, only a few studies have examined the relationship between agency and communion behaviours and well-being. One of these has suffered from questionable operationalization that drastically limits the conclusions that can be drawn from the study's findings (Saragovi et al., 2002), while the other has only examined agency and communion behaviours in relation to one very specific measure of well-being: event contingent affect, i.e. momentary affect, also referred to as mood (Fournier & Moskowitz, 2000). Specifically, Moreover, one study is correlational (Saragovi et al., 2002) and as such causation cannot be inferred while the other (Fournier & Moskowitz, 2000) does not enable conclusions to be drawn about whether deliberately

enacting agency and communion behaviours can increase well-being as they only measured affect after these behaviours had naturally occurred within interactions. To address these gaps in the literature, the present thesis planned to address the following research question: are agency and communion behaviours related to well-being and can they increase it?

2.7 Which is better for well-being – agency behaviour or communion behaviour?

Existing intervention studies have identified a variety of activities people can do to improve well-being and many of these can be categorised as agency or communion. Hence, some interventions seem to imply that well-being may be increased by ‘getting ahead’ while others imply it may be increased by ‘getting along’. To date, intervention studies have not considered if one approach consistently increases well-being more than the other. Yet such a question is of interest if well-being is to be efficiently increased. However, some preliminary findings can be inferred from the two studies that have examined the relation of agency and communion behaviour to well-being. Sargovi et al. (2002)’s found that overall agency behaviour is more strongly correlated with well-being ($r = .55, p < .01$) than communion behaviour ($r = .24, p < .01$) for self-reported measures. For peer reported measures, the results were similar as agency behaviour was significantly positively correlated with each of the well-being outcomes whereas communion was not significantly correlated with any. However, discrepancies emerged between the global well-being and the daily well-being measures which were completed by two different samples of participants. Specifically, agency behaviour was associated with more facets of global well-being than

communion behaviour but communion behaviour was associated with more facets of daily well-being than agency behaviour. Nonetheless, the overall pattern of relations suggests that agency behaviour is more strongly with more aspects of well-being than communion behaviour. This is in contrast to findings that show communion explains more of the variance in affect than agency (Fournier & Moskowitz, 2000). These conflicting findings make it difficult to draw a firm conclusion about the relative contribution of agency and communion behaviour to well-being. Hence, the present thesis planned to extend existing research by aiming to clarify if agency behaviour or communion behaviour is more strongly related to well-being.

2.8 Does each construct influence different aspects of well-being?

One of the key tenets of Helgeson's (1994) theoretical paper is the proposition that agency and communion have distinct consequences for well-being. Helgeson argued that agency is related to mental health and communion to relationship satisfaction. Support for this idea is found in reviews of research indicating that agentic traits are positively associated with well-being and in particular autonomy, whereas communal traits are positively associated with social adjustment and feelings of positive relations with others (Ashmore, 1990; Helgeson & Fritz, 1999; September, McCarrey, Baranowsky, Parent, & Schindler, 2001; Spence, 1984). However, further testing of this hypothesis using a meta-analysis and correlational design imply agentic traits and agentic behaviours can also be related to social adjustment (Saragovi et al., 1997; 2002). As the hypothesis is only partially supported subsequent research is needed to further clarify whether agency and communion relate differentially to various aspects of well-being. Therefore, the present research

aimed to examine whether agentic behaviours and communal behaviours have different impact on various facets of well-being.

2.9 Are both agency and communion needed for well-being?

Bakan (1966) proposed that both agency and communion are required for optimum well-being. Subsequent authors have noted that this hypothesis is open to interpretation (Fournier & Moskowitz, 2000). Hence, in the following section I break it down into two hypotheses. First, occurrence of one dimension without the other is detrimental for well-being. Second, high levels of both agency and communion result in optimum well-being.

2.9.1 Occurrence of one dimension without the other

The first hypothesis has been supported by the association of unmitigated agency and unmitigated communion to aversive health consequences. *Unmitigated agency* is agency so extreme it comes at the cost of communion (Helgeson, 1994). A person high in unmitigated agency is egotistical, dictatorial and only looks out for himself/herself (Spence et al., 1974). *Unmitigated communion* is communion so extreme that it comes at the cost of agency (Helgeson, 1994) and a person high in unmitigated communion is servile and subordinate to others (Helgeson & Fritz, 1998). Helgeson argues the unmitigated dimensions are quantitatively distinct from their adaptive counterparts because of their extremity and qualitatively different because their extremity comes at the cost of the other dimension. Hence, positive correlations should be evident between both unmitigated agency and agency, and unmitigated communion and communion and there should be negative correlations between both unmitigated agency and communion, and

unmitigated communion and agency. Typically studies have confirmed these hypothesized correlations (e.g., Helgeson & Fritz, 1999; Saragovi et al., 1997).

Existing research examining links between the unmitigated dimensions at trait level has found them to be detrimental to health and mental health. Specifically, the trait of unmitigated agency has been empirically associated with poor mental health, increased risk of severe heart attacks and behavioural problems (Bruch, 2002; Evans & Dining, 1982; Helgeson, 1990; Holahan & Spence, 1980; Payne, 1987; Smith, 1992) and the trait of unmitigated communion has been linked to increased psychological distress, relationship difficulties and poor health care practices (Danoff-Burg, Revenson, Trudeau, & Paget, 2004; Fritz, 2000; Helgeson, 1990, 1993, 1995; Helgeson & Fritz, 1996, 1999, 2000; Helgeson & Palladino, 2012).

However, less is known about the relations of unmitigated agency behaviour and unmitigated communion behaviour to well-being, although Fournier and Moskowitz (2000) do show affect decline is predicted by extremely high levels of either agency behaviours (conceptualized as dominance – submissiveness) or communion behaviours (conceptualized as agreeableness – quarrelsomeness). However, as Fournier and Moskowitz noted, their conceptualization of the unmitigated dimensions as extreme forms of the healthy dimensions overlooks Helgeson's (1994) argument that the unmitigated dimensions are qualitatively, as well as quantitatively, different from their adaptive counterparts. Moreover, Fournier and Moskowitz only examined one aspect of well-being, affect. To avoid overlooking this consideration and go beyond past research, this thesis aimed to examine how

behaviours specifically designed to represent unmitigated agency and unmitigated communion relate to several aspects of well-being.

2.9.2 High levels of both agency and communion result in optimal well-being

Researchers have argued that if both agency and communion are needed for optimal well-being then a rigorous test of this hypothesis should examine if an interaction term comprised of separate measures of agency and communion demonstrates well-being benefits above and beyond those accrued from just agency or just communion (Fournier & Moskowitz, 2000; Lubinsky, Tellegen, & Butcher, 1981; 1983). To date, few studies have performed interactional analyses and those that have do not find the interaction term predicts well-being (Lubinsky et al., 1981, 1983; Helgeson & Fritz, 1999; Orlofsky & O’Heron, 1987; Saragovi et al., 2002). Typically, research has tested this hypothesis operationalizing agency and communion as traits. To date, only one study has examined the direct effect of agency behaviours and communion behaviours on well-being. Findings did not provide support for the notion that an interaction term comprised of agency behaviour and communion behaviour predicted optimal well-being (Fournier & Moskowitz, 2000). However, as only affect was measured it remains unknown if an interaction between agency behaviours and communion behaviours can influence other aspects of well-being. Therefore, the present thesis aims to extend existing research by examining if an interaction term comprised of agency behaviour and communion behaviour can significantly predict multiple aspects of well-being (e.g., life satisfaction, psychological well-being and social well-being, as well as affect). In addition, I propose an alternative

method that can also be used to test the hypothesis that high levels of agency and communion result in higher well-being. Specifically, this thesis examines if behaviours that simultaneously incorporate both agency and communion can significantly predict an array of different aspects of well-being. I refer to such behaviours as “a-c behaviours”. An example of a-c behaviour is teamwork because it entails working with others (communion) to achieve (agency) a shared (communion) goal. Other examples of a-c behaviour are mentoring and networking. It is possible that the simultaneous incorporation of agency and communion in a single behaviour is qualitatively different from an artificial interaction term composed of two separable behaviour components. Therefore, a-c behaviour may differentially influence well-being, both in terms of intensity of improvements to well-being and the specific aspects of well-being improved.

To date, research has not examined the co-occurrence of agency and communion in a single behaviour. However, generative behaviour has been examined and theorists have argued that it includes both agency and communion (Erikson, 1963). Generative behaviour refers to an individual having the skills and ability to create something of lasting value (agency) and to care enough about the next generation (communion) to want to pass something on to them (Kotre, 1984; McAdams, 1988;). Generative behaviour has been linked with increased life satisfaction and enhanced psychological and social well-being (Keyes & Ryff, 1998; McAdams, de St. Aubin, & Logan, 1993; Stewart, Ostrove, & Helson, 2001). However, it still remains to be seen whether these beneficial effects are specific to generative behaviours or whether any behaviour simultaneously combining agency and communion

can also enhance well-being. It is also unclear if a behaviour that simultaneously combines agency and communion will demonstrate well-being benefits above and beyond those accrued from its separate components or from the sum of both separate counterparts. Hence, for the first time, the present thesis aimed to address these research questions by examining the relation of a-c behaviour to well-being.

2.10 The relationship between agency and communion

An important question to consider is the relationship between agency and communion. Are the two mutually exclusive (i.e., does the presence of one dimension preclude the presence of the other dimension)? To what extent they co-exist independently? Or is it that the two dimension co-occur (i.e., does the presence of one dimension automatically mean the presence of the other dimension)? Logic dictates the relationship between the two can either be (a) negative (i.e., oppositional) (b) independent (i.e., orthogonal) or (c) positive. In the following sub section I consider literature in line with each of these possibilities. The structural relationship between agency and communion is of key interest because of Bakan's (1966) claim that both agency and communion are required for optimal well-being. This is because, if there is as a negative correlation between agency and communion then one dimension would always come at the cost of the other, which would make it difficult for people to be high in both agency and communion and to therefore obtain optimal well-being. Yet, if there is a positive correlation between agency and communion, whereby one dimension fosters the other, then it would be easy for people to be high in both agency and communion and to therefore obtain optimal well-being.

2.10.1 Negative (oppositional)

According to Frimer et al. (2011) agency and communion are often conceptualized as being in tension. A clear example of this apparent dualism is often presented by work-life balance theorists, where agency is represented by the career domain and communion as the family/friends domain. Researchers in this field propose that personal (i.e., agency) and relational (i.e., communion) concerns may not always be pursued or gratified simultaneously because of behavioural incompatibility or the finite nature of time, energy, or resources such as motivation or attention (e.g., Adams, King, & King, 1996; Chapman, Ingersoll-Dayton, & Neal, 1994; Deci & Ryan, 2000; Grant-Vallone & Donaldson, 2001; Kelly et al., 2003; Marks, 1977; Ryff, 1989; Sheldon & Niemiec, 2006). Hence, sometimes trade-offs are required between personal and relational concerns, meaning that success at one domain may come at the cost of the other (Kumashrio et al., 2008). For instance, at certain points in life one might be presented with dualistic choices between agency and communion, illustrated by quandaries such as “Should I get ahead in my job or be there for my kid’s soccer game?” (Frimer et al., 2011, p.161). Indeed, a case study (Nasby & Reed, 1997) about a self-made millionaire who attempted to break the speed record for sailing around the world demonstrates one example of how agency (fierce ambition) can come at the cost of communion (social connectedness).

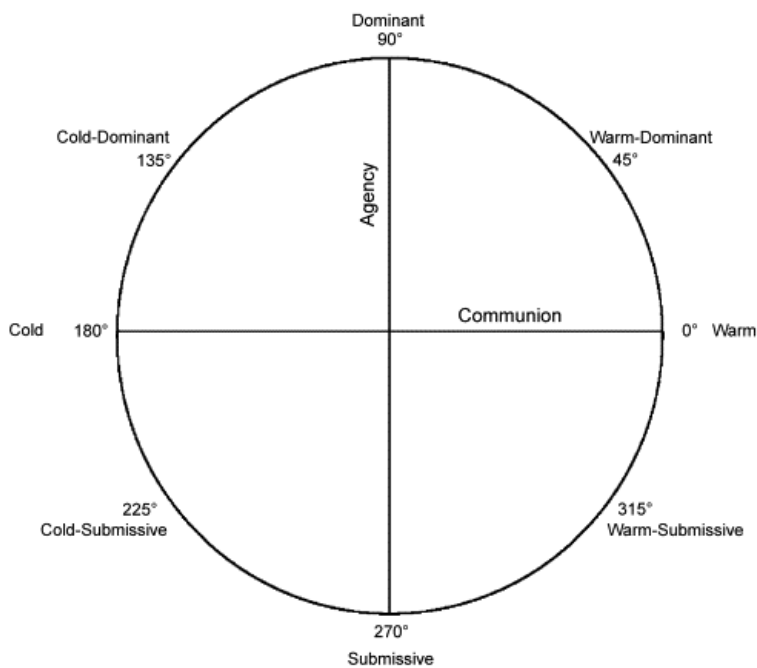
2.10.2 Independent (orthogonal)

An orthogonal structure, whereby agency and communion are thought to be conceptually and empirically independent of one another tends to be favoured by researchers who identify agency and communion at the trait level

(e.g., Leary, 1957; Wiggins, 1991). Thus agency and communion are represented as axes of a circle whereby the x axis consists of communion and the y axis agency (see Figure 2). Various combinations of agency and communion are represented by the space between these axes. Hence, according to this approach it is possible to be simultaneously high on both agency and communion (Wiggins, 1991). In line with an independent structure, studies have reported agency and communion traits are unrelated in samples of undergraduate students (e.g., Bruch, 2002; Helgeson & Fritz, 1999; Helmreich, Spence, & Wilhelm, 1981; Lippa, 1991; Lippa & Connelly, 1990; Spence, Helmreich, & Holahan, 1979; Ward et al., 2006). Moreover, in factor analyses agency and communion consistently emerge as two separate constructs (Abele, Uchrowski, Suitner, & Wojciszke, 2008), even across cultures, unlike other higher-order factor solutions (John & Srivastava, 1999).

Figure 2.

The interpersonal circle



2.10.3 Positive (the co-occurrence of both)

Proponents of a positive relationship between the two dimensions argue that agency and communal goal attainment may build social capital and provide psychological resources that can help sustain activity in the other domain (Deci & Ryan, 2000; Leonard, 1997). For example, Leonard (1997) notes that the high status rewards obtained from a career (agency) may increase a person's chances of attracting a life partner and starting a relationship (communion). Equally, research (e.g., Brunstein, Dangelmayer, & Schultheiss, 1996; Rusbult, Finkel & Kumashiro, 2009) has shown that close others (communion) can facilitate goal achievement (agency). Hence, it may be possible to simultaneously gratify both agency and communion needs. For instance, Kumashiro et al. (2008) note an example whereby when John pursues his favourite personal pastime by cooking a great meal for Mary's birthday, his activities may be categorized as both personal (agentic) and relational (communal). Similarly, life stories coded for themes of agency and communion suggest that the two themes can be integrated (Frimer et al., 2011; McAdams, Ruetzel, & Foley, 1986). Indirect support for this is found in the significant positive correlation between agency and communion goal attainment which indicates that one type of goal may aid attainment of the other goal (Sheldon & Cooper, 2008). Further indirect support for this can also be found in theories whereby social interaction (communion) aids the development of skills (agency) such as the acquisition of language (Bruner, 1983).

2.10.4 Why the relationship between agency and communion is not clear cut

As is evident from the above three sections there is considerable debate about the relationship between agency and communion. Indeed, this much is evident from Frimer et al. (2011, p.161) who note, “theories diverge on their characterization of the relationship between the modalities, be they compatible with, independent of, or in conflict with one another”. Frimer and colleagues posit that the reconciliation model (Frimer & Walker, 2009) explains the so called ‘paradoxical’ relationship between agency and communion. The reconciliation model draws on a developmental framework, in particular on Eriksons’ (1968) theory. It posits that typically one or other motive is active at any given time (as found in Fournier, Moskowitz, & Zuroff, 2009) but that at certain points in a young person’s life agency and communion may conflict. This conflict can either lead to stagnation (i.e., to regression where one dimension becomes so extreme that it comes at the cost of the other and cases of unmitigated agency or unmitigated communion arise) or to resolution (i.e., to a stage in which agency and communion can be simultaneously satiated).

I suggest part of the reason for the contradictory findings regarding the relationship between the fundamental dimensions is that they are so broad they subsume several layers of analyses. Consequently, contradictory findings about the relationship between agency and communion could be due to the different operationalization’s as personality, life domains and goal attainment. Indeed, Frimer et al. (2011) note that subtle variations in the definitions of agency and communion contribute to confusion about the relationship between

the two dimensions. This is evident from the literature reviewed above as it seems that agency and communion as traits are independently related; as goals they are positively related and in the context of work-life balance they are negatively related due to time and energy constraints. In the present research, it is anticipated that as behaviours agency and communion will not be negatively correlated because I will not employ the oversimplification of assuming that the two are equivalent to work and life. It is anticipated that they could be either (a) independently related because the trait measures (which include behaviours) of the two are independently related or (b) positively related (as with goals) because agency behaviour may facilitate communion behaviour or vice versa. However, empirical data is needed to address this question. Note that even if agency and communion behaviours are positively related, it may still be possible to distinguish between them statistically as they may still load onto separate factors when factor analyses are employed. Moreover, they might also differentially correlate with other related constructs (e.g., agency and communion traits, values, goals) or outcome variables (e.g., they may be associated with the satisfaction if different needs).

2.11 The contribution of person-activity fit

Of the few studies that have examined the relation of agency behaviours and communion behaviours to well-being (Fournier & Moskowitz, 2000; Saragovi et al., 1997, 2002), none has considered the potential moderating influence of individual differences. Yet, if agency and communion behaviours are to be used in an intervention study to increase well-being, it is important to know if they will benefit everyone or only those

with certain characteristics. The latter possibility alludes to the tenets of person-activity fit which proposes that no one activity can increase every individual's happiness. Rather, the largest gains in happiness will occur when there is a match between the type of activity and the type of person (Lyubomirsky et al., 2005; Lyubomirsky, 2008; Sheldon & Lyubomirsky, 2007). The theory argues that, "people have enduring strengths, interests, values and inclinations that undoubtedly predispose them to benefit more from some strategies than others" (Lyubomirsky et al., 2005, p. 122). The idea of "person-activity fit" is not new and has been studied in other research contexts. Occupational research has extensively examined person-job fit and found it relates to job satisfaction, productivity, and tenure (Autry & Wheeler, 2005; Chatard & Selimbegovic, 2007; Kristof-Brown, Zimmerman, & Johnson, 2005; Kristof-Brown & Guay, 2011). Psychotherapy research has identified traits that moderate the efficacy of psychotherapeutic interventions (e.g., Beutler, 1991; Garfield & Bergen, 1986; Kiesler, 1996) and research examining goals has found goal-person fit moderates the the positive effects of goal attainment on well-being (Brunstein et al., 1998; Diener & Fujita, 1995; Sheldon & Elliot, 1998; Sheldon & Kasser, 1999). However, despite its popularity in other fields, only recently has research begun empirically to test person-activity fit theory in the context of happiness-enhancing interventions. To date, such research has produced divergent findings resulting in various degrees of support. I briefly review these studies before summarizing potential reasons for these conflicting findings.

The first interventions deliberately designed to develop a programme to increase happiness (Fordyce, 1977; Fordyce, 1983) are often cited by

Lyubomirsky and colleagues in support of person-activity fit theory (Lyubomirsky et al., 2005; Sheldon & Lyubomirsky, 2006b; 2007). Within a series of studies, Fordyce (1977, 1983) examined 14 different happiness enhancing “fundamentals” (i.e., techniques) such as “stop worrying”, “spend more time socializing” and “develop positive optimistic thinking”. Fordyce found individuals varied in the fundamentals they considered most effective and posited that such differences appeared to be driven by an individual’s personal needs or weakest areas. Hence, support can only be inferred for the idiographic aspect of person-activity fit as these studies were not designed to substantiate the claims made by person-activity fit theory. They therefore do not provide quantitative evidence showing individual differences moderated the gains in well-being obtained from certain activities. However, subsequent research has found that certain characteristics can influence the well-being gains that participants obtain from participating in happiness-enhancing exercises (Sergeant & Mongrain, 2011). Specifically, practising gratitude was found to be beneficial for self-critics but detrimental for needy individuals. Such findings not only provide support for person-activity fit but also show, for the first time, that happiness-enhancing activities may have detrimental effects on well-being.

Other support for person-activity fit can also be found in a study by Sheldon and Lyubomirsky (2006b) in which person-activity fit was conceptualised as self-concordant motivation, represented as the extent to which participants initially identified with and expected to enjoy the assigned activity. The more participants experienced self-concordant motivation the more likely they were to perform the assigned happiness-enhancing exercise

which in turn predicted a reduction in negative affect but not increases in positive affect. Hence, there is some support that person-activity fit can contribute to changes in mood, albeit via the frequency of the performance of happiness-enhancing activities.

Some support for person-activity fit theory can also be inferred from findings that show that behaving according to one's primary positive traits (i.e., using personal and psychological 'signature strengths') increases well-being (Seligman et al., 2005; Wood, Linley, Maltby, Kashdan, & Hurling, 2011). Such findings suggest that activities focusing solely on person-activity fit may increase well-being. However, it is unclear to what extent using signature strengths is beneficial for long term well-being. This is because, while one study found that compared to a control activity signature strengths only increased well-being in the short term (Seligman et al., 2005), another study found that strength use predicted well-being half a year later (Wood et al., 2011). Hence, further research is needed to establish if using signature strengths can increase well-being and if this is because it naturally fosters person-activity fit. Hence, in this regard there is currently partial support for the tenet of person-activity fit theory which states that the highest gains in happiness are reached when the activity matches the person. Other studies have also failed to convincingly confirm this aspect of the theory as participants assigned to a matched activity do not demonstrate significantly higher increases in well-being than participants randomly assigned to an activity (Schueller, 2011; Silberman, 2007). A recent study also calls into question person-activity fit theory, as it found activities were the most effective when they were different from an individual's dominant orientation

to happiness (Giannopoulos & Vella-Brodrick, 2011). For example, participants high on engagement orientations experienced high well-being increases when assigned to either meaning or pleasure activities.

In summary, the studies reviewed provide varying degrees of support for person-activity fit theory. Support can be found in research that shows: (a) individuals differ in the happiness enhancing strategies and activities they find most effective (Fordyce, 1977, 1983; Sergeant & Mongrain, 2011) and, (b) person-activity fit (assessed as self-concordant motivation) decreases negative affect by influencing the frequency with which happiness-enhancing exercises are practised (Sheldon & Lyubomirsky, 2006b). However, support is not evident in research that shows: (a) activities involving person-activity fit do not increase well-being in the long term (Seligman et al., 2005), (b) participants matched to an activity do not demonstrate significantly higher increases than participants randomly assigned to an activity (Silberman, 2007; Schueller, 2011) and, (c) activities are most effective when they are different from an individual's dominant orientation (Giannopoulos & Vella-Brodrick, 2011). These divergent findings may be attributable to the use of different conceptualizations and operationalizations.

In regards to methodology, some of the studies reviewed above (e.g., Giannopoulos & Vella-Brodrick; Sergeant & Mongrain, 2011; Sheldon & Lyubomirsky, 2006) have tested the person-activity fit hypothesis in hindsight by examining if individual differences moderate gains in well-being (for example, Sergeant & Mongrain examined if neediness influenced gains in well-being obtained from certain happiness enhancing activities) while other studies (Schueller, 2011; Silberman, 2007) have tested it a priori by assigning

some participants to person-activity fit conditions and some participants to person-activity misfit conditions and comparing the effect of condition on well-being. Notably, the two studies testing person-activity fit hypothesis a priori have used different methods of matching participants to activities. Silberman (2007) matched participants by asking them to select the happiness enhancing activity they thought would result in pleasure, engagement and meaning. Schueller (2011) assigned “matched” participants to a happiness enhancing exercise on the basis of their preference ratings of a previously performed happiness enhancing exercise. For instance, if participants liked counting their blessings they were then assigned to a life summary exercise in which they were asked to create a positive summary of their life as they would want it to be told to their offspring. Activity groupings were based on the findings from a previous study (Schueller, 2010) where participants self-rated their preferences for each exercise. However, it is unclear to what extent either method resulted in actual person-activity fit as participants’ preferences may not always coincide with what fits them.

In regards to conceptualization, person-activity fit theory is based on the notion that an activity can fit a person at a number of levels. For example, an activity may fit an individual’s motives, basic needs, core values, signature strengths etc. (Lyubomirsky et al., 2005). Hence, this has led research to conceptualise person-activity fit in a wide variety of ways. In the research reviewed above, studies have examined if the well-being benefits gained from an activity are influenced by self-concordant motivation, maladaptive trait characteristics, orientations to happiness, self-selection and personal preference. Given the range of person-activity fit conceptualizations, it is

perhaps not surprising that taken together the studies provide conflicting evidence for the theory, as such specific conceptualisations of person-activity fit may say more about specific constructs (e.g., motivation) than they do about person-activity fit. Moreover, it is possible to operationalize person-activity fit in two different ways (Lyubomirsky et al., 2005), objectively and subjectively. Objective operationalizations involve researchers examining the extent to which some measure of individual difference fit with the happiness enhancing activity participants have been randomly assigned to. In comparison, subjective operationalizations use a direct approach whereby participants indicate the extent to which they feel or perceive an activity fits with them. The distinction between these two operationalizations is important because it may be subjective well-being is not predicted by actual (objective) person-activity fit but rather self-perceived (subjective) person-activity fit. Although this distinction has been made in occupational research (see Kristof-Brown & Guay, 2011), well-being research has yet to articulate or examine this idea. Consequently, divergent findings may also be due to some research operationalizing person-activity fit objectively (e.g., as in Giannopoulos & Vella-Brodrick, 2011) and others subjectively (as in Sheldon & Lyubomirsky, 2006b).

Given that individual differences such as traits may influence whether or not an activity is beneficial for one's well-being, an objective of the present thesis is to examine person-activity fit theory in the context of agency and communion behaviours. If the propositions of person-activity fit theory are true, then one would expect well-being to be significantly predicted by

interaction terms comprised of trait agency and ‘getting ahead’ behaviours or trait communion and ‘getting along’ behaviours.

2.12 The present research

Past research has extensively shown that agency and communion are related to well-being at the trait level. However, linking these dimensions to well-being at trait level is less than ideal especially if research aims to identify ways to increase well-being. This is because traits are not easily changed, so theoretically it would be difficult to establish causality between the dimensions and well-being and practically it would be challenging to change people’s traits to enhance their well-being. From this perspective and in line with the tenets of the sustainable happiness models, behaviours offer a far more promising route to increasing well-being. Yet, only a few studies have examined the relation of agency and communion behaviours to well-being and these have employed less than desirable measures of agency and communion behaviours leading to potentially questionable findings. Specifically, one approach (as in Saragovi et al., 1997; Saragovi et al., 2002) uses archaic stereotypes to represent agency and communion behaviours on the premise of a now no longer fully supported assertion that agency is characteristic of males and communion of females. Hence, such research may say more about how traditional gender roles may relate to well-being rather than agency and communion behaviours. The other approach does not directly assess each dimension; instead each dimension is calculated as the product of two related constructs (as in Moskowitz, 1994; Fournier & Moskowitz, 2000). Such an approach does not enable the identification of specific behaviours that could be used to increase well-being so cannot be used in the present research.

Notably, neither of these studies (nor any others) has established if the deliberate enactment of agency and communion behaviours can increase well-being. Hence, the present thesis aimed to build on past research and develop a new measure of agency and communion behaviours that could be used to examine if agency and communion behaviours are related to well-being and if they can increase it. Moreover, additional research questions of interest can also be addressed that can advance existing research.

Firstly, the present thesis will seek to clarify which is better for well-being – agency behaviours or communion behaviours? Previously, this question has not been explicitly addressed in either intervention studies or studies examining the relation of agency and communion behaviours to well-being, yet if one approach consistently increases well-being more than the other it is important to know which, especially if well-being is to be efficiently enhanced. Of the two studies that contain the variables necessary to examine this question, one found agency behaviours to be more strongly related to well-being (Saragovi et al., 2002) whereas the other found communion behaviours to be more strongly related to well-being (Fournier & Msokowitz, 2000). These divergent findings do not provide a clear answer, hence the present thesis aimed to further examine which behaviour is better for well-being – agency or communion? In addressing this question, it is important to consider the possibility that the two behaviours may differentially impact various aspects of well-being. Although past research has considered this question (e.g., Helgeson, 1994), the assertions regarding which aspects of well-being are related to agency and which are related to communion have only been partially supported (Saragovi et al., 1997). Moreover, these studies

have been entirely correlational. Therefore, further research is required to firmly establish if agency and communion have distinct consequence for various aspects of well-being.

Secondly, are both agency and communion needed for well-being?

This question can be further broken down into two further questions; (a) is occurrence of one dimension without the other detrimental for well-being? (b)

Can high levels of both agency and communion result in optimum well-being?

With regards to question (a), past research has consistently found that occurrence of one dimension without the other is detrimental for well-being, at least at the trait level. However, to date, no study has examined the relation of behaviours specifically designed to represent unmitigated agency and unmitigated communion relate to well-being. With regards to question (b) only one study has examined if agency and communion behaviours interact to predict well-being and this has only done so with one aspect of well-being – event contingent affect. The present thesis also sought to address question (b) in a different way to past research by examining if a behaviour that incorporates both agency and communion (a-c behaviour) can increase well-being.

Thirdly, the present thesis sought to examine for the first time if agency and communion behaviours increase well-being being for everyone or will individual differences moderate the relationship of agency and communion behaviours to well-being (i.e., will only those high in trait agency benefit from agency behaviours and will only those high in trait communion benefit from communion behaviours?). Of the two studies examining agency

and communion behaviours, neither have considered the role of person-activity fit.

CHAPTER 3: STUDY 1A

3.1 Introduction

As noted in the literature review (in Chapter 2), the existing measures of agency and communion behaviour are less than ideal. Hence, Study 1a employed its own questionnaire to measure these constructs so that I could examine the associations of agency and communion traits and behaviours and their unmitigated counterparts to six aspects of well-being (positive affect, negative affect, life satisfaction, emotional well-being, social well-being and psychological well-being). Chapter 3 describes the methods used to develop a measure of agency and communion behaviours and presents pilot data from two samples to justify the use of one of these methods. Results are then presented that examine the credibility of the behaviour scale before further analyses are presented to address the research questions outlined in Chapter 2.

3.2 Developing a Pool of Agency and Communion Behaviour Items

As noted in the literature review (in Chapter 2) the existing measures of agency and communion behaviour are less than ideal. Hence, Study 1a employed its own questionnaire to measure these constructs. Items were developed to measure the behaviours using two methods: re-using relevant items from a pre-existing questionnaire and generating new items on the basis of existing operationalizations of the constructs. These methods are described in detail below and data is presented from a pilot study that justifies the theoretical arguments behind re-using existing items from a previous questionnaire.

3.2.1 Measuring agency and communion using value-expressive behaviours

Several of the behaviour items used to represent agency and communion were extracted from a pre-existing behaviour questionnaire developed by Bardi and Schwartz (2003). Each item is detailed in Table 1 (shown below). The behaviour items selected were those theoretically expected to express the values of achievement, self-direction and benevolence, and were empirically correlated with them. Achievement and self-direction items were used to represent agency while benevolence was used to represent communion. These representations are in line with the operationalizations of these constructs which are conceptually similar to each other (see more detail below). These representations are also concurrent with the values identified as representing agency and communion in an empirical paper that was published after the present research was conducted (Paulhus & Trapnell, 2012). In addition, to ascertain if this approach was appropriate, a pilot study was conducted to examine the correlations between traditional measures of agency and communion and achievement, self-direction and benevolence values.

Table 1. *The behaviour items used from Bardi and Schwartz (2003)*

Dimension	Representative Value(s)	Value Expressive Behaviour
Agency	Achievement	Engage in optional activities to improve my career prospects. Persevere with a challenging task (adapted)
	Self-Direction	Rely on my own way of seeing things as a final basis

for reaching conclusions.

Stand up for my own beliefs

Communion Benevolence

Rejoice in the successes of others around me.

Give small gifts to my friends/family for no reason

Do favours without being asked

Enjoy helping others (adapted)

3.2.1.1 Agency as represented by achievement and self-direction

Definitions of agency, characterized as ‘getting ahead’, emphasize the manifestation of skills, competencies and the pursuit of self-focused goals (Abele & Wojisizke, 2007; Hogan, 1983; Kuiper & Borowiz-Sibenki, 2005; Mosher & Danoff-Burg, 2005; Sheldon & Cooper, 2008; Ybarra et al., 2001). Achievement values can be seen as fitting within agency definitions as they entail the motivation to succeed via the demonstration of competence according to socially approved standards (Schwartz, 2005). Self-direction values also fit within the definition of agency as they derive from needs for control, mastery and independence (Schwartz, 2005). Pursuing self-direction values entails independence of thought and actions such as choosing one’s own goals.

3.2.1.2 Communion as represented by benevolence

Definitions of communion emphasize connecting with others and relational goals (Abele & Wojisizke, 2007; Hogan, 1983; Kuiper & Borowiz-Sibenki, 2005; Mosher & Danoff-Burg, 2005; Sheldon & Cooper, 2008; Ybarra et al., 2001). Benevolence values fit this definition as they involve caring for those people with whom one is in close and personal contact with and derive from the need for affiliation (Schwartz, 2005).

3.2.2 Generating additional items

An additional pool of items was also generated using existing operationalizations of agency, communion and their unmitigated counterparts (Abele & Wojciske, 2007; Brunstein, Schultheiss, & Grassmann, 1998; Frimer et al., 2011; Helgeson, 1994; Hogan, 1983; Horowitz et al., 2006; Kuiper & Borowicz-Sibenik, 2005; Kumashiro et al., 2008; McAdams, 2001; Mosher & Danoff-Burg, 2005; Trapnell & Paulhus 2012; Wiggins, 1992; Woike & Polo, 2001). Many of these empirical papers relied heavily on the extended personal attributes questionnaire (Spence et al., 1979) to measure these constructs. Hence, these adjectives were primarily used to generate behaviour items. The a-c behaviour items were designed to simultaneously incorporate both dimensions in a single behaviour.

3.3 A Pilot Study

A pilot study was conducted to examine correlations between traditional measures of agency and communion and values thought to represent agency and communion. This was important because the agency and communion behaviour questionnaire used items from the Bardi and Schwartz questionnaire on the basis that (a) behaviours previously found to express the values of achievement and self-direction represent agency and (b) behaviours previously found to express the value of benevolence represent communion. Nonetheless, it was important to provide empirical evidence for this link.

3.3.1 Method

Questionnaires were distributed containing measures of values and trait agency and communion to two samples of first year undergraduate students.

3.3.1.1 Participants

Sample 1 was comprised of 248 respondents (150 male, 88 female, 10 unknown) and Sample 2 was comprised of 115 respondents (24 males, 91 females).

3.3.1.2 Measures: Values

Agency and communion value indexes were measured using the Schwartz Value Survey (Schwartz, 1992). Each value item was followed by a short definition in parenthesis, for example, “AMBITIOUS (hard working, aspiring)”. Participants rated each value as a guiding principle in their own life on a 9-point scale (see Figure 3) from -1 (*opposed to my principles*) to 0 (*not important*) to 7 (*of supreme importance*). Items used to assess communion values were those used to assess benevolence, i.e., helpfulness, honesty, forgiveness, loyalty, responsibility. Items used to assess agency values were drawn from achievement and self-direction value indexes and included the items ambitious, influential, capable, successful, independent, choosing my own goals. Participants typically vary on their scale use tendency of the Schwartz Value Survey. As there are no reversed items of values their scale use tendency is typically controlled for (Schwartz, 1992). As with the behaviours in Study 1 and as done in previous research (e.g., Bardi & Schwartz, 2003) scale use differences were controlled for by centring each participant’s responses around his or her mean score across the ten types of values.

3.3.1.2 Measures: Traits Agency and Communion

The extended personality attributes questionnaire (Spence et al., 1979) was used to assess the personality traits of agency and communion. Each item was rated using a 5-point scale from 1 to 5 and each item was anchored on

each end by opposing adjectives. An example of an agency item is “not at all independent – very independent”. A communion item is “not at all helpful to others – very helpful to others”. Previous research has found acceptable internal consistency with average Cronbach alpha coefficients of .75 (Nagurney & Bagwell, 2009). Similar alpha coefficients were found in the present study (Sample A: agency $\alpha = .72$, communion $\alpha = .78$. Sample B: $\alpha = .75$, communion $\alpha = .73$).

3.4.2 Results and Discussion

Data from both samples show that the posited values are significantly correlated with the most typically employed measures of agency and communion (see Table 2). Specifically, in both samples, agency significantly positively correlated with achievement and self-direction values but not with benevolence values. Similarly, communion significantly positively correlated with benevolence values but not with achievement or self-direction values. Therefore re-using items from an existing questionnaire is justifiable conceptually and empirically.

Table 2. *Correlations between trait agency and trait communion and the values posited to represent them.*

	Trait Agency (PAQ)	Trait Communion (PAQ)
Achievement		
Sample 1	.28**	.04 <i>NS</i>
Sample 2	.42**	.06 <i>NS</i>
Self Direction		

	Trait Agency (PAQ)	Trait Communion (PAQ)
Sample 1	.18**	.08 <i>NS</i>
Sample 2	.20*	.07 <i>NS</i>
Benevolence		
Sample 1	10 <i>NS</i>	.46**
Sample 2	-.10 <i>NS</i>	.34**

Sample 1: $N = 248$ (150 male, 88 female, 10 unknown).

Sample 2: $N = 115$ (24 males, 91 females)

3.5 Research questions addressed in Study 1a

As evidenced by the literature review in Chapter 2, the main research questions of interest to the present thesis have not yet been satisfactorily answered. Hence, Study 1a employed a correlational design to examine the associations of agency and communion to well-being. In doing so, it addresses the following research questions: What is the relationship between agency and communion at trait and behaviour level? Are agency and communion distinctly related to various aspects of well-being? Are both required for optimal well-being? With regard to the latter, Study 1 examines if well-being is: (a) negatively correlated with the unmitigated dimensions, (b) predicted by an interaction term of agency and communion behaviours, and (c) predicted by a behaviour that includes both agency and communion (a-c behaviour). Finally, can person-activity fit influence the relations between the dimensions and well-being? Specifically, can well-being be predicted by an interaction term comprised of congruent traits and behaviours (e.g., trait agency x agency behaviour, trait communion x communion behaviour)?

3.6 Method

3.6.1 Participants

A total of 350 respondents completed an online questionnaire entitled, “Who am I? How do I behave? Am I happy?” in return for entry into a prize draw to win an Amazon voucher to the value of £50. Of these four participants were excluded from the analyses due to missing data. Hence, 346 respondents (234 females, 111 males, one unknown) aged 16 to 64 ($M = 24.68$, $SD = 8.47$) were included in the analyses. Participants were recruited using Gumtree, social networking sites, websites designed to promote psychology research, university message boards and a pre-existing list of participants. The majority of participants were from the US (49%) and UK (31%).

3.6.2 Procedure

Participants completed the following measures in the order listed.

3.6.3 Measuring Behaviours

3.6.3.1 Development of an item pool to measure the behaviours

Items were developed to measure the behaviours using the two methods described above in section 3.2.2.

3.6.3.2 Selection procedure

Over the course of several months, my supervisor (Anat Bardi) and I met regularly to discuss behaviour items. Several behaviour items were reworded to aid simplicity and clarity. Items were discarded if there was a lack of consensus regarding their content validity. Items were also discarded if they were too similar to other items. Specifically, assertively defend my family and

friends” is similar to “stand up for my close friends/family when others talk badly of them” and “work as a team so together we can accomplish more” is similar to “work hard to ensure our group goals are achieved”. As Field (2004) advises not to include items that are “blatantly similar to each other” to avoid undermining validity the following two behaviour items were discarded: “assertively defend my family and friends” and “work hard to ensure our group goals are achieved”. This left a total of 55 items.

To assess inter reliability ratings of the behaviour items, 6 academics from Royal Holloway’s social psychology lab group were asked to, “read the definitions of the behaviour categories and tick the category that you think each behaviour item reflects”. Existing definitions and examples were used to ensure that judges understood the concepts and were able to accurately judge if the behaviours reflected these definitions. Specifically, the following behaviour category definitions were provided:

Agency – ‘getting ahead’. Can be seen as a personality dimension that includes being goal oriented, independent, self-confident, able to stand up well under pressure and competitive. An example of an agency behaviour could be, “do things my own way”.

Communion – ‘getting along’. Can be seen as a personality dimension that includes being kind, helpful, co-operative, warm and empathic. An example of communion

behaviour could be, “Offer directions to a person that looks lost”.

Agency at the expense of communion. Behaviours will be reflected in acts that are agentic and goal orientated even at the expense of being communal. A behavioural example could be, “Make decisions without consulting others who may be involved in them”.

Communion at the expense of agency. Behaviours will be reflected in acts that are communal and co-operative even at the expense of being agentic. A behavioural example could be, “Let others get their own way, even if it’s not what I want”.

Simultaneous agency and communion (A-C). Behaviours will be reflected in acts that involve both getting ahead and getting along. An example could be, “Actively campaign for the rights of a group to which I belong”.

Items were only retained if five out of six of the judges agreed about the category represented by the behaviour item. The final behaviour scale consisted of 40 items, 8 items each for agency (e.g., “strive to improve my skills”), communion (e.g., “Do favours without being asked”), unmitigated agency (e.g., “Insist that others do what I want”), unmitigated communion (e.g., “Give so much that others take advantage of me”) and 6 items for a-c (“work as a team so together we can accomplish more”). All behaviour items are shown below in Table 3.

In line with Bardi and Schwartz's (2003) instructions participants were asked to indicate how frequently they had engaged in each behavior, during the past six months, relative to their opportunity to do so using a 5-point scale from 0 (*never*) to 4 (*always*). Contrary to Bardi and Schwartz (2003) suggestions, responses were not centered around an individual's means. This practice was avoided because centring each variable may remove important variance. For instance, one person's behaviours could be in a rank-order that maps on to their values but on the opposite end of the scale. This person would have the same score as someone who corresponds perfectly on every item.

3.6.4 Measuring Well-being

As past research implies that agency and communion may be differentially associated with various facets of well-being I measured two aspects of well-being; positive mental health and subjective-well-being.

Subjective Well-Being: Reported happiness is often measured by both affective and cognitive measures of well-being (see review in Diener et al, 1999). Hence, respondents completed measures of affective and cognitive well-being. Affective well-being was measured using the Positive and Negative Affect Scale (PANAS, Watson, Clark, & Tellegen, 1988). The PANAS consists of 20 adjectives comprising two subscales, positive affect and negative affect. Participants used a 5-point Likert scale, from 1 (*very slightly*) to 5 (*extremely*), to indicate the extent to which they currently felt this way. Cognitive well-being was assessed using the Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985). The SWLS consists of 5 unidirectional attitude expressions (e.g., "The conditions of my life are

excellent”) conveying cognitive evaluations of global happiness. Participants rated the expressions using a 7-point Likert scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Both the PANAS and SWLS have good internal and test-retest reliability (Watson et al, 1988; Diener et al, 1985). The alpha coefficients in the present study were also good (PA $\alpha = .89$, NA $\alpha = .88$, SWLS $\alpha = .89$).

Positive Mental Health: Positive mental health was assessed using the mental health continuum short form (MHC-SF; Keyes, 2002b) which consists of 14 items. Three items (happy, interested in life, and satisfied) represent emotional well-being (EWB). Six items represent psychological well-being (PWB), one item per each of the 6 dimensions proposed by Ryff (1989), i.e., self-acceptance (“that you liked most parts of your personality”), positive relations with others (“that you had warm and trusting relationships with others”), personal growth (“that you had experiences that challenged you to grow and become a better person”), purpose in life (“that your life has a sense of direction or meaning to it”), environmental mastery (“good at managing the responsibilities of your daily life”), and personal autonomy (“confident to think and express your own ideas and opinions”). Five items represent social well-being (SoWB), with one item per each of the dimensions proposed by Keyes (1998), i.e., social acceptance (“that people are basically good”), social actualization (“that our society is a good place, or is becoming a better place, for all people”), social contribution (“that you had something important to contribute to society”), social coherence (“that the way our society works makes sense to you”), and social integration (“that you belonged to a community, like a social group, or your neighbourhood”). Participants

indicated how frequently they had experienced each indicator of well-being in the past six months using a 6-point scale ranging from 0 (*never*) to 5 (*every day*). The MHC-SF has shown internal consistency ($\alpha > .80$) and test-retest reliability (see Keyes, 2009). The internal reliability coefficients in the present study were also good (MHC-SF total $\alpha = .91$, EWB $\alpha = .86$; PWB $\alpha = .86$, SoWB $\alpha = .80$).

3.6.5 Measuring traits: agency, communion and their unmitigated counterparts

The extended personality attributes questionnaire (Spence et al., 1979) was used to assess the personality traits of agency, unmitigated agency and unmitigated communion. Each item was rated using a 5-point scale from 1 to 5 and each item was anchored on each end by opposing adjectives. An example of an agency item is “not at all independent – very independent”. A communion item is “not at all helpful to others – very helpful to others”. An unmitigated agency item is “not at all egotistical – very egotistical”. Previous research has found acceptable internal consistency with average Cronbach alpha coefficients of .75 (Nagurney & Bagwell, 2009). Similar alpha coefficients were found in the present study (agency $\alpha = .74$, communion $\alpha = .76$, unmitigated agency $\alpha = .75$).

Unmitigated Communion (UCS; Helgeson & Fritz, 1998). Although the extended personality attributes questionnaire contains an unmitigated communion subscale, past research has criticised its low internal consistency and construct validity (Helgeson, 1993; Helgeson & Fritz, 1998). Because of this unmitigated communion was assessed using the UCS which consists of 9 items (e.g., “I always place the needs of others above my own”), 2 of which

are reverse scored. Participants rated the items using a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Past research has demonstrated acceptable internal consistencies ranging from .7 to .8 (Helgeson & Fritz, 1996, 1998). The alpha coefficient in the present study was also acceptable at .74.

3.6.6 Measuring traits: Extraversion and Neuroticism

The personality traits Extraversion (E) and Neuroticism (N) were assessed using the Big Five Inventory (BFI; John, Donahue, & Kentle, 1991). Given the research reviewed in Chapter 1 about the consistent correlations between these traits and affective and psychological well-being (Costa & McCrae, 1980; DeNeve & Cooper, 1998; Heller, Watson, & Hies, 2004; McCrae & Costa, 1984), Study 1 examined whether the relationship between each behaviour category and well-being would still be present even when controlling for extraversion and neuroticism. The BFI compares well to other measures of the Big Five, demonstrates cross cultural validity and has been used in other settings (see Benet-Martinez & John, 1998). As the present study focused only on E and N, the scale consisted of just 14 items. Respondents indicated the extent they agreed that the characteristics applied to them (e.g., “I am someone who is talkative”) using a 5 point scale ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). The alpha coefficient in the present study for both E ($\alpha = .86$) and N ($\alpha = .82$) were also good.

3.7 Analytic Strategy

As the present research used a new behaviour scale, it was important that a number of steps were taken to try and establish the scale’s credibility. Hence, in Study 1a analyses were employed to examine (a) the descriptive

statistics of each item (b) the scale's structure (c) convergent, divergent and incremental validity. More about each process is detailed below.

3.7.1 Examining the descriptive statistics

Examination of the descriptive statistics can be used to identify items that do not use the full range of the scale, i.e. when one or more of the response answers have not been used at all. Field (2004) advises that any items that do not use the full range of the scale should be discarded. Analysis of the descriptive statistics can also be used to identify if items are normally distributed. This is important to know as it impacts subsequent decisions when analysing the scale's underlying structure.

3.7.2 Examining the scale's structure

Factor analysis (FA) techniques are used to identify the structural relations underlying the scale. These techniques enable the reduction of a number of interrelated variables to a smaller number of latent dimensions (Tinsley & Tinsley, 1987). FA first came about when Charles Spearman hypothesized that the huge range of aptitude tests (e.g., spatial tests, logical reasoning tests, verbal tests) could all be explained by one underlying factor, a factor he called *g* or "general intelligence" (Pruzek, 2005).

There are two main types of factor analysis techniques: exploratory factor analysis and principle component analysis. These are sometimes mistaken as the same statistical method and are treated as synonymous (Pruzek, 2005). However, these two techniques fundamentally serve different purposes and erroneously choosing the wrong technique can have important implications for the subsequent inferences made (Fabrigar, Wegener, MacCallum & Strahan, 1999). Whereas exploratory factor analysis is a tool

for determining latent structure, principal component analysis is a tool for reducing the number of items. This is because whereas EFA reduces the data into factors which represent (a) shared variance, (b) variance unique to the items and (c) error, PCA reduces the data into factors which represent *only* (a) shared variance and (b) error. In other words, EFA is useful for ascertaining the number of factors observable and which unique items represent these factors whereas PCA is useful for ascertaining optimal ways of combining a large amount of variables into fewer factors.

Deciding how many factors to extract is a key decision that needs to be considered carefully for the following reasons (see Hayton, Allen, & Scarpello, 2004). Firstly, factor retention decisions may be more important than other decisions (e.g., type of rotation) because there is evidence of robustness across alternatives for their decisions (Zwick & Velicer, 1986). Secondly, a balance needs to be struck between parsimony and the representation of minor factors (Fabrigar et al., 1999). Thirdly, conceptual and empirical papers indicate that specifying either too few or too many factors can lead to substantial errors that affect results (Velicer, Eaton, & Fava, 2000).

Following Wood et al. (2008), I decided how many factors to extract on the basis of the results I obtained using Horn's (1965) parallel analysis. Although heavily underutilized by researchers (Fabrigar et al., 1999) parallel analysis is one of the most accurate methods for deciding how many factors to retain (e.g., Glorfeld, 1995; Zwick & Velicer, 1986). Parallel analysis is based on the Monte Carlo simulation method (most commonly used in the financial sector) and entails comparing observed eigenvalues extracted from the correlation matrix to "expected" eigenvalues. "Expected" eigenvalues are

computed by simulating random samples (also known as data sets) that parallel the observed data in terms of sample size and number. Parallel analyses can be based on either normally distributed data generation or on permutations of the original raw data set. O'Connor (2000) advises that permutations of the raw data set are highly accurate and most relevant, especially in cases where the raw data are not normally distributed.

Another key decision in exploratory factor analysis is selecting a rotation technique. In the present study, an oblique rotation and not an orthogonal rotation was selected because whereas the former allows correlations between factors the latter does not. Hence, in cases where there are theoretical or empirical relations amongst the variables it is considered appropriate to use an oblique rotation (Fabrigar et al., 1999). It was anticipated that the latent factors may correlate with each other because of the relations of the dimensions to the unmitigated counterparts posited by Helgeson (1994) and demonstrated in empirical papers (e.g. Helgeson & Fritz, 1999).

3.8 Results and Discussion

The results are presented in four sections. The first section examines the credibility of the new behaviour scale using exploratory factor analyses to examine the structural validity and correlational analyses to examine if each behaviour category is representative of each personality and the structural relations among the constructs. The second section uses correlational analyses to examine the association of each trait and behaviour category to each of the well-being measures. The third section employs regression analyses to examine if an interaction term comprised of agency and communion behaviour contributes to well-being substantially more than either agency behaviour,

communion behaviour or a behaviour that simultaneously incorporates both agency and communion while controlling for extraversion and neuroticism. The fourth section uses regression analyses to examine if trait-behaviour fit contributes to well-being. Specifically, this section examines if the interaction terms between traits and their matching behaviours (e.g., trait agency x agency behaviour) significantly predicts well-being.

3.8.1 Examining the Behaviour Scale

3.8.1.1 *Data screening*

The descriptive statistics for each behaviour item were examined. Only 1 item (“stand up for my own beliefs”) did not use the full range of the scale and so was discarded. Tests of normality indicated that the data were not normally distributed. Specifically, the Kolmogorov-Smirnov test, visual examinations of histograms and box-plots, as well as scores of skewness and kurtosis divided by their respective standard errors all suggested that the majority of behaviour items were not normally distributed.

3.8.1.2 *Exploratory factor analysis*

As the data were not normally distributed parallel analyses were based on permutations of the original raw data set. For parallel analysis I used O’Connor’s (2000) SPSS syntax to obtain 1000 data sets based on permutations of the original raw data set with 346 cases and 31 variables.

A factor was considered significant if the values of the real data were greater than the mean of those obtained from the randomly generated datasets. The first five mean eigenvalues were 5.58, 2.59, 2.29, .76 and .71. These values were greater than the first four mean eigenvalues in my actual data set

which indicates a four factor structure. Therefore, on the basis of this, I extracted 4 factors using an oblique rotation.

Of the 40 behaviour items 31 behaviour items were submitted to the principle axis EFA. Eight items were excluded that were designed to represent a-c because these items have shared variance with both agency behaviour items and communion items. This shared variance complicates the interpretation of factor analysis as it attenuates the scales structure.

Bartlett's test ($X_0^2(465) = 2878.98, p < .01$) indicated that there was an adequate sample size for this analysis and the Kaiser-Meyer-Olkin (.84) test indicated that the data were suitable for factor analysis. The first four factors had eigenvalues of 6.17, 3.20, 2.89 and 1.37 which respectively accounted for 19.89%, 10.32%, 9.33% and 4.41% of the variance. Overall, factor loadings indicated that the first factor represented communion, the second unmitigated agency, the third unmitigated communion and the fourth unmitigated agency. The structural relation amongst these factors is shown in Table 5 and discussed in further detail in section xxx.

Items were only retained if they loaded .30 or above on a single factor and contained no sizeable cross loadings (Costello & Osborne, 2005). On the basis of these criteria the following 4 items were discarded: "do my best work under pressure", "offer directions to a person that looks lost", "become so focused on a project that I have no time for my friends/family" and "lend money to friends but feel reluctant to remind them to pay me back". An additional two items were eliminated due to cross loadings: "take what I want despite knowing I am depriving someone else" and "help others even if it obstructs my goals". Finally, two items were eliminated that did not load on

the intended factor. Specifically, “do things my own way” and “rely on my way of seeing things as the basis for a final conclusion” loaded on unmitigated agency and not agency. This left a 23 item scale, 4 items represented agency, 7 represented communion, 6 represented unmitigated agency and 6 represented unmitigated communion. Using the criteria set by Kline (1999), each subscale had acceptable internal consistency scores (agency $\alpha=.74$, communion $\alpha= .79$, unmitigated agency $\alpha = .70$ and unmitigated communion $\alpha = .74$).

Table 3. *Exploratory factor analysis: Agency, communion and their unmitigated counterparts.*

Behaviour Items	Factors				Communalities	
	1	2	3	4	Initial	Extracted
*Do favours without being asked	.63	.03	.16	.07	.47	.52
*Make people feel welcome	.54	-.09	.07	.28	.51	.50
*Enjoy helping others	.51	-.07	.11	.27	.49	.48
*Give small gifts to my friends/family for no reason	.49	.20	.15	-.04	.38	.34
*Take the time to choose others a gift I know they'll love	.47	.06	.05	.05	.35	.27
*Rejoice in the successes of others around me	.46	-.09	.08	.21	.39	.36
*Accept people as they are	.42	-.18	-.02	.17	.34	.26
Offer directions to a person that looks lost	.25	.15	.22	.22	.36	.28
*Insist that others do what I want	.01	.63	.02	-.03	.40	.40

*Make decisions without consulting others who are involved in them	-.12	.57	.14	.02	.36	.37
Take what I want despite knowing I am depriving someone else	-.42	.55	.11	.06	.40	.44
*Dominate conversations and control what we talk about	.14	.54	.05	-.12	.35	.30
*Act assertively even though it may make me unpopular	.31	.49	-.16	.01	.39	.36
*Take advantage of a good friend's nature	-.21	.49	.15	-.02	.35	.28
*Pursue my goals even if it upsets others	.22	.44	-.29	.18	.40	.39
Become so focused on a project that I have no time for my friends family	-.02	.36	.13	.18	.32	.21
*Go along with others' preferences even if it's not what I would like to do	-.13	-.12	.67	.06	.46	.42
*Agree to every suggestion I get	-.04	.05	.61	.07	.37	.38
*Let others get their own way even if it's not what I want	.04	-.14	.59	-.02	.43	.36
*Change a decision I made because it has upset someone else	.10	.08	.58	-.08	.37	.38
*Give so much that others take advantage of me	.25	.18	.54	-.14	.40	.43
*Spend more time working towards group goals at the expense of my goals	.01	.08	.51	.31	.46	.41
Help others even if it obstructs my goals	.32	.01	.44	.15	.50	.42

Lend money to friends but feel reluctant to remind them to pay me back	.15	.07	.38	-.08	.25	.19
*Persevere with a challenging task	.08	-.02	.01	.65	.36	.47
*Work on a task until it is finished	-.01	-.04	.02	.65	.37	.41
*Strive to improve my skills	.16	.05	-.11	.63	.47	.52
*Engage in optional activities to improve my career prospects	.10	.20	.03	.43	.40	.32
Rely on my own way of seeing things as a final basis for reaching conclusions	.06	.45	-.11	.08	.32	.23
Do things my own way	-.04	.39	-.21	.20	.38	.25
Do my best work under pressure	.22	.12	.09	.20	.21	.18

The 6 a-c behaviour items were subjected to the process above. The results of parallel analysis indicated a one factor solution. Factor analysis results showed this factor had an eigenvalue of 2.59 and accounted for 43.11% of the variance. Factor loadings and communalities are displayed in Table 4. The internal consistency for a-c was acceptable ($\alpha=.73$).

Table 4. *Exploratory factor analysis: A-C items*

A-C behaviour items	Loading	Extracted communality
Make connections with others that might help both me and them in the future.	.73	.53
Work as a team so together we can accomplish more.	.70	.49

A-C behaviour items	Loading	Extracted communality
Strive to get a promotion so that I have more money to spend on my family/friends.	.66	.43
Enhance my CV by raising money for a worthy cause.	.64	.41
Actively campaign for the rights of a group I belong to.	.64	.41
Stand up for my close friends/family when others talk badly of them.	.57	.32

3.8.2 Relations of behaviours to traits

Table 5. *Correlations between the traits and behaviours of agency, communion, and their unmitigated counterparts*

	Ag-t	Ag-b	Com-t	Com-b	UA-t	UA-b	UC-t	UC-b
1. Ag-tr	-							
2. Ag-b	.57**	-						
3. Com-t	.12*	.14**	-					
4. Com-b	.34**	.52**	.51**	-				
5. UA-t	.17**	.10*	-.42**	-.23**	-			
6. UA-b	.23**	.33**	-.17**	.08	.47**	-		
7. UC-t	-.11*	.01	.44**	.37**	-.16**	-.08	-	
8. UC-b	-.14**	.12*	.31**	.43**	-.04	.17**	.53**	-
9. AC-b	.44**	.55**	.27**	.62**	.02	.36**	.20**	.32**

Notes. Ag-t = agency trait, Ag-b = agency behaviour, Com-t = communion trait, Com-b = communion behaviour, UA-t = unmitigated agency trait, UA-b = unmitigated agency behaviour, UC-t = unmitigated communion traits, UC-b = unmitigated communion behaviour and AC = both agency and communion in one behaviour. All correlations based on $N = 346$. * $p < .05$. ** $p < .01$.

Table 5 (above) shows the correlations among the measures of agency, communion and their unmitigated counterparts. A clear pattern consistently emerged in which each behaviour type and its corresponding trait were significantly positively correlated (r ranged from .47 to .62). This establishes that Study 1's non gender-specific behaviour measures of agency and communion were conceptually similar to traditional conceptualizations of agency and communion as measured by the personality attributes questionnaire. A-c behaviour was significantly positively correlated with agency and communion traits and behaviours.

3.8.3 Correlations between agency, communion and their unmitigated counterparts

Correlational analyses revealed that agency and communion traits were not significantly correlated (see Table 5, above, section 3.8.2) indicating the relationship between the two dimensions at trait level is orthogonal, as found in past research (Bruch, 2002; Helgeson; 1994; Helgeson & Fritz, 1999; Helmreich et al., 1981; Lippa, 1991; Lippa & Connelly, 1990; Ward et al., 2006; Wiggins, 1991).

The behaviours of agency and communion were significantly positively correlated to one another. It is likely that this positive link occurred because both behaviours are seen as socially positive. Nonetheless results from the factor analysis show that despite this positive relationship agency and communion clearly emerge as two distinct constructs.

In line with past research, findings showed that each unmitigated trait was positively correlated with its corresponding counterpart (Saragovi et al., 1997; Saragovi et al., 2002). Specifically, trait agency was significantly (albeit weakly) positively correlated with the trait of unmitigated agency and trait communion was significantly positively correlated with the trait of unmitigated communion. These patterns of relations were also evident at the behavioural level. Specifically, agency behaviour was significantly positively correlated with unmitigated agency behaviour and communion behaviour was significantly positively correlated with unmitigated communion behaviour. These findings support Helgeson's (1994) argument that underlying each unmitigated dimension is their related adaptive counterpart.

3.8.4 Relations of agency, communion and their unmitigated counterparts to well-being

Table 6 (below) presents the correlations between each dimension and each well-being aspect. Agency and communion traits and behaviours were significantly positively associated with well-being. The magnitude of these correlations appeared greater for agency than communion, both in terms of traits and behaviours. A-c behaviour was significantly correlated with each well-being aspect, with the magnitude of these correlations comparable to the correlations found between agency and well-being. Moreover, the majority of

these correlations between a-c behaviour and well-being persisted even when the effects of agency and communion behaviours were taken into consideration by statistically controlling for them.

The unmitigated dimensions were significantly positively related to negative affect both at the trait and behaviour level, supporting the notion that the absence of one dimension may be detrimental for well-being. Curiously, unmitigated agency and unmitigated communion behaviours were also significantly positively correlated with other measures of well-being. However, controlling for the related healthier aspect of the unmitigated counterparts rendered these positive correlations to well-being measure non-significant. Moreover, unmitigated communion behaviours became significantly negatively related to four measures of well-being. This suggests behaviours in which others' needs are put ahead of one's own may have particularly negative consequences for well-being.

Table 6. *Correlations between traits, behaviours and the well-being measures*

		Subjective Well-Being			Keyes Mental Health Continuum		
		PA	NA	SWL	EWB	So-WB	PWB
A	Trait	.60**	-.39**	.39**	.41**	.31**	.58**
	Behaviour	.58**	-.25**	.38**	.39**	.32**	.58**
C	Trait	.20**	.01	.15**	.08	.11*	.24**
	Behaviour	.49**	-.11*	.31**	.32**	.46**	.47**
A-C	Behaviour	.54**	-.09	.30**	.35**	.43**	.50**

A-C	Behaviour ^a	.23**	.03	.16**	.14*	.30**	.19**
UA	Trait	-.02	.15**	-.09	-.09	.02	-.13*
	Behaviour	.19**	.18**	.03	.05	.22**	.11*
	Behaviour ^b	-.00	.24**	-.10	-.10	.13*	-.08
UC	Trait	-.04	.15**	-.02	-.09	.01	-.05
	Behaviour	.08	.19**	.05	.01	.12*	-.01
	Behaviour ^b	-.18**	.26**	-.12*	-.19*	-.03	-.26**

Notes.

A = agency, C = communion, A-C = simultaneous agency and communion, UA = unmitigated agency and UC = unmitigated communion. PA = Positive Affect, NA = Negative Affect, SWL = Satisfaction with Life, EWB = Emotional Well-Being, So-WB = Social well-being, PWB = psychological well-being.

* $p < .05$. ** $p < .01$.

^a =controlling for agency and communion behaviour, ^b = controlling for agency behaviour, ^c = controlling for agency behaviour

3.8.4.1 Distinct correlations with well-being

The data presented here does not fully support Helgeson's (1994) suggestion that agency is related to mental health and communion to relationship satisfaction. Specifically, findings did not show agency was uniquely correlated with psychological well-being and communion with social well-being. However, the relative magnitude of the correlations does indicate some support for this hypothesis. Specifically, the correlations between psychological well-being and both agency traits and behaviours were larger

than the correlations between psychological well-being and communion traits and behaviours (traits: Steiger's $Z = 5.53, p < .01$, behaviours: $Z = 2.57, p < .05$). While the correlations between social well-being and communion behaviours were larger than the correlations between social well-being and agency behaviours ($Z = 2.94, p < .01$).

3.8.4.2 Predicting well-being from agency and communion behaviours

To further examine the relative contributions of these adaptive behaviours to positive well-being, six regressions were conducted, one per each well-being aspect. Extraversion and neuroticism were entered into the first step to control for them. In the second step the following were entered: agency behaviour, communion behaviour, a-c behaviour and an interaction term (agency behaviour x communion behaviour). The interaction term was included to see if performing agency behaviour and communion behaviour resulted in benefits above and beyond those accrued from simply agency behaviour or communion behaviour. As in Aiken and West (1991), each of the predictors was centered on the sample mean, and the interaction variable was calculated as the product of the two centered predictors. The unmitigated dimensions were excluded from these regressions, as they are not positive predictors of well-being. The results are presented in Table 7 (below).

Table 7. Predicting well-being measures from each behaviour while controlling for extraversion and neuroticism

	Adjusted R ²	Model Summary	β for each behaviour			
			A	C	A-C	A x C
PA	.48	$F(6, 339) = 53.75, p < .01$	.24**	.12*	.20**	-.03
NA	.38	$F(6, 339) = 36.81, p < .01$	-.05	.04	.10	.08
SWL	.27	$F(6, 339) = 22.77, p < .01$	.14*	.10	.05	-.03
EWB	.31	$F(6, 339) = 26.76, p < .01$	.09	.07	.11	-.09*
So-WB	.23	$F(6, 339) = 17.93, p < .01$	.05	-.07	.37**	-.01
PWB	.50	$F(6, 339) = 58.07, p < .01$	.25**	.11*	.14**	-.10

Notes. PA =Positive Affect, NA = Negative Affect, SWL = Satisfaction with Life, EWB = Emotional Well-Being, So-WB = Social well-being, PWB = psychological well-being.

* $p < .05$. ** $p < .01$

Although Extraversion and Neuroticism were controlled for, both positive affect and psychological well-being were still significantly predicted by agency, communion and a-c behaviour. In addition, life satisfaction was also predicted by agency behaviour and social well-being by a-c behaviour. The interaction term (agency behaviour x communion behaviour) did not significantly positively predict any of the well-being measures.

These analyses were repeated again but this time a-c behaviour was excluded from the regression. The interaction term still failed to significantly predict any of the well-being measures. This suggests: (a) enacting both

agency behaviour and communion behaviour does not substantially contribute to well-being above and beyond enacting either behaviour on its own and, (b) that a-c behaviour may be qualitatively different from simply the sum of agency and communion combined and as such exerts a distinct influence on well-being. Interestingly, a-c behaviour was the only behaviour to significantly predict social well-being. Presumably, this is because a-c behaviours such as “campaign for the rights of a group I belong to” and “make connections with others that might help both me and them in future” involve: (a) social contribution because they benefit both the individual and others, (b) social integration because they foster a sense of belonging through involvement with the community and, (c) social actualization because an individual engaging in such behaviours is actively striving to make the community a better place for people and so believe that society is becoming a better place for people. Indeed further correlational analysis showed a-c behaviour was significantly positively correlated with the following one items measures from the social-well-being measure: social contribution ($r = .44, p < .01$), social integration ($r = .33, p < .01$), social actualization ($r = .24, p < .01$). In addition, a-c behaviour was also positively correlated with social coherence ($r = .31, p < .01$), possibly because people who get involved with communities/society have a better understanding of how a community works as a result of doing so.

3.8.5 Examining the contribution of trait-behaviour fit to well-being

To examine if agency and communion behaviours are positively related to well-being for anyone or only for those for whom these behaviours match their traits analyses were carried out using regression.

3.8.5.1 Results

Table 8. *The contribution of traits, behaviours and trait-behaviour fit to well-being measures*

Model	Well-Being Measure	Standardized paths		
		T-> WB	B -> WB	TxB→ WB
Agency	Positive Affect	.40**	.33**	-.07
	Negative Affect	-.37**	-.03	.02
	Life Satisfaction	.25**	.23**	-.02
	Emotional WB	.28**	.20**	-.12*
	Social WB	.20**	.18**	-.10*
	Psychological WB	.37**	.33**	-.16**
Communion	Positive Affect	-.06	.52**	-.05
	Negative Affect	.08	-.14*	.09
	Life Satisfaction	-.01	.30**	-.10*
	Emotional WB	-.09	.35**	-.17**
	Social WB	-.02	.25**	-.11*
	Psychological WB	.00	.46**	-.13*

Note: $T \rightarrow SWB$ = Contribution of traits to well-being measures. $B \rightarrow WB$ = Contribution of behaviours to well-being measures. $T \times B \rightarrow SWB$ = Contribution of trait-behaviour fit to well-being measures.

Regression analyses are displayed in Table 8 (above). Results show that trait agency was significantly associated with each of the well-being measures. Trait communion was not significantly positively associated with each of the well-being measures. Agency behaviour and communion behaviour significantly predicted all of the well-being measures, with the exception of agency behaviour which did not relate to negative affect. No support was found for the notion that higher well-being is significantly more likely when behaviours match traits. On the contrary, 7 out of 12 of the trait-behaviour interaction terms were negatively associated with various aspects of well-being.

Contrary to the person-activity fit theory (Lyubomirsky et al., 2005), no support was found for the notion that a match between trait and behaviours results in significantly higher well-being. Overall, the analyses indicated out of traits, behaviours and traits x behaviour, only behaviours were consistently associated with desirable well-being outcomes.

However, it is unclear to what extent these analyses can be relied upon to reveal the true contribution of agency and communion traits, behaviours and trait-behaviour fit to well-being. This is because the construct of traits also encompasses behaviours. This is evident from definitions of personality as representing, “those characteristics of the person that account for consistent patterns of feelings, thinking and *behaving*” (Pervin & John, 2001, p. 4).

Notably, the measures used to assess trait agency and trait communion include items that can also be interpreted as representing behaviours. For instance, trait agency is represented by the items such as “never gives up” and “stands up well under pressure” while trait communion is represented by items such as “looks out for others” and “warm in relation to others”. Hence, the conceptual distinction between “being” (personality) and “doing” (behaviours) is unclear and may have confounded the relationship between traits and well-being. Moreover, there is also a conceptual overlap between mood items and some of the items used to measure the dimensions. For example, an item used to measure trait agency in the personality attributes questionnaire (Spence et al, 1979) is, “never gives up” which is virtually the definition of, “determined”, an item used to measure positive affect. Hence, further research is needed to examine the basic tenets of person-activity fit using carefully considered constructs to conceptualize it.

3.9 Study 1: Summary

Study 1 demonstrated that agency, communion and their unmitigated counterparts can be assessed using behaviours that are not based on gender stereotypes, and that these behaviours relate to established trait measures of agency and communion. The relationship between agency and communion depends on whether they are measured as traits or as behaviours. Results indicated that traits are orthogonally related as found in past research (e.g., Saragovi et al., 1997, Saragovi et al., 2002). As behaviours, agency and communion were positively correlated, although it could be that this positive link occurred because both behaviours are seen as socially positive it could also have occurred because adaptive people behave adaptively. Nonetheless,

results from the factor analysis show that despite this positive relationship agency and communion clearly emerge as two distinct constructs. At both the trait and behaviour level, the unmitigated dimensions are positively correlated with their adaptive counterparts.

Overall, in contrast to their unmitigated counterparts both agency and communion (as traits and also as behaviours) are linked to higher well-being. These correlations persisted even when controlling for the contribution of extraversion and neuroticism, two traits pervasively found to contribute to well-being. In terms of examining if both dimensions are needed for well-being, Study 1 found an interaction term comprised of agency and communion behaviour did not predict well-being whereas a behaviour where they co-occur did. The findings also indicate that a-c behaviour is more than the sum of agency behaviour and communion behaviour as it still predicts well-being even when the effects of agency and communion behaviour are controlled for. Finally, findings also show no indication that behaviours consistent with traits are associated with higher well-being. Hence, it appears well-being is not significantly higher when individuals high in trait agency enact agency behaviours or when individuals high in trait communion enact communion behaviours.

CHAPTER 4: STUDY 1b

4.1 Introduction

As with any scale development, sometimes refinement studies are required to further develop the behaviour scale and further assess its psychometric credentials. Hence, Study 1b aimed to further develop the contribution of Study 1a by refining the items and further assessing the validity of the behaviour subscales of agency, communion and a-c. Specifically, the structural integrity of the scales was examined as was the convergent, discriminant, predictive and incremental validity. Notably, Study 1b does not further examine the unmitigated dimensions as the primary aim of this thesis is to examine behaviours that could increase well-being and Study 1a showed that agency and communion behaviours in their unmitigated form were negatively related to well-being. Study 1b also examines the possibility that social desirability may influence the relations between agency, communion and a-c behaviours and well-being.

4.1.2 Revision of the behaviour scales

Some alterations were made to the behaviour scales from Study 1a. These changes are detailed below but overall relatively few changes were made to the agency and communion behaviour subscales. Specifically, for agency, two new items were introduced and one item reworded and for communion one new item was included and one old item was excluded. However, a-c items changed substantially and only two of these items remained the same. All revisions were made after careful discussion with my

supervisor and items were only included if an agreement was reached about the items' face validity.

4.1.2.1 Changes made to the agency behaviour subscale

The behaviour scale from Study 1a was revised to fully capture the breadth of the dimensions and exclude an item that was conceptually similar to another item. Specifically, two new items were introduced to ensure agency behaviours included an independence dimension. These were, “do something for myself that someone else usually does for me” and “tried to solve a problem myself before seeking help from others”.

4.1.2.2 Changes made to the communion behaviour subscale

One item was added to ensure communion covered the interpersonal connection aspect. This item was “spent some quality time connecting with family/friends”. One item was adapted to emphasize mastery rather than a general tendency towards conscientiousness. Hence, “work on a task until it is finished” became, “set myself a task and challenge myself to complete it within a certain timeframe”. Specifically, the communion item, “take time to choose others a gift I know they'll love” was excluded on the basis that it was conceptually very similar to, “give small gifts to my friends/family for no reason”.

4.1.2.3 Changes made to the a-c behaviour subscale

Considerable changes were made to the a-c behaviour subscale. Only two items were kept from Study 1a, “made connections that will help me and another” and “worked as a team so together we can accomplish more”. These changes were made on the basis that ultimately these items were going to be

used in an intervention study and participants would need to realistically have the opportunity to enact these behaviours. For instance, for participants to strive for a promotion participants would need to have a job where there might be a chance for promotion.

4.1.3 Structural integrity: Further exploratory factor analysis and confirmatory factor analysis

To assess the structural integrity of the agency and communion behaviour scale, Study 1b used exploratory factor and confirmatory factor analyses. Although exploratory factor analyses were previously conducted in Study 1a researchers have proposed that if changes to a scale are necessary then it is appropriate to conduct a new exploratory factor analysis on the revised scale before moving on to confirmatory factor analysis (Worthington & Whittaker, 2006). Hence, further exploratory factor analyses were conducted prior to confirmatory factor analysis. Confirmatory factor analyses were conducted to examine if the structure specified in exploratory factor analysis would fit the data better than an alternative model.

4.1.4 Convergent, discriminant and predictive validity

To test convergent validity Study 1a examined if each of the behaviour subscales was significantly positively correlated with its corresponding element at the level of traits, values, and goals. It was expected that agency behaviours would relate to agency traits, values, and goals and that communion behaviour would relate to communion traits, values, and goals. A-c behaviour was expected to relate to both agency and communion as traits, values and goals as it incorporates both agency and communion. To test discriminant validity I examined cross correlations between agency behaviours

and communion constructs (and vice versa). Agency and communion traits, values and goals were chosen to test the convergent and discriminant validity because they share the same content, (i.e., they measure the same dimensions of agency and communion) but across different domains. Indeed, this approach has also been used by others in similar research. Specifically, Trapnell and Paulhus (2012) also tested convergent and discriminant validity of their new agency and communion values scale using the corresponding and cross correlations among similar constructs across different domains (e.g., traits, goals).

To further test discriminant validity I examined the correlations between each of the behaviour subscales and satisfaction of the three basic psychological needs outlined by self-determination theory (SDT); autonomy, competence and relatedness (Deci & Ryan, 1985). Need satisfaction was selected as there were clear expectations about which behaviours were likely to relate to the fulfilment of certain needs. Specifically, it was expected that agency behaviour would be significantly associated with competence satisfaction while communion behaviour would be significantly associated with relatedness satisfaction. Autonomy satisfaction was expected to relate to both agency and communion behaviours. These predictions were made on the basis of the conceptual similarities between these needs and the behaviours.

For instance, competence concerns succeeding at optimally challenging tasks and being able to attain desired outcomes (e.g., Skinner, 1995; White, 1959), essentially – feeling effective (Broeck et al., 2010). Hence it is not unreasonable to expect that engaging in an agency behaviour such as “persevering with a challenging task” would result in satisfaction of

competence needs. Similarly, relatedness concerns feeling connected to others, that is, establishing a sense of mutual love and caring for others (Baumeister & Leary, 1995; Harlow, 1958). Therefore, it follows that enacting communion behaviours such as, “spending some quality time connecting with family/friends” will satiate relatedness needs. Autonomy is defined as experiencing choice and feeling like the initiator of one’s actions (deCharms, 1968; Deci, 1975). At first glance, this would perhaps suggest that agency behaviour would be more positively associated with autonomy satisfaction than communion behaviour because communion behaviour is about interdependence rather than independence. However, authors have stressed that the definition of autonomy does not equate to independence and avoiding relying on others, rather it refers to making informed choices based on awareness of one’s own needs and value (Hodgins, Koestner, & Duncan, 1996). Accordingly, autonomy is not incompatible with relatedness and therefore one would not expect communion behaviour to be negatively related to autonomy satisfaction. In fact as empirical studies have shown that autonomy is related to more positive interactions it logically follows that autonomy satisfaction may be related to positive well-being (Hodgins et al., 1996). Indeed, it is not hard to see how “doing favours without being asked” would induce feelings of volition and hence, autonomy satisfaction. Agency behaviours are also likely to satiate autonomy needs as they involve acts such as, “engaging in optional activities to improve my career prospects”.

Notably, while such clear expectations allow discriminant validity to be tested and to a lesser extent predictive validity although obviously the correlational design of this study precludes firm conclusions about causality.

4.1.5 Incremental Validity

Incremental validity was tested in predicting positive affect, negative affect and life satisfaction from each of the behaviours above and beyond the contribution of agency and communion as traits. Traits were chosen because this is typically the level at which agency and communion tend to be conceptualized (e.g., Aube; 2008; Bruch, 2002; Helgeson & Fritz, 1999; Kuiper & Borowicz-Sibenik, 2005). Past research has also found agency and communion traits are significantly positively related to well-being. Hence, it was expected that traits would enable a rigorous test of incremental validity. In addition, as this thesis has chosen to solely focus on agency and communion behaviours as a mechanism for increasing well-being then it is vital that behaviours contribute to well-being beyond the traits.

4.1.6 Examining the Influence of Social Desirability

Notably, a weakness of Study 1a is that significant positive correlations between well-being and agency, communion and a-c behaviours could be a product of a person's tendency to report the positive. Put simply, it could be that people who say they do good things (agency and communion behaviours) also tend to say good things about themselves (i.e., report having high well-being). Indeed, Saragovi et al. (2002) compared peer observations of well-being to self report observations of well-being and found that agentic individuals tend to report feeling more positive than their peers perceive them to be. To test this possibility, I examined if the significant positive correlations would persist between these behaviours and well-being when controlling for social desirability.

4.2 Method

4.2.1 Procedure

Participants were recruited to complete the online questionnaire via Amazon's Mechanical Turk (also known as MTurk), a website that offers a large pool of workers the chance to get compensated for their help with a task. Increasingly, psychologists have used MTurk to recruit participants to assist with their research. This has led several studies to question the validity of data obtained using this method. So far, research indicates that the data obtained this way is at least as reliable as data obtained via traditional methods and has the added advantages of a more diverse sample than both standard internet samples and typical college student samples (Buhrmester, Kwang, & Gosling, 2011; Mason & Suri, 2011; Paolacci, Chandler & Ipeirotis, 2010; Rand, 2011). However, some drawbacks have been noted. Namely, that some participants complete the same survey twice by creating multiple worker accounts and that M-Turk participants pay less attention (Rand, 2011). In an attempt to overcome this first pitfall, I ensured that the online survey software prevented ballot posting (i.e., repeat participation). To ensure participants were paying attention, I included nine questions where participants were asked to select a particular option (e.g., please select the middle option to show you are paying attention). Participants that failed to pass all eight of these checks were excluded from subsequent analyses (27 participants).

4.2.2 Participants

A total of 373 respondents (245 male, 110 female, 16 declined to respond) completed the online questionnaire satisfactorily (i.e., completed the attentiveness checks correctly). The majority were Caucasian (75%). Their

ages ranged from 18 to 71 (mean = 37.49, SD = 12.8). All participants were compensated \$0.50 for their time.

4.2.3 Measures

4.2.3.1 Behaviours

As in Study 1a, participants were asked to indicate how frequently they had engaged in a list of behaviour items relative to their opportunity to do so. The behaviour scale consisted of 20 items, 6 of which represented agency, 7 communion and 6 a-c.

4.2.3.2 Traits

As in Study 1a agency and communion traits were measured using the personal attributes questionnaire (Spence, et al, 1979). The scales reliability was acceptable (agency: $\alpha = .75$, communion: $\alpha = .73$). As in Study 1a, items that overlapped with behaviours were not included to ensure the chances of obtaining convergent validity were not increased.

4.2.3.3 Values

Agency and communion values were assessed using a measure recently developed by Trapnell and Paulhus (2012). The measure consists of 24 value items, with 12 representing each subscale. The items are adapted from the Schwartz Value Survey and are essentially values emphasized in capitals and followed by an explanation in parentheses, e.g., COMPETENCE (displaying mastery, being capable, effective). Participants rate the importance of each value as a guiding principle in their daily lives using a 9 point scale ranging from *not*

important to me to highly important to me. The reliability and validity of the scale was established across four empirical studies (Trapnell & Paulhus, 2012). In the present study each subscale had good reliability (both $\alpha = .86$).

4.2.3.4 Goals

Agency and communion goals were measured using 24 items from Richards (1966). Of these, 14 items represented agency goals (e.g., “being successful in a business of my own”) and 10 items communion goals (e.g., “helping others who are in difficulty”). Participants were asked to rate the personal importance of each goal on a scale of 1 (*of little or no importance*) to 4 (*essential for you*). Past research has consistently shown that factor analyses of these items produces two broad factors corresponding to agency and communion (Paulhus & Trapnell, 2012). The reliability of both agency and communion goals was good (agency goals: $\alpha = .82$, communion goals: $\alpha = .70$).

4.2.3.5 Social Desirability

Social desirability was measured using a revised scale of the original Marlowe-Crown scale (1960) referred to as SD17 (Stöber, 1999). The updated version was designed to represent current social standards rather than those of the 1950’s. Participants indicate whether each of the 17 socially desirable items is true or false. An example of an item is, “I occasionally speak badly of others behind their back”. Past empirical tests of the scale reveal it has good reliability and

validity (Stöber, 2001). In the present study the scale also had good reliability ($\alpha = .82$).

4.2.3.6 Need Satisfaction

Satisfaction of the three core needs posited by self-determination theory was assessed using the general version of the basic psychological needs scale (BPNS-general; Ilardi, Leone, Kasser, & Ryan, 1993). The BPNS-general version contains 21 items, which measure satisfaction of three psychological needs: autonomy (7 items), competence (6 items), and relatedness (8 items). Sample items include “I am free to decide for myself how to live my life” (autonomy), “People I know tell me I am good at what I do” (competence), and “I really like the people I interact with” (relatedness). Participants respond on a 7-point Likert scale ranging from 1 (*not true at all*) to 7 (*very true*), regarding how well each psychological need is generally satisfied in their life. This measure has been used in past research and has been found to have acceptable reliability (Gagné, 2003). In the present study the reliability for each subscale was acceptable (autonomy: $\alpha = .79$, competence: $\alpha = .76$, and relatedness: $\alpha = .81$).

4.2.3.7 Well-Being

As in Study 1a, subjective well-being was measured using the PANAS and SWLS. Reliabilities for each scale was excellent (positive affect: $\alpha = .91$, negative affect: $\alpha = .93$ and life satisfaction: $\alpha = .93$).

4.3 Results

4.3.1 Exploratory factor analyses

The items anticipated to represent agency and communion behaviours were submitted to parallel analysis. The results revealed that only the first two mean eigenvalues of 4.44 and 1.41 were greater than the first two mean eigenvalues in my data set, indicating a two factor solution. As the data was not normally distributed principle axis factoring was conducted and a two factor solution was specified. Oblimin rotation was employed as in Study 1a the findings showed that agency behaviours and communion behaviours were significantly positively correlated. Bartlett's test ($X^2(78) = 1315.98, p < .001$) indicated that there was an adequate sample size for this analysis and the Kaiser-Meyer-Olkin (.88) test indicated that the data were suitable for factor analysis. The first two factors had eigenvalues of 4.45 and 1.51 which respectively accounted for 34.22% and 11.61% of the variance. The first factor represented communion and the second agency. These two factors were significantly positively correlated ($r = .58, p < .01$).

As in Study 1a, using the criteria suggested by Worthington and Whittaker (2006), items were only retained if they loaded .30 or above on a factor and items that loaded .30 or above on more than one factor (i.e., had cross loadings) were not retained. Items loaded on the expected factors and were free of cross loadings (see Table 9) using the criteria as specified in Study 1a. Reliability for the behaviour subscales was acceptable (agency: $\alpha = .76$) or good (communion: $\alpha = .82$).

Table 9. *Exploratory factor analysis on agency and communion*

behaviour items using oblimin rotation

Behaviour Items	Factors		Communalities	
	1	2	Initial	Extracted
Enjoyed helping others.	.80		.47	.58
Made people feel welcome.	.71		.38	.46
Rejoiced in the successes of others.	.67		.41	.47
Done favours without being asked.	.65		.41	.46
Given small gifts to my family/friends for no reason.	.21	.12	.35	.39
Spent some quality time connecting with family/friends.	.52		.25	.27
Strived to improve my skills.		.76	.53	.65
Persevered with a challenging task.		.70	.43	.52
Set myself a task and challenged myself to complete it within a certain time frame.		.68	.33	.43
Engaged in optional activities to improve my career prospects.		.60	.33	.34
Done something for myself that someone else usually does for me.		.36	.24	.26
Tried to solve a problem myself before seeking help from others.	.23	.34	.18	.14

Note. Loadings smaller than .10 suppressed.

Exploratory factor analysis was also conducted on the a-c behaviour scale as many of these items were new. Parallel analysis revealed a one factor solution. Exploratory factor analysis revealed this factor had an eigenvalue of 3.54 and accounted for 43.29% of the variance. Bartlett's test ($X_0^2(21)$

=609.39, $p < .01$) indicated that there was an adequate sample size for this analysis and the Kaiser-Meyer-Olkin (.86) test indicated that the data were suitable for factor analysis. Item loadings ranged from .46 to .69 (see Table 10). Reliability for the a-c behaviour subscale was good ($\alpha = .80$).

Table 10. *Exploratory Factor Analysis on A-C Behaviour Items*

Behaviour Items	Factor	Communalities	
		Initial	Extracted
Made connections that helped both me and another	.68	.37	.47
Worked together as a team so that together we accomplished more	.56	.26	.31
*Used my skills to make something for somebody and then gave it to them	.55	.25	.30
*Taught someone else how to do something I am good at (a skill)	.61	.31	.37
*Agreed with someone else that I will help them with X if they will help me with Y	.45	.18	.20
*Asked others to tell me about their experiences and learned from them	.67	.35	.44
*Asked my friends/family to show me how to do something they are good at	.68	.37	.61

4.3.2 Confirmatory Factor Analysis

Confirmatory factor analyses were conducted using AMOS to test the two factor structure of the behaviour scales designed to represent agency and

communion. Results showed that all items loaded onto their respective latent constructs. Loadings ranged from .29 to .78 for agency items and from .33 to .63 for communion items (all p 's < .001, see Table 11). Agency and communion behaviours were significantly positively correlated ($r = .62, p < .01$). The fit of the two-factor model to the data was satisfactory: goodness of fit (GFI) = .95; root mean square error of approximation (RMSEA) = .05; comparative fit index (CFI) = .96. Such results indicate the two-subscale structure fits the data. To establish if a one factor model would be more appropriate a second model was tested in which both agency and communion items were loaded onto a single latent factor. The one factor model did not fit the data adequately, GFI = .84; CFI = .80; RMSEA = .11 and analysis of the chi squared test showed the two factor model ($\chi^2(65) = 116.98, p < .001$) was superior to the one factor model ($\chi^2(64) = 334.22, p < .001, \Delta\chi^2 = 217.21, p < .001$). Confirmatory factor analysis was also conducted to see if a one factor solution would underlie a-c behaviour. All items loaded significantly on the latent construct (ranging from .45 to .65, all p 's < .01) and the data fit the model, goodness of fit (GFI) = .98; root mean square error of approximation (RMSEA) = .04; comparative fit index (CFI) = .98.

Table 11. *Confirmatory Factor Analysis: Agency and Communion Behaviours*

Behaviours Items	Item Loadings
Agency	
Persevered with a challenging task	.58
Strived to improve my skills	.78
#Set myself a task and challenged myself to complete it within a certain timeframe	.57
Engaged in optional activities to improve my career prospects	.68
*Done something for myself that someone else usually does for me	.48
*Tried to solve a problem myself before seeking help from others	.29
Communion	
Done favours without being asked	.58
Made people feel welcome	.58
Enjoyed helping others	.62
Given small gifts to my friends/family for no reason	.63
Rejoiced in the successes of others	.60
Accepted people as they are	.33
*Spent some quality time connecting with friends/family	.44

= revised item, * = new item.

Table 12. *Confirmatory Factor Analysis: A-C Behaviour Items*

Behaviours Items	Item Loadings
A-C	
Made connections that helped both me and another	.65
Worked together as a team so that together we accomplished more	.52
*Used my skills to make something for somebody and then gave it to them	.64
*Taught someone else how to do something I am good at (a skill)	.60
*Agreed with someone else that I will help them with X if they will help me with Y	.58
*Asked others to tell me about their experiences and learned from them	.45
*Asked my friends/family to show me how to do something they are good at	.60
*= new item	

4.3.3 Convergent, Discriminatory, Predictive and Incremental

Validity

Results for convergent, divergent and predictive validity are shown below in Table 13 (below).

Table 13. *Zero Order and Partial Order Correlations*

	Zero Order Correlations			Partial Correlations	
	Ag-beh	Com-beh	A-C beh	Ag-beh	Com-beh
Controlling for:	-	-	-	Com-beh	Ag-beh
Traits					
Agency	.41**	.27**	.24**	.32**	.07

	Zero Order Correlations			Partial Correlations	
	Ag-beh	Com-beh	A-C beh	Ag-beh	Com-beh
Controlling for:	-	-	-	Com-beh	Ag-beh
Communion	.12	.52**	.29**	-.20**	.54**
Goals					
Agency	.32**	.01	.24**	.37**	-.20**
Communion	.25**	.39**	.26**	.07	.31**
Values					
Agency	.38**	.02	.22**	.42**	-.23**
Communion	.25**	.48**	.25**	.00	.42**
Need Satisfaction					
Autonomy	.20**	.31**	.17**	.05	.25**
Competence	.44**	.37**	.34**	.32**	.19**
Relatedness	.20**	.48**	.30**	-.06	.45**
SWB					
PA	.46**	.46**	.43**	.29**	.28**
NA	-.08	-.16**	.02	.02	-.13**
SWL	.25**	.35**	.27**	.08	.26**

Note: Ag-beh = agency behaviour, Com-beh = communion behaviour, a-c beh = agency and communion combined in one behaviour, PA = positive affect, NA = negative affect, SWL = satisfaction with life. Bold items represent expectations regarding convergent validity.

4.3.3.1 Convergent Validity

Substantial support was garnered for convergent validity as significant positive correlations emerged between (a) agency behaviours and agency

traits, goals, and values, (b) communion behaviours and communion traits, goals and values and (c) a-c behaviour and both agency and communion traits, goals and values (see Table 13).

4.3.3.2 Discriminant Validity

Support for discriminant validity was less evident as the results revealed significant cross correlations between agency behaviours and communion constructs (e.g., agency behaviour was significantly positively correlated with communion goals), and communion behaviours and agency constructs. However, the strength of each of these correlations emerged in the predicted direction such that (a) the correlations between agency constructs and agency behaviour were always larger than the correlations between agency constructs and communion behaviours, and (b) the correlations between communion constructs and communion behaviour were larger than the correlations between communion constructs and agency behaviours. I compared these correlations using the FZT programme (developed by Garber, University of Nebraska) to compute Steiger's z , a more conservative approach than Hotelling's T test which can overestimate the t -value, resulting in a type 1 error (Meng, Rosenthal, & Rubin, 1992). The results confirmed that (a) agency behaviours had significantly higher correlations with agency traits, goals and values than communion behaviour (respectively, Z 's = 2.96, 6.17 and 7.23, all p 's < .01) and (b) communion behaviours had significantly higher correlations with communion traits, goals and values than agency behaviour (respectively, Z 's = 8.43, 2.93 and 4.94, all p 's < .01).

Given the positive correlation between agency and communion behaviours, it is perhaps not surprising that significant cross correlations

emerged. Hence, further correlations analyses were conducted between (a) agency behaviour and each of the agency and communion constructs (traits, goals and values) controlling for communion behaviour, and (b) communion behaviour and each of the agency and communion constructs (traits, goals and values) controlling for agency behaviour (see Table 13). Using this approach, support was evident for discriminant validity as agency behaviours were only significantly positively correlated with agency constructs and communion behaviours were only significantly correlated with communion constructs.

4.3.3.3 Predictive Validity

The expected relations between the behaviours and need satisfaction were confirmed. Specifically, positive correlations emerged between (a) competence satisfaction and agency behaviour (b) relatedness satisfaction and communion behaviour and (c) autonomy satisfaction and both agency and communion behaviour. Notably, competence satisfaction was also positively correlated with communion behaviour and relatedness satisfaction was also positively correlated with agency behaviour. However, as in the discriminant validity, when the effect of the other dimension was controlled for these results changed. Relatedness satisfaction was only significantly related to communion behaviour. Although competence satisfaction was still significantly positively related to both agency and communion behaviour, the correlation between agency behaviour and competence satisfaction was significantly larger than the correlation between communion behaviour and relatedness satisfaction ($Z = 2.65, p < .01$).

4.3.3.4 Incremental validity: Agency and communion behaviours

Incremental validity was tested in predicting each aspect of subjective well-being from each of the behaviours beyond the contribution of traits. Hierarchical analyses regressed agency and communion traits at step 1 and the agency and communion behaviours scales at step 2. Zero order correlations between the behaviours and well-being measures are shown above in Table 13.

4.3.3.4.1 Positive affect

At step 1 positive affect was predicted by both agency traits and communion traits (respectively, $\beta = .53$, $t = 12.55$, $p < .01$ and $\beta = .24$, $t = 5.58$, $p < .01$). Together agency and communion traits accounted for 33.70% of the variance in positive affect. Above and beyond these effects, both agency and communion behaviours were significantly related to positive affect (respectively, $\beta = .18$, $t = 3.71$, $p < .01$ and $\beta = .19$, $t = 3.44$, $p < .01$), accounting for an additional significant 8% of the variance.

4.3.3.4.2 Negative affect

At step 1 negative affect was predicted by trait agency but not trait communion (respectively, $\beta = -.40$, $t = -8.45$, $p < .01$ and $\beta = -.07$, $t = -1.58$, *NS*). Together agency and communion traits accounted for 16.30% of the variance in negative affect. Above and beyond these effects, agency behaviour significantly related to negative affect ($\beta = .16$, $t = -2.72$, $p < .01$), but communion behaviour was not ($\beta = -.10$, $t = -1.59$, *NS*). The behaviours accounted for an additional significant 2% of the variance.

4.3.3.4.3 Life satisfaction

At step 1 life satisfaction was predicted by both agency traits and communion traits (respectively, $\beta = .44$, $t = 9.53$, $p < .01$ and $\beta = .11$, $t = 2.44$, $p < .01$). Together agency and communion traits accounted for 20.50% of the variance in positive affect. At step 2, communion behaviour but not agency behaviour significantly predicted life satisfaction (respectively, $\beta = -.06$, $t = -1.01$, $p < .01$ and $\beta = .28$, $t = 4.52$, $p < .01$), accounting for an additional significant 4.5% of the variance.

4.3.3.2.4 Controlling for biased responding

Table 14. *Relation of constructs to social desirability*

	Social Desirability
Behaviours	
Agency	.12*
Communion	.27**
SWB	
PA	.22**
NA	-.35**
SWL	.24**

The above analyses were then repeated to test for biased responding. Indeed correlational analyses showed social desirability was associated with both the behaviours and the well-being measures, indicating that self-presentation is involved when responding to any of these scales. Therefore, it

was important to see if agency and communion behaviours could predict well-being, above and beyond the effects of social desirability as well as traits. Hence in step 1, social desirability was entered alongside agency and communion traits. Positive affect was still predicted by both agency and communion behaviour (respectively, $\beta = .19$, $t = 3.74$, $p < .01$ and $\beta = .19$, $t = 3.31$, $p < .01$). Negative affect was still significantly predicted by agency behaviour ($\beta = .14$, $t = -2.38$, $p < .05$). Life satisfaction was still predicted by communion behaviour ($\beta = .27$, $t = 4.21$, $p < .01$). Such results indicate that the relations between agency and communion behaviour and well-being are not unduly influenced by socially desirable responding.

Table 15. *Correlations between the behaviours and traits, goals, values, motives and need satisfaction.*

	Zero order correlations			Controlling for Social Desirability		
	Ag-beh	Com-beh	A-C-beh	Ag-beh	Com-beh	A-C-beh
Traits (PAQ)						
Agency	.41**	.27**	.24**	.39**	.22**	.26**
Communion	.12	.52**	.29**	.10	.49**	.21**
Goals						
Agency	.32**	.01	.24**	.32**	-.01	.24**
Communion	.25**	.39**	.26**	.23**	.35**	.23**
Values						
Agency	.38**	.02	.22**	.38**	.02	.22**
Communion	.25**	.48**	.25**	.22**	.43**	.21**
Need Satisfaction						
Autonomy	.20**	.31**	.17**	.18**	.27**	.14**
Competence	.44**	.37**	.34**	.43**	.34**	.31**
Relatedness	.20**	.48**	.30**	.18**	.45**	.27**
SWB						
PA	.46**	.46**	.43**	.45**	.42**	.40**
NA	-.08	-.16**	.02	-.03	-.06	.09
SWL	.25**	.35**	.27**	.22**	.30**	.23**

4.4 Discussion

Study 1b revised the behaviour subscales from Study 1a and subjected them to a thorough analysis in an attempt to establish their psychometric credentials. The structural integrity of the agency and communion behaviour scales was analysed and exploratory analysis yielded the expected two factor structure. Confirmatory factor analysis demonstrated that this two factor model was superior to a one factor model. This finding is important as it clearly shows that agency and communion can be distinguished from each other empirically. A-C behaviour measured just one dimension and not two suggesting that it cannot be further subdivided into items that are more predominantly agentic and items that are more predominantly communal.

Analysis of convergent validity showed that each behaviour type was significantly related to the same dimension at the level of traits, values and goals. Discriminant validity was less clearly established due to cross correlations between agency behaviours and communion constructs and vice versa. Nonetheless, the magnitude of these correlations were evident in the predicted directions such that agency behaviours were significantly more correlated with agency constructs than communion behaviours, and vice versa. Moreover, discriminant validity emerged clearly when partial correlation analyses were employed in which the effects of one dimension were controlled while examining the correlations between the behaviour and each construct (e.g., communion behaviour was controlled for when examining the correlations between agency behaviour and each of the constructs). Overall, both the convergent and discriminant validity analyses suggest that the behaviours measured the intended dimensions. Support was also found for predictive validity as hypotheses were confirmed regarding the relation of need satisfaction to the behaviours. Finally, the behaviours predicted well-being measures above and beyond the contribution of traits and social desirability.

In addition, the convergent analyses also enable the following question to be addressed: to what extent are behaviours separate from values and traits in the mind of the participant? Although not intended as a serious research question to be fully addressed in this dissertation, nonetheless this question is interesting because if participants are asked to enact certain behaviours in an intervention study then they may infer from these behaviours information about their traits or their values. For example, participants doing kind

behaviours may infer that they are kind person who endorses the value of benevolence. Indeed, such a proposition is in line with Bem's (1957) self-perception theory. However, the empirical data found in this study suggests that although behaviours correlate with their expressive values and traits (see Table 13, r 's range from .32 to .52), if these constructs were one and the same in the mind of the research participants we would expect to see much higher correlations of .07 or more. Indeed high correlations of .07 or more are used to in Cronbach's alpha to indicate if the items in a scale measure the same construct.

To summarise, Study 1b provided information about the behaviour scales structural integrity as well as convergent, discriminant, and incremental validity. However, a notable weakness of this study is that the correlational design precludes causal assumption meaning that ideally further studies are required to confirm the predictive validity of the behaviour scale.

CHAPTER 5: STUDIES 2, 3 AND 4

5.1 Introduction

Studies 2, 3 and 4 all use questionnaire data primarily to further examine the contribution of person-activity fit to well-being. These studies also enable a comparative analysis regarding which aspect of agency and communion relates to well-being – the motives? Or the behaviours? Given the behavioural focus of the present thesis it is important to justify this empirically. Hence the hypothesis that behaviours but not motives would relate to well-being was tested.

Each of these studies go beyond the previous studies by conceptualizing person-activity fit as value-behaviour fit rather than trait-behaviour fit. As noted in Study 1a's discussion, the conceptualization of person-activity fit as trait-behaviour fit may have been problematic because by definition traits include behaviour (Pervin & John, 2001). Indeed, examination of the items representative of trait agency and trait communion demonstrated examples of cross contamination between traits and behaviours. In addition, the use of traits may also have been problematic as there appeared to be some overlap between items used to measure the dimensions as traits and the items used to measure affect. Hence, the following chapter performs identical analyses to Study 1a but conceptualizes person-activity fit as value behaviour fit in Studies 2, 3, and 4, and also as goal-behaviour fit in Study 2. In addition, Studies 3 and 4 examine the contribution of person-activity fit to Ryff's (1989) six aspects of well-being.

This fifth chapter is comprised of a brief literature review, before each study is presented in turn including details of each study's method, results and

discussion. A summary of the main results and the limitations and directions for subsequent research are then discussed. The brief literature overview introduces Schwartz's (1992) value theory before providing five reasons why person-activity fit is best conceptualized as value-behaviour fit. It then goes on to state the values that best represent agency and communion before reviewing research linking values to well-being.

5.2 Literature review

5.2.1 Values: Definition, content, structure and measurement

The present thesis defines and measures values according to Schwartz's (1992) value theory because it provides useful and empirically substantiated knowledge about the content and structure of a comprehensive and cross culturally applicable set of values, as well as a tried and tested means of assessing them (e.g., Fontaine, Poortinga, Delbeke, & Schwartz, 2008; Hitlin & Pilavin, 2004; Rohan, 2000; Schwartz, 1992, 1994, 2005; Schwartz & Sagiv, 1995).

Schwartz's (1992) value theory defines values as, "desirable, trans-situational goals, varying in importance that serve as guiding principles in the life of a person or other social entity" (1994a, p. 21). Schwartz value theory outlines the main features of values implicitly agreed upon by numerous value theorists and researchers (e.g., Allport 1961; Feather, 1995; Kluckhohn, 1951; Kohn, 1969; Morris, 1956; White, 1951). Specifically, Schwartz value theory proposes that values are affect laden beliefs and desirable goals that motivate actions. They serve as standards or criteria that transcend specific actions and situations and are ordered by relative importance to one another, and this relative importance guides which values prompt action.

The theory identifies ten motivationally distinct value orientations, each of which is grounded in one or more of three types of universal human requirement: biological based needs of the organism, social motives (interaction) and social institutional demands for group welfare and survival (Schwartz, 1994). Brief definitions of each type of value and the items that represent and measure them are listed below in Table 16 (reproduced from Bardi & Schwartz, 2003).

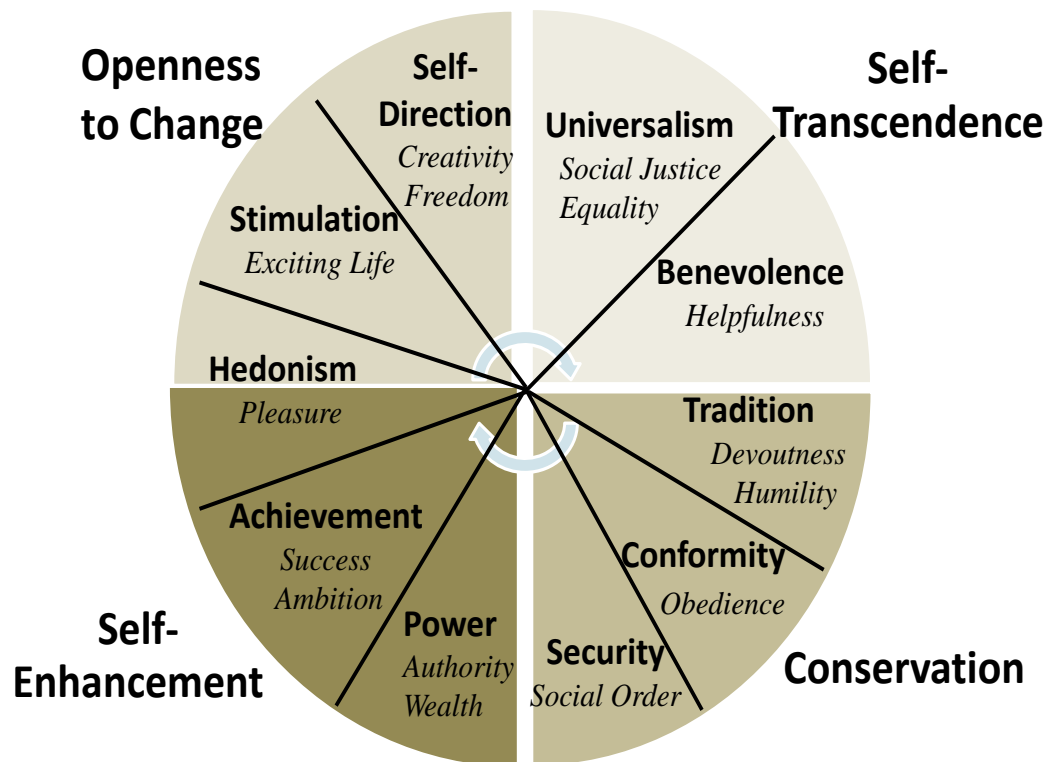
Table 16. *Definitions of types of values and the items that represent and measure them*

<i>Power:</i> Social status and prestige, control or dominance over people and resources (social power, authority, wealth)
<i>Achievement:</i> Personal success through demonstrating competence according to social standards (successful, capable, ambitious, influential)
<i>Hedonism:</i> Pleasure and sensuous gratification for oneself (pleasure, enjoying life)
<i>Stimulation:</i> Excitement, novelty, and challenge in life (daring, a varied life, an exciting life)
<i>Self-direction:</i> Independent thought and action-choosing, creating, exploring (creativity, freedom, independent, curious, choosing own goals)
<i>Universalism:</i> Understanding, appreciation, tolerance and protection of the welfare of all people and of nature (broadminded, wisdom, social justice, equality, a world at peace, a world of beauty, unity with nature, protecting the environment)
<i>Benevolence:</i> Preservation and enhancement of the welfare of people with whom one is in frequent personal contact (helpful, honest, forgiving, loyal, responsible)
<i>Tradition:</i> Respect, commitment and acceptance of the customs and ideas that traditional culture or religion provide the self (humble, accepting my portion in life, devout, respect for tradition, moderate)
<i>Conformity:</i> Restraint of actions, inclinations, and impulses likely to upset or harm others and violate social expectations or norms (politeness, obedient, self-discipline, honouring parents and elders)
<i>Security:</i> Safety, harmony and stability of society, of relationships, and of self (family security, national security, social order, clean, reciprocation of favours)

As shown in Figure 3 (see below), these ten values are organized in a circle which specifies the theorized structural relations among these values. Underlying each of the ten values are two higher order values (openness to change versus conservation and self-enhancement versus self-transcendence). For example, openness to change includes self-direction and stimulation. The two higher order bipolar values represent the conflicting motivations commonly faced by individuals. Openness to change conflicts with conservation because while the former involves pursuing independence and new experiences the latter entails self-restriction and resisting change by conforming to norms. Self-enhancement conflicts with self-transcendence because while the former emphasizes the pursuit of self-interests the latter involves concern for the welfare and interests of others. Hence, the position of the values in the circle and their proximity to one another dictates if they are compatible or conflicting. Specifically, values close together are compatible (.g. power and achievement) and share a similar underlying motivation (self-enhancement) whereas values opposite each other are conflicting (e.g., power and benevolence) and involve opposing motivations (self enhancement versus self- transcendence). The Schwartz value theory has received extensive empirical support regarding the values comprehensiveness, and universal content and structure (see Schwartz, 1992, 1994, 2005, 2011; Schwartz & Bardi, 2001).

Figure 3.

Ten motivationally distinct values and their circular motivational structure
(Adopted from Schwartz, 2012)



Circle Organized by Motivational Congruence and Opposition

Typically, the ten values types are measured using the Schwartz Value Survey (Schwartz, 1994) which consists of 57 items, the majority of which express singular clear motivational goals (e.g., honouring parents and elders) though some items also express multiple goals (e.g., self-respect). The number of items that are used to reflect a value depends on the value breadth (Schwartz, 2005). For example, while benevolence is comprised of five items (helpful, honest, forgiving, loyal, responsible), power is comprised of just three (social power, authority and wealth). In the questionnaire an explanation

of each value item is given in parentheses to further clarify its meaning. For example, ambitious (hard working, aspiring).

The Schwartz Value Survey is presented to participants in two lists in which items representative of the same value are interspersed. The first list uses 30 value items which describe, “potentially desirable end-states in noun form” and the second list uses 27 items that describe, “potentially desirable ways of acting in adjective form” (Schwartz, 2005, p. 13). From each list participants are asked to select the value most important to them and the value least important to them. This process is used to ‘anchor’ participant’s responses and prevents respondents shifting their subjective scale of importance as they encounter values of greater or lesser importance than those encountered previously’ (Schwartz, 1992, p. 16). Having completed the anchoring task respondents are then asked to rate the importance of each value item, "as a guiding principle in MY life" using a 9-point scale (see Figure 4). This 9-point scale is asymmetrical as there is more opportunity for respondents to indicate the extent to which they consider a value is important (scale ranges from 3 (important) to 7(of supreme importance)) than not important (scale ranges from 0 (not important) to 2). This asymmetry is used because an initial pilot of the Schwartz Value Survey showed people typically think about values as varying from mildly to very important. The scale also enables respondents to indicate not only which values they consider unimportant but also those that they are opposed to. Schwartz (2005) notes this is of particular value to cross-cultural research because people may reject values from other cultures, though typically respondents do not use -1 (Schwartz & Bardi, 2001).

Figure 4.

The asymmetrical 9-point scale used in the Schwartz Value Survey to indicate respondent's importance of each value item as a "guiding principle in my life"

Opposed					Of			
to my	Not					Very	Supreme	
values	important		Important			Important	Importance	
-1	0	1	2	3	4	5	6	7

5.2.2 Why conceptualize person-activity as value-behaviour fit?

The conceptualization of person-activity fit as value-behaviour fit is appropriate for several reasons. Firstly, although values are also a part of personality (e.g., McAdams, 1995; McCrae & Costa, 1999) unlike traits they clearly differ from behaviour. For example, one can value kindness but not behave kindly, whereas the trait "kindness" already includes kind behaviour. Secondly, the broad dimensions of agency and communion are best conceptualized at a similarly broad level. As values are broad constructs that have overarching effects across situations they appear to represent an appropriate medium to represent agency and communion. Thirdly, past researchers have conceptualized agency and communion as motives (e.g., Brunstein, et al., 1998) and values represent motives. Fourthly, person-activity fit theory (Lyubomirsky et al., 2005; Lyubomirsky, 2008) ultimately aims to maximize happiness gains by taking into consideration individual differences. Values can be an important tool in this process as they represent a considerable range of unique individual differences. Fifthly, past research has

already established a relationship between values and behaviours (Bardi & Schwartz, 2003). Hence, some consistency between the two is expected which enables the present study to examine the association of value-behaviour fit to well-being. Finally, there is no conceptual overlap between mood measure items and value items as there is with personality (see discussion in Study 1). Thus the subsequent studies aimed to go beyond past research (and also Study 1) by examining person-activity fit as value-behaviour fit.

5.2.3 Measuring agency and communion values

To date, no research has examined the role of agency and communion values to well-being although empirical studies have examined the relation of the ten different values in the Schwartz (1992) theory to well-being (e.g., Sagiv & Schwartz, 2000). A recently developed and validated measure of agency and communion values (Paulhus & Trapnell, 2012) enables the present study to do so. The agentic and communal value scale was developed largely by extracting values from the Schwartz Value Survey that were considered to be in line with the empirical definitions of agency and communion as outlined by Bakan (1966) and Wiggins (1992). Hence, agency is represented by items drawn from the Schwartz (1992) value indices of achievement, self-direction, stimulation, hedonism and power whereas communion is represented by item from the value indices of benevolence, universalism, tradition and conformity.

For or the purposes of the current investigation it is important however to distinguish between the two dimensions and their unmitigated counterparts. This is important because past research has shown that while agency and communion are related to well-being their unmitigated counterparts are not (Bruch, 2002; Helgeson, 1994; Helgeson & Fritz, 1999). *Unmitigated agency*

is agency so extreme that it comes at the cost of communion (Helgeson, 1994). A person high in unmitigated agency is dictatorial, egoistical and considers himself/herself superior to others (Spence et al., 1974). Hence, unmitigated agency has clear links to the value index of power as the items in this scale emphasize dominance and superiority. *Unmitigated communion* is communion so extreme that it comes at the cost of agency (Helgeson, 1994). A person high in unmitigated communion is subordinate to others and goes along with other's preferences even if this comes at the cost of their own personal preferences (Helgeson & Fritz, 1998). Hence, unmitigated communion links theoretically to the value index of conformity as this emphasizes compliance with others and submission to their conventions. As the primary aim of the current paper is to disentangle which aspects of agency and communion relate positively to well-being we focus only on agency and communion and not on their healthier unmitigated counterparts. Therefore, on the basis of the conceptual definitions of the unmitigated constructs we exclude power items from the agency value index and conformity items from the communion value index.

5.2.4 Existing research: The direct relation between values and well-being

The healthy values perspective posits that some values enhance well-being whereas other values reduce it (Sagiv, Roccas & Hazan, 2004). Specifically, the values of achievement, self-direction, stimulation, universalism and benevolence are expected to positively correlate with well-being, whereas the values of power, conformity, security and tradition are expected to negatively correlate with well-being (Sagiv & Schwartz, 2000).

Although previous research has not addressed the relationship of agency and communion values to well-being, all of the posited “healthy” values comprise aspects of either agency (achievement, self-direction, and stimulation) or communion (universalism and benevolence). Hence there is some indication of how agency and communion values are expected to relate to well-being. Overall, empirical data has indicated some support for the values identified as healthy (Sagiv & Schwartz, 2000) but often the correlations between these values and well-being were weak and subsequent research has not provided consistent replications (Haslam, Whelan, & Bastian, 2009; Karabati & Cemalcilar, 2010; Oishi, Diener, Suh, & Lucas, 1999).

Such findings suggest that agency and communion values may not strongly relate to well-being. Indeed, their relationship to well-being may be entirely due to the behaviours that result from these values. This is because although values (unlike traits) do not encompass behaviour in their conceptualization, they are “guiding principles in daily life”, and as such, holding certain values may lead to enacting corresponding behaviours. This is evident in the positive correlations between values and behaviours (reviewed in Roccas & Sagiv, 2010). Therefore, to assess the pure contribution of values to well-being it is necessary to control for the effects of corresponding behaviours. This will advance existing research by clearly establishing, for the first time, if well-being is directly related to agency and communion values themselves or to the behaviours that holding these values brings about. Therefore, overall there is no strong basis to expect that agency and communion values will relate to well-being when their corresponding behaviours are taken into account.

5.2.5 Existing research: Relating value-behaviour fit to well-being

Explanations of why person-activity fit contributes to well-being gains have focused on motivation. Specifically, findings from an intervention study found person-activity fit predicts persistent performance of activities which in turn contributed to increases in well-being (Sheldon & Lyubomirsky, 2006b). However, there are also other theoretical explanations as to why person-activity fit or value-behaviour consistency may be associated with better well-being. First, behaving in line with one's values, may close the gap between one's actual self (the person the individual believes they are) and one's ought (the person an individual feels it's their duty to be) and ideal (the person an individual wants to be) selves. This explanation is based on self-discrepancy theory (Higgins, 1987), which proposes a gap between actual selves and either ideal or ought selves is associated with negative affective states such as anxiety and distress (see also Maio, 2010). Therefore, behaving according to our values may be one way of closing this gap and should minimize negative feelings and could potentially increase positive feelings. Similarly, behaving according to our values can be thought of as living authentically which in turn has been positively correlated with a number of well-being measures (Wood, Linley, Maltby, Baliousis, & Joseph, 2008). Indeed, one of the items used to conceptualize self-reported authentic living is, "I live in accordance with my values and beliefs". Secondly, according to Sagiv and Schwartz (2000), value congruity results in higher levels of well-being because it promotes attainment of valued goals.

To date, no research has examined the proposition that value-behaviour fit can increase well-being. However, indirect support is evident in findings that well-being is higher for those whose environment is consistent with their values. Specifically, Sagiv and Schwartz (2000) found that power was related to higher well-being for business students but lower well-being for psychology students. In a similar vein, Ivgi (2003) found among religious teachers that life satisfaction was positively correlated with valuing benevolence, conformity, and tradition but negatively correlated with valuing power (for other similar findings also see review in Sagiv, Roccas, & Hazan, 2004). Notably, other research has not replicated such findings (Kasser & Ahuvia, 2002; Sheldon, Elliot, Kim, & Kasser, 2001). Specifically, one study found materialistic values were related to lower well-being in Singaporean business students, despite their environment and cultural emphasis on such values (Kasser & Ahuvia, 2002). Another found no evidence of an interaction between individual's needs and culture in predicting event-related affect (Sheldon et al., 2001). However, some indirect support for the notion that value-behaviour fit may be beneficial for well-being can be inferred from findings that daily well-being is contingent on success in domains consistent with the values one holds (Oishi et al., 1999). For example, for an individual who values benevolence, daily satisfaction is predicted by experiences of positive social interaction. However, another study did not find event related affect was predicted by a match between need preferences and need experiences (Sheldon et al., 2001).

Overall, the scarcity of existing research and its conflicting findings point to the need for further research to clarify the contribution of value-

behaviour fit to well-being. Hence, Study 2 examines whether agency and communion behaviours are beneficial for everyone or only for those who value them.

5.3 Overview of Studies 2, 3 and 4

As discussed above, there are several good reasons to conceptualize person-activity fit as value-behaviour fit. Hence, the present research examined the direct effects of values and behaviours on well-being, as well as the interaction between values and behaviour (i.e., value-behaviour fit) in predicting well-being. I predict that when all three aspects of agency and communion are taken into account (i.e., values, behaviours, and value-behaviour fit) only behaviours would be related to well-being. In Study 2 I examine the relations between subjective well-being, agency and communion values, agency and communion behaviours, and value-behaviour fit. In Study 2, I aimed to replicate my findings using Ryff's (1989) measure of well-being. Study 2 also included a measure of life goals which enabled me to examine if the findings would extend to a less abstract and more consciously accessible motivation than values. In Study 3, I aimed to replicate Study 2's findings. Study 3 also included a measure of peer report agency and communion behaviours which enabled me to see if my findings would persist when self-report biases were eliminated.

5.4 Analytic Strategy

To examine the extent that values, behaviour and value-behaviour fit contribute to well-being I used regression analyses. The predictor variables were calculated according to Aiken and West (1991). Specifically, each of the

predictors (values and behaviour) were centred on the sample mean, the interaction variable was calculated as the product of the two centred predictors, and the three predictors were entered in the same step.

5.5 Study 2: Method

See Chapter 4, section 4.2, p.113

5.6 Results

The results are displayed in Table 17. As expected, agency and communion behaviours significantly predicted each of the subjective-well-being measures, with the exception of agency behaviour which did not significantly predict negative affect. As expected, none of the interaction terms were significant and the values did not significantly predict life satisfaction or negative affect. However, both agency and communion values did significantly positively predict positive affect. Hence, no support was found for the association of value-behaviour fit with higher levels of well-being. Rather, the results suggest that agency and communion as behaviours contribute the most to well-being. Notably both agency and communion values were significantly correlated with positive affect but this correlation was relatively weak.

Table 17. *Regression analyses showing the contribution of agency and communion motives, behaviours and motive-behaviour fit to well-being*

		Motives			Behaviour			Motive x Behaviour		
	Well-Being	β	<i>T</i>	<i>P</i>	B	<i>t</i>	<i>P</i>	B	<i>t</i>	<i>p</i>
Agency	PA	.19	3.88	<.01	.38	7.61	<.01	-.02	-.39	<i>NS</i>
(values)	NA	-.10	-1.86	<i>NS</i>	-.04	-.65	<i>NS</i>	.00	.03	<i>NS</i>
	LS	.09	1.57	<i>NS</i>	.21	3.73	<.01	-.03	-.53	<i>NS</i>
Comm	PA	.12	2.24	<.05	.42	8.23	<.01	.09	1.78	<i>NS</i>
(values)	NA	-.10	-1.64	<i>NS</i>	-.13	-2.19	<.05	-.03	-.61	<i>NS</i>
	LS	.05	.84	<i>NS</i>	.34	6.11	<.01	.04	.83	<i>NS</i>

5.7 Study 2 Discussion

Overall, my hypothesis was supported as agency and communion behaviours significantly predicted far more of the outcome measures than either agency and communion values or agency and communion value-behaviour fit. Specifically, both agency and communion behaviours significantly predicted positive affect and life satisfaction. In addition, communion behaviours significantly predicted lower levels of negative affect. In contrast, the value-behaviour interaction terms failed to significantly predict any of the outcome measures while the agency and communion values only significantly predicted one out of the three outcome measures. Both agency and communion values significantly predicted positive affect. Given that our value indices included positively phrased words “competence (displaying mastery, being capable, effective)” and “harmony (good relations, balance, wholeness”) these correlations are perhaps unsurprising. Moreover, measuring

all of the variables in the same session may potentially have inflated correlations. Hence, it is important to replicate the findings using more neutrally phrased value items to minimize conceptual overlap between values and well-being measures and to administer questionnaire measures separately to minimize spurious relations. Also of importance, is a replication of Study 2's results using alternative measures of well-being. This is because past researchers have argued that values may only usefully predict certain aspects of well-being (Joshani & Ghaedi, 2009; Sagiv & Schwartz, 2000). Similarly, it may be the case that person-activity fit is more relevant in predicting some types of well-being than others. For instance, eudaimonic well-being may be more relevant because this is theorized to occur when people's life activities match their values (Waterman, 1993). Consequently, Study 2 addressed these possibilities by measuring six different aspects of well-being using Ryff's (1989) questionnaire. It is also plausible that the person-activity fit theory was not supported because people do not tend to think about their values (e.g., Maio, 2010). Therefore, individuals may not be aware of a fit between what they value and how they behave and thus their well-being may not be affected by a possible fit between them (see Maio, 2010). Goals, however, are more concrete explicit motivations compared to values and so goal-behaviour fit may be related to well-being. Indirect support for this can be inferred from a study that found progress towards motive congruent goals contributed to daily emotional well-being (Brunstein, et al., 1998). Consequently, Study 3 also examined how goal-behaviour fit would relate to well-being.

5.8 Overview: Study 3

Study 3 aimed to provide a replication of Study 2's findings using an alternative measure of well-being that assesses six aspects of well-being (Ryff, 1989) and an additional measure of motives alongside values; goals. In doing so, I aimed to address two potential explanations for Study 1's weaker correlations between (a) values and well-being and, (b) values-behaviour fit and well-being. First, that values and value-behaviour fit may only be relevant to more specific aspects of well-being not measured in Study 2. Second, that motive-behaviour fit is more likely to be related to well-being when motives are conceptualized at a more concrete level as then individuals are more likely to have an awareness of person-activity fit which in turn may influence their well-being. In addition, we improved on Study 2 by minimizing conceptual overlap between our measure of values and well-being by substituting the positively phrased value items from the Paulhus and Trapnell (2012) values measure with the original more neutrally phrased items from the Schwartz Value Survey (1992). Moreover, questionnaire measures were administered at different times to minimize spurious relations between the variables of interest due to time proximity. Hence the variables of interest (behaviours, values, goals and well-being) were measured at separate times, at least one week apart.

5.9 Study 3 Method

5.9.1 Participants and Procedure

A total of 239 undergraduate students (76% women, $M_{age} = 20.8$, $SD = 2.2$) in an introductory psychology class in the USA completed the questionnaire for extra class credit. Respondents completed the questionnaire online with measures being administered at least a week apart.

5.9.2 Measures

5.9.2.1 Well-being.

I used Ryff's (1989) questionnaire to measure 6 aspects of well-being: Self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth. Each aspect is measured by 14 items. The different aspects of well-being have high internal reliability, temporal stability, and external validity (Ryff, 1989). The mean alpha reliability coefficient across the six aspects of well-being was .87.

5.9.2.2 Values.

As in Study 2, I assessed agency and communal values using Trapnell and Paulhus's (2012) measure. However, this time I used the items as worded in the original Schwartz Value Survey² (Schwartz, Sagiv & Boehnke, 2000). The original 9-point scale was also used in which participants rate each value as a guiding principle in their own life on a 9-point scale from -1 (*opposed to my principles*) to 0 (*not important*) to 7 (*of supreme importance*). Cronbach alpha reliabilities were .68 for agency and .72 for communion.

² Agency - influential, capable, successful, ambitious, an exciting life, choosing own goals, independent. Communion: forgiving, humble, helpful, loyal, honest, social justice, equality.

5.9.2.3 *Behaviours.*

As in Study 2, I administered a measure of agency and communion behaviours and participants indicated how frequently they had enacted each behaviour relative to their opportunity to do so. Alpha reliabilities were .76 for the agency behaviour index and .79 for the communion behaviour index.

5.9.2.4 *Life Goals.*

I measured life goals using a revised version of the major life goals scale (Roberts & Robins, 2000) which consisted of 38 goals classified into 11 domains. Participants rated the importance of each goal on a 5-point scale from 1 (*not important to me*) to 5 (*very important to me*). Of key interest were goals related to agency and communion. I created an agency goal index and a communion goal index, each comprised of 4 items³. The alpha coefficients were .57 for agency goals and .69 for communion goals.

5.10 Study 3 Results

As expected, each behaviour type was significantly positively correlated with the motives they were designed to express (value-behaviour correlations: agency $r = .18, p < .05$, communion, $r = .43, p < .01$, goal-behaviour correlations: agency $r = .23$, communion $r = .23$, both p 's $< .01$). Table 18 (below) shows that as in Study 2, the aspect of agency and communion most consistently associated with well-being were the behaviours. Agency values were not significantly correlated with any of the well-being

³ Agency goals were: Preparing myself for graduate school. Having a high status career. Becoming an authority on a special subject of in my field. Be well read. Communion goals were: Working to promote the welfare of others. Helping others in need. Taking part in volunteer, community and public service work. Having harmonious relationships with my parents and my siblings.

measures and communion values were only associated with one of the well-being measures: positive relations with others. Neither agency nor communion value-behaviour fit terms were significantly associated with any of the well-being measures.

Table 18. *Regression analyses showing the contribution of agency and communion motives, behaviours and motive-behaviour fit to well-being.*

		Values			Behaviour			Values x Behaviour		
Well-Being		B	<i>t</i>	<i>P</i>	B	<i>T</i>	<i>P</i>	B	<i>t</i>	<i>p</i>
Agency (values)	AU	.12	1.74	<i>NS</i>	.41	5.79	<.01	.05	.68	<i>NS</i>
	EM	.07	.98	<i>NS</i>	.33	4.51	<.01	.08	1.15	<i>NS</i>
	PG	.03	.50	<i>NS</i>	.47	6.81	<.01	-.12	-1.76	<i>NS</i>
	PR	.00	.02	<i>NS</i>	.32	4.27	<.01	-.02	-.30	<i>NS</i>
	PL	.09	1.36	<i>NS</i>	.42	5.94	<.01	.08	1.15	<i>NS</i>
	SA	.02	.22	<i>NS</i>	.38	5.32	<.01	.06	.87	<i>NS</i>
Comm (values)	AU	-.08	-1.01	<i>NS</i>	.31	3.78	<.01	.14	1.85	<i>NS</i>
	EM	.03	.38	<i>NS</i>	.32	3.96	<.01	-.03	-.46	<i>NS</i>
	PG	.13	1.64	<i>NS</i>	.32	4.11	<.01	-.03	-.41	<i>NS</i>
	PR	.23	3.09	<.01	.31	4.01	<.01	-.02	-.36	<i>NS</i>
	PL	.12	1.46	<i>NS</i>	.19	2.27	<.05	.00	.07	<i>NS</i>
	SA	.03	.37	<i>NS</i>	.27	3.21	<.01	.07	.92	<i>NS</i>

Note. Comm = communion, PA = positive affect, NA = negative affect, SWL = life satisfaction, AU = autonomy, EM = environmental mastery, PG = personal growth, PR = positive relations, PL = purpose in life, SA = self-acceptance. *NS* = not significant.

Table 19 (below) shows this pattern of results was also evident when conceptualizing motives as goals. Both agency and communion behaviours significantly predicted all six aspects of well-being whereas agency goals did not significantly predict any of the well-being outcomes and communion goals only significantly predicted two out of six of the well-being measures: positive relations with others and personal growth. Goal-behaviour fit was not positively related to well-being. Rather, there were two instances in which goal-behaviour fit was negatively related to well-being. Hence, our data do not support the idea that when behaviours are congruent with our motives they are associated with higher well-being.

Table 19. *Regression analyses showing the contribution of agency and communion motives, behaviours and motive-behaviour fit to well-being.*

		Goals			Behaviours			Goals x Behaviours		
	Well-Being	B	<i>t</i>	<i>P</i>	B	<i>T</i>	<i>P</i>	B	<i>t</i>	<i>p</i>
Agency (goals)	AU	-.03	-.38	<i>NS</i>	.44	6.14	<.01	.07	1.06	<i>NS</i>
	EM	-.08	-1.06	<i>NS</i>	.37	5.01	<.01	.03	.46	<i>NS</i>
	PG	.04	.59	<i>NS</i>	.46	6.53	<.01	-.09	-1.33	<i>NS</i>
	PR	-.09	-1.22	<i>NS</i>	.34	4.64	<.01	-.15	-2.10	<.05
	PL	.12	1.69	<i>NS</i>	.42	6.07	<.01	-.14	-2.02	<.05
	SA	-.07	-1.02	<i>NS</i>	.42	5.76	<.01	-.11	-1.57	<i>NS</i>
Comm (goals)	AU	-.03	-.37	<i>NS</i>	.26	3.32	<.01	.14	1.85	<i>NS</i>
	EM	-.03	-.40	<i>NS</i>	.34	4.46	<.01	.08	1.13	<i>NS</i>
	PG	.17	2.25	<.05	.32	4.30	<.01	.03	.40	<i>NS</i>
	PR	.19	2.53	<.01	.34	4.66	<.01	.01	.19	<i>NS</i>

PL	.13	1.58	NS	.20	2.49	<.05	-.05	-.69	NS
SA	.06	.72	NS	.25	3.22	<.01	.08	1.04	NS

Note. Comm = communion, PA = positive affect, NA = negative affect, SWL = life satisfaction, AU = autonomy, EM = environmental mastery, PG = personal growth, PR = positive relations, PL = purpose in life, SA = self-acceptance. NS = not significant.

5.11 Study 3 Discussion

Overall, the data obtained in Study 3 replicated Study 2's findings and in doing so, provided support for our hypothesis that it is the behavioural aspect of agency and communion that is related to well-being. As in Study 2, I did not find that either motives or motive-behaviour congruency was convincingly associated with well-being. In Study 3 I showed these null correlations consistently emerged regardless of which well-being aspects were assessed or whether agency and communion motives were assessed abstractly (as values) or more concretely (as goals). Notably, a weakness of Studies 2 and 3 is that both the behaviour and well-being assessments entail respondents completing self-report questionnaires. Potentially, this could mean that the significant positive correlations between agency and communion behaviours and well-being are the result of a person's tendency to report the positive. To test this possibility, in Study 4 I aimed to replicate my previous findings using peer reports of agency and communion behaviours.

5.12 Study 4 Method

5.12.1 Participants and Procedure

A total of 242 participants (80% female) in an introductory psychology class in a university in the USA completed the measures for extra class credit. Their mean age was 21.6 years ($SD = .40$). Participants completed the questionnaire online. As in Study 2, all measures were administered at least a week apart.

5.12.2 Measures

I used the exact same measures of values, behaviours and well-being as in Study 2. All alpha coefficients were acceptable (for each of the six aspects of well-being α 's were all above .80, agency values $\alpha = .75$, communion values $\alpha = .73$, agency behaviours $\alpha = .76$ and, communion behaviours $\alpha = .79$).

5.12.2.1 Peer-Report Behaviours.

Peers of the participants completed the behaviour questionnaire rating the behaviours of the participants in the same way and with the same items as in the self-report behaviour questionnaires. The alpha coefficients for the peer report behaviours were acceptable (agency $\alpha = .71$ and communion $\alpha = .67$).

5.13 Study 4 Results

Each value was significantly correlated with its corresponding self-reported behaviour (agency: $r = .20$ and communion: $r = .26$, both p 's $< .01$). As in Studies 1 and 2, the regression analyses shown in Table 20 confirm the hypothesis that the element of agency and communion most associated with well-being is behaviours. Neither values nor value-behaviour fit significantly predicted well-being. Regression analyses using the peer-report behaviour

measures generated results mostly consistent with my previous findings (see Table 21). Specifically, the peer-report behaviour measures significantly predicted well-being while the values and value-behaviour fit indices did not. Only communion behaviours did not significantly predict autonomy or self-acceptance.

Table 20. *Regression analyses showing the contribution of agency and communion motives, behaviours and motive-behaviour fit to well-being.*

		Motives			Behaviours			Motive x Behaviour		
Well-Being		B	<i>T</i>	<i>P</i>	B	<i>t</i>	<i>p</i>	β	<i>t</i>	<i>p</i>
Agency (values)	AU	-.10	-1.60	NS	.39	6.53	<.01	-.04	-.68	NS
	EM	.02	.34	NS	.33	5.42	<.01	-.09	-1.43	NS
	PG	.05	.87	NS	.47	8.12	<.01	-.06	-1.06	NS
	PR	-.10	-1.54	NS	.25	4.00	<.01	-.08	-1.35	NS
	PL	.04	.70	NS	.42	7.07	<.01	-.07	-1.29	NS
	SA	-.06	-.92	NS	.39	6.53	<.01	-.06	-1.05	NS
Comm (values)	AU	-.09	-1.31	NS	.19	2.83	<.01	.04	.65	NS
	EM	-.09	-1.36	NS	.28	4.33	<.01	.01	.10	NS
	PG	-.11	-1.79	NS	.40	6.39	<.01	-.04	-.68	NS
	PR	.03	.55	NS	.38	6.21	<.01	-.10	-1.65	NS
	PL	-.05	-.87	NS	.37	5.81	<.01	-.02	-.32	NS
	SA	-.11	-1.72	NS	.31	4.87	<.01	-.03	-.56	NS

Note. Comm = communion, PA = positive affect, NA = negative affect, SWL = life satisfaction, AU = autonomy, EM = environmental mastery, PG = personal growth, PR = positive relations, PL = purpose in life, SA = self-acceptance. NS = not significant.

Table 21. *Regression analyses showing the contribution of agency and communion motives, behaviours and motive-behaviour fit to well-being.*

		Values			Peer report			Values x peer report		
					Behaviours			behaviour		
	Well-Being	B	<i>t</i>	<i>P</i>	β	<i>T</i>	<i>p</i>	β	<i>t</i>	<i>P</i>
Agency	AU	-.11	-1.82	NS	.37	6.00	<.01	-.01	-.12	NS
	EM	.03	.45	NS	.23	3.51	<.01	-.10	-1.57	NS
	PG	.07	1.06	NS	.28	4.48	<.01	-.15	-2.40	<.05
	PR	-.08	-1.24	NS	.13	1.98	<.05	-.06	-.87	NS
	PL	.07	1.12	NS	.18	2.81	<.01	-.08	-1.31	NS
	SA	-.06	-.87	NS	.30	4.72	<.01	-.08	-1.30	NS
Comm	AU	-.05	-.70	NS	.03	.39	NS	-.08	-1.30	NS
	EM	-.03	-.53	NS	.16	2.39	<.05	.01	.17	NS
	PG	-.02	-.31	NS	.15	2.26	<.05	-.10	-1.52	NS
	PR	-.08	-1.21	NS	.16	2.48	<.01	-.08	-1.21	NS
	PL	.02	.37	NS	.16	2.49	<.01	-.06	-.90	NS
	SA	-.04	-.55	NS	.09	1.40	NS	-.03	-.54	NS

Note. Comm = communion, PA = positive affect, NA = negative affect, SWL = life satisfaction, AU = autonomy, EM = environmental mastery, PG = personal growth, PR = positive relations, PL = purpose in life, SA = self-acceptance. NS = not significant.

5.14 Study 4 Discussion

The results obtained in Study 4 replicate the findings obtained in Studies 2 and 3, and in doing so confirm my hypothesis that only the behaviour aspect of agency and communion is related to well-being.

Moreover, in Study 4 the data showed that relations between agency and communion behaviours and well-being persist even when these behaviours are assessed using peer reports. Notably, these relations were smaller in magnitude than those obtained using self-report behaviour indices. However, this is perhaps not surprising given the elimination in self-report biases and also the peer's limited knowledge about each and every occurrence of their friend's behaviour. Indeed, in a similar vein Bardi and Schwartz (2003) found that values correlated to a lesser extent with peer report behaviours than with self-reported behaviours.

5.15 General Discussion

This research presents a first attempt to systematically examine which aspects of agency and communion relate to well-being -- values, behaviour or value-behaviour fit. The answer that emerges from the three studies conducted is clear and confirms our hypotheses: behaving in an agentic or communal way is the main element associated with well-being. In contrast, high well-being is not associated with holding values or goals of agency and communion. Nor is there a condition that agentic or communal behaviour must be compatible with holding agentic or communal values or goals.

Such findings contribute to the present thesis as although there were clear theoretical reasons for focusing on a behavioural route to well-being, these reasons are now supported by the data which clearly shows that behaviours and not values or goals are related to well-being.

5.15.1 Implications, limitations and future directions

Overall, these findings appear to suggest agency and communion behaviours could increase anyone's well-being regardless of the values they

hold or goals they pursue. However, caution should be exercised when interpreting these results for three reasons.

Firstly, all three studies (and also Study 1a and Study 1b) were correlational. As such it is not obvious whether agency and communion behaviours increase well-being or whether well-being increases these behaviours. Clearly, a field study with two measures of well-being and/or an experiment is needed to establish the direction of causality. Studies 5 and 6 respectively employ these afore mentioned designs.

Secondly, the design of Studies 2 to 4 meant participants simply reported behaviours they naturally enact. It is possible that even if these naturally occurring behaviours did not fit their values or goals they might have fitted them in other respects. For example, behaviours may be based on habits or upbringing. Moreover, naturally choosing to enact behaviours that conflict with one's values or goals may be less detrimental to well-being than being asked by a researcher to do behaviours that conflict with one's values/goals in the context of an intervention study. Perhaps this difference in personal choice may explain why Studies 2 to 4 find no support for person-activity fit theory, whereas some intervention studies do (Sergeant & Mongrain, 2011; Sheldon & Lyubomirsky, 2006). However, on the other hand findings from an intervention study showed participants who self-selected activities (and therefore arguably had more personal choice/autonomy) did not experience any more increases in well-being than participants who were randomly assigned to an activity (Silberman, 2007). The only way to disentangle if the study design influences the support obtained for person-activity fit is to conduct further studies using different designs (e.g., such as interventions).

Thirdly, interaction terms are notoriously difficult to find, especially in non-experimental research (Chaplin, 1997; McClelland, & Judd, 1993). Still, had there been an interaction the many analyses conducted should have revealed more evidence for it, but the same pattern of non-significance for the interaction terms consistently emerged across all the studies.

CHAPTER 6: STUDY 5

6.1 Introduction

Studies 1a to 4 showed agency, communion and a-c behaviour are all linked to higher well-being. However, the correlational designs employed in Studies 1a to 4 meant causality could not be inferred. Hence, these studies do not show if these behaviours increase well-being or if well-being increases these behaviours. To move beyond these findings, Study 5 examined how four naturally occurring activities involving agency and/or communion affected participant's well-being.

This fifth chapter is divided into five main sections. The first section briefly reviews the design employed by Study 5 and explains my propositions about which activity represents agency and/or communion. The second section reviews existing research about each activity and well-being and states the predicted hypotheses. The third section presents the method, the fourth the results and the fifth section provides a discussion of the results. The sixth section concludes the chapter with its considerations of the strengths and limitations of Study 5.

6.2 The present research

6.2.1 Using a naturalistic design

Due to the correlational nature of Studies 1 to 4 it cannot be concluded that enacting agency, communion and a-c behaviours increases well-being. Moreover, Studies 1 to 4 may have been influenced by systematic biases in participants' responses to the questionnaires. For instance, Barrett (1997) showed that in retrospect individuals high in trait Neuroticism overestimate

how bad they felt and individuals high in Extraversion overestimate how good they felt. Therefore, in order to improve on Studies 1 to 4, Study 5 employed a naturalistic method and examined the effects of four naturally occurring activities on well-being. As individuals naturally choose to participate in activities and events, some of which may increase happiness, naturalistic studies are an efficient means of obtaining rich data. Moreover, it can be argued that naturalistic data has more real-world validity and less demand characteristics than data from questionnaires which ask participants to retrospectively report their behaviour acts and feelings. However, the main disadvantage of this method is the researcher's reduced lack of control as he/she has no control over a range of factors including biased samples, sample sizes, time spent in activity, variety of tasks, group dynamic within activity, etc. Still, the lack of control over these variables is potentially compensated for by the data's ecological validity.

6.2.2 The four activities and their relation to agency and communion

Study 5 examined how four naturally occurring activities reflecting agency and communion affected participants' well-being. These activities were: attending a careers fair, volunteering, mentoring, and innovating. Below is further information about how and why each activity was theorized to involve agency and/or communion.

6.2.2.1 An agency activity: Attending a careers fair

The careers fair was held at Royal Holloway. It offered undergraduate and postgraduate students the chance to meet specialist and local recruitment agencies and discuss future employment possibilities. It was theorized that the

careers fair would entail aspects of agency as it involved a self-focused orientation that entailed self-assertion and the first step towards achievement of independence - finding a job.

6.2.2.2 A communion activity: Community volunteering

Volunteering involved Royal Holloway's undergraduate and postgraduate students participating in small projects to help the local community. The tasks involved in the projects were mainly painting, gardening and cleaning. Community volunteering was expected to reflect communion as it involved an other-focused orientation that entailed group participation, co-operation and helping.

6.2.2.3 A combined agency and communion activity: Mentoring

The mentoring scheme involved both agency and communion as it entailed university students (the mentors) encouraging small groups of local school students (the mentees) to aspire higher in terms of their academic achievement and future. Specifically, mentoring involved communion because mentors saw the same group of students throughout the term meaning it was possible for them to build interpersonal relationships with their mentees. Mentoring also involved agency because participating in the mentoring scheme represented an exciting opportunity for participants to influence others, as well as gain work experience and receive training to develop the skills needed for the job.

There is some indication that mentoring reflects both aspects of agency and communion in the formal definition of mentoring as a process where, "significant assistance is offered to the mentee in a warm and nurturing environment (communion) and this assistance is offered by a skilled and

experienced (agency) mentor” (Long, 1997, p.5). Further support that mentoring involves agency and communion is provided by research which cites mentoring as an example of generativity (Bauer, McAdams & Pals, 2008), which theorists propose is comprised of agency and communion (e.g., McAdams, 1988; Kotre, 1984).

6.2.2.4 A combined agency and communion activity: Attending innovation academy

Innovation academy was a three day residential course involving several workshops designed to cover all aspects of successful innovation and entrepreneurship. Attendees’ were postgraduate students who had successfully applied for and received a bursary to cover the cost of the course (worth £550). The innovation course involved both aspects of communion and agency. Specifically, it entailed aspects of communion as it involved teamwork with like-minded individuals and also encouraged students to think of entrepreneurialism as helping others by solving problems they may encounter. The innovation course also involved agency as students were competing against other teams in challenges and developing and acquiring skills and knowledge potentially for future career endeavours. Further support for the idea that participating in innovation academy involved both aspects of agency and communion is evident in the fact that it included several of the behaviours used in Study 1 to represent a-c behaviours. Specifically, “Make connections with others that might help both me and them in the future”, “work as a team so together we can accomplish more” and “work hard to ensure our group goals are achieved”.

6.3 The activities and well-being

The following section summarises the existing research about each activity examined in the present research and its links to well-being. Each section concludes with a hypothesis regarding my predictions about how the activity will affect well-being.

6.3.1 Attending a careers fair (an agency activity) and well-being

To date, empirical research has not yet examined if attending a career fair affects well-being. However, as noted already, attending a careers fair clearly involves ‘getting ahead’ (i.e., agency) behaviour which Studies 1 to 4 consistently found to be associated with higher well-being. Hence, one would expect attending a careers fair to increase well-being. Yet this expectation is in contrast to the findings of research linking well-being with job seeking behaviour. For example, recent research using longitudinal survey data from 6,025 unemployed workers to examine the influence of job search activities on various outcomes found that out of 22 activities (e.g., using the internet, shopping, doing the housework) job searching was rated the highest for prompting feelings of stress and sadness, and rated the lowest for prompting feelings of happiness (Krueger & Mueller, 2011). As the duration of unemployment increased so too did the unhappiness prompted by job search activities. In addition, life satisfaction was also found to be lower for the same individual following the days in which comparatively more time was devoted to job searching. Other research has echoed these findings, indicating unsuccessful job seeking is associated with poor psychological well-being and that job searching frequently entails high levels of stress (Stumpf, Colarelli, & Hartman, 1983; Vinokur & Caplan, 1986). Although such research does not

support the idea that attending a careers fair is associated with higher well-being there is a key difference between previous research (Krueger & Mueller, 2011; Stumpf et al., 1983; Vinokur & Caplan, 1986) and Study 5. Specifically, past research exclusively involved unemployed participants whereas the careers fair the present study examined was based at a university and held before graduation so the sample was comprised of soon-to-be graduates. This difference is important because it is likely that it influences the way the activity is experienced affectively. For unemployed individuals job seeking is likely to be fraught with anxiety and driven by the necessity to pay bills and potentially take care of dependents, whereas for soon-to-be graduates job seeking is more likely to be an exciting activity where they can explore future prospects that may enable them to acquire new skills and explore new areas of interest. In summary, these key differences between past research and the proposed research mean I infer Hypothesis 1 from Studies 1 to 4 which showed agency was positively correlated with well-being.

Hypothesis 1: Attending a careers fair will increase well-being.

6.3.2 Volunteering (a communion activity) and well-being

Many studies have examined the link between volunteering and well-being. Of particular relevance to the present thesis, are findings suggesting volunteers report being happier, experiencing more positive affect and life satisfaction, having a higher quality of life, and suffering from less depression (Borgonovi, 2008; Greenfield & Marks, 2004; Harlow & Cantor, 1996; Hunter & Linn, 1981; Musick & Wilson, 2003; Morrow-Howell, Hinterlong, Roazrio & Tang, 2003; Parkinson, Warburton, Sibbritt, & Byles, 2010; Thoits & Hewitt, 2001; Wheeler, Gorey, & Greenblatt, 1998). Research has even found

volunteering may contribute to longevity (Moen, Dempster, McClain & Williams, 1992; Musick, Herzog & House, 1999; Oman, Thoresen, & McMahon, 1999). However, authors have noted a number of weaknesses in existing research which may challenge the validity of these findings (Cattan, Hogg & Hardill, 2011; Musick & Wilson, 2003; Plagnol & Huppert, 2010; Thoits & Hewitt, 2001).

Firstly, there is some debate about the conceptualization of volunteering itself (Cattan et al., 2011; Cnaan & Amroffell, 1994; Cnann, Handy, & Wadsworth, 1996). For instance, some studies include informal forms of volunteering such as helping friends and family, whereas others do not. Vague definitions have likely contributed to another problem - the tendency of research to examine how well-being is influenced by voluntary group/organization membership rather than the actual volunteer work (Thoits & Hewitt, 2001).

Secondly, research has focused on the beneficial effects of volunteering for elderly people (for a review see Cattan et al., 2011; Onyx & Warburton, 2008; for meta- analysis see Wheeler et al., 1998). This is presumably because their retired status gives them more opportunity to spare time for volunteering. Indeed research confirms that older people tend to volunteer more (Huppert & Plagnol, 2010). Some researchers have posited that older people benefit from volunteering because it increases their sense of purpose in life following a loss of role identity such as being employed (Greenfield & Marks, 2004) whereas other researchers have noted the increased social interaction may benefit elderly people who commonly report feeling lonely (Plagnol & Huppert, 2010). These explanations suggest the

characteristics of elderly people may mean they benefit from volunteering. However, it is unclear whether volunteering is beneficial for the whole population or just “older adults”. Some initial research suggests that retired people above 65 gain more well-being benefits from volunteering than non-retirees under 65 who are still able to derive pleasure from working (Harlow & Cantor, 1996; Musick & Wilson, 2003). Conversely, other research has found volunteering to benefit those under 65. In a sample of participants aged 18 to 108 (mean age 44.75, $SD = 16.70$), religious volunteering was found to increase endorsement of a single item happiness measure (Borgonovi, 2008). In self-report interviews Australian adolescents reported benefiting from a type of volunteering referred to as social-cause service, which entails direct involvement with helping those in need (Webber, 2011). Other studies report high school students who volunteer are less likely to engage in risky behaviours such as skipping school and taking drugs and tend to have higher academic self-esteem (Eccles & Barber, 1999; Kikpatrick-Johnson, Bebe, Mortimer & Snyder, 1998). Hence, it seems likely that volunteering can have benefits for those under 65 though it remains to be seen whether such benefits extend to significantly increasing subjective-well-being.

Third, much research into volunteering and well-being is cross sectional (e.g Greenfeld & Mark, 2004; Hunter & Linn, 1981; Plagnol & Huppert, 2010). A minimum of two waves of data are needed to establish whether volunteering can increase well-being rather than it simply being the case that those who volunteer tend to be higher on well-being. The causal effect of volunteering on life satisfaction can be inferred from findings using naturalistic data which revealed that following the collapse of East Germany

and its infrastructure of volunteering, life satisfaction significantly decreased for people who lost their volunteering opportunities compared to people who experienced no changes in their volunteer status (Meier & Stutzer, 2004). However, such findings show only that losing the opportunity to volunteer can decrease well-being and not that volunteering increases well-being. Somewhat more convincing is research utilizing longitudinal cohort data whose findings show that volunteering increases psychological well-being, life satisfaction, self-esteem, mastery, physical health and decreases depression (e.g. Pilivian & Sigel, 2007; Thoits & Hewitt, 2001). However, such longitudinal research concentrates on long-term volunteering and it remains to be seen if short-term volunteering can also benefit well-being.

In summary, although much research has examined volunteering and well-being it has faced a number of critiques, including vague definitions of volunteering, the use of cross sectional designs and a tendency to examine older populations. Hence, to go beyond past research and expand existing knowledge about the effects of short term volunteering on younger people's (18 years plus) well-being, the present research utilized a before/after study design to examine if volunteering can increase well-being. On the basis of the research reviewed and Studies 1 to 4 which showed communion behaviour was positively associated with well-being I hypothesise the following.

Hypothesis 2: Volunteering will increase well-being.

6.3.3 Mentoring (an agency and communion activity) and well-being

Existing research has typically focused on the benefits mentees gain from being mentored (e.g., Dubois & Silverthorn, 2005; Wheeler, Keller &

Dubois, 2010). These benefits are evident in a number of domains such as education/work, problem behaviour and mental and physical well-being (Dubois & Silverthorn, 2005; Wheeler, Keller & Dubois, 2010). In comparison, few studies have examined what mentors themselves may gain from their role. Some literature and qualitative research has suggested that mentors may experience fulfilment or satisfaction from the benefits gained such as their own increase in career success, witnessing their mentee's professional and personal progress, being inspired by fresh and creative perspectives, expanding their networks, redefining their own personal and professional skills and knowledge, and passing on skills and wisdom to the next generation (Bozionelos, 2004; Busch, 1985; Fleming, 1991; Kram, 1985; Levinson, Darrow, Klein, Levinson, & McKee, 1978; Matters, 1994; Ragins & Scandura, 1994; Willis & Dodgson, 1986; Wright & Wright, 1987). The last benefit alludes to the fact that mentoring can be conceptualized as a form of generativity which is argued to integrate both agency and communion and is defined as, "a sense of immortality derived from making a contribution to the next generation" (Erikson, 1963, p267). Research has identified generativity as beneficial for well-being but especially so for midlife adults (see Chapter 2). Interestingly, the scarce research examining mentoring and well-being (Busch, 1985; Kram, 1985; Levinson, et al., 1978; Ragins & Scandura, 1994) used only participants that fit into this midlife age category. Hence, it is unclear if the generative benefits derived from mentoring increase well-being for everyone or only those who can be classified as "midlife adults". Moreover, existing research has yet to provide empirical evidence showing well-being can change as a result of mentoring.

To summarize, existing research has typically concentrated on the benefits of being mentored rather than the benefits of mentoring. The few studies that have examined the benefits of being a mentor have typically involved midlife adults making it unclear if these benefits extend to other age groups. Moreover, these studies have not empirically tested the proposition that mentoring can increase well-being using a before/after study design. Hence, Study 5 presents a novel contribution by examining, for the first time, if young mentors experience increases in well-being. On the basis that mentoring involves a combination of agency and communion, which Study 1 showed to be positively associated with well-being, I draw the following hypothesis.

Hypothesis 3: Mentoring will increase well-being

6.3.4 Innovation academy (an agency and communion activity) and well-being

Little is known about innovation and well-being. Indeed, Dolan, Peasgood and White (2008) also note this when their comprehensive review failed to reveal anything about the causal relationship from innovation to well-being. Using data from the British Household Panel Survey Dolan and colleagues suggest there may be positive relationship between innovation and well-being. Specifically, findings show (a) positive correlations between respondents subjective-well-being and their tendency to be original, have an active imagination and come up with new ideas and (b) that people working in research and development report a higher level of job satisfaction than those working in other sectors. Notably, neither of these findings enables conclusions to be drawn about the direction of causality. Moreover, there is a

key distinction between past research and the proposed research (Study 5). Namely while past research has examined the relation of innovation to well-being, the former plans to examine if attending an innovation academy to learn about (and also practise) innovation can increase well-being. On the basis that innovation includes combined agency and communion, which Study 1 found to be related to well-being, and based on the inferences that can be drawn from Dolan et al.'s existing research I hypothesize the following.

Hypothesis 4: Attending innovation academy will increase well-being

6.3.5 Person-activity fit

Study 5 also examined if traits would predict the influence of the activities on well-being. Though Studies 1 to 4 did not reveal any support for person-activity fit the design of Study 5 enabled me to address the question differently. Whereas Studies 1 to 4 examined if person-activity fit was associated with well-being, Study 5 aimed to examine if person-activity fit would moderate the changes in well-being. Notably, person-activity fit can only be meaningfully examined in regards to volunteering and attending a careers fair because these are the only two groups where clear hypotheses can be made about which trait (agency or communion) fits the activity. This is because mentoring and innovating may fit either trait agency and/or trait communion. According to person-activity fit theory, the following hypothesis can be made:

Hypothesis 5: Trait agency will be positively associated with gains in well-being for the career fair attendees whereas trait communion will be positively associated with gains in well-being for the volunteers.

A typical problem in naturalistic studies is self-selection. In this study too participants self-selected into the activities which in turn may have resulted in biased samples such that volunteers might have been higher than career fair attendees in trait communion and career fair attendees might have been higher in trait agency than volunteers. Indeed, past research has found people tend to participate in activities consistent with their personalities (Tkach & Lyubomirsky, 2006). Self-selection biases are problematic because they reduce the power of the analyses to discern if person-activity fit contributes to well-being increases. Therefore, before testing the above hypotheses I planned to compare the activities to see if the activities significantly differed in trait agency and trait communion.

6.4 Method

6.4.1 Procedure

All participants were university students, mostly from Royal Holloway, University of London, who had chosen to participate in one of the following activities; a careers fair event, volunteering, mentoring or attending a course about innovating. All activities were advertised widely around campus. Prior to data collection each of the activity co-ordinators were approached. I explained to them the purposes of my research and requested permission to administer questionnaires. I also requested to participate in each of the activities which allowed me to gain additional insight about factors such as the specific tasks involved, approximate length of activity, situational factors, etc. Students completed questionnaires both before and after participating in the activities, in return for an entry into a prize draw to win £50. Below is more detailed information about each activity and the

participants who completed both questionnaires. This information is also summarized in Table 22. As can be seen from Table 22, the time spent in each activity varied. I was able to measure this variable in all the activities, with the exception of the careers fair (which was not possible as individuals did not spend a set amount of time and spent minutes there rather than hours). In the other activities, controlling for time did not change the results, hence the results are reported without controlling for time.

Table 22. *Participant demographics per activity and activity details*

Activity	No.	Mean age (SD)	Time in Activity (hours)	Tasks Involved
Careers Fair	56	22.40 (4.78)	< 1 hour (approx. 20 minutes)	Interaction with specialist and local recruitment agencies to discuss future employment.
Volunteering	69	21.14 (2.50)	6.47 (4.57)	Working in the community in teams to create more pleasant environments by cleaning, painting and gardening.
Mentoring	18	22.53 (2.90)	21.23 (14.55)	Working with school students to increase awareness of careers options and/or to assist with exam revision and coursework
Innovation Academy	28	29.00 (4.55)	72 (3 days)	Acquiring and developing skills and knowledge about innovation. Networking. Teamwork.

6.4.2 Participants

6.4.2.1 *Careers Fair Attendees*

A total of 56 students (21 male, 33 female, 2 unreported) attending a small careers fair located in the students union on campus in June 2011 completed both questionnaires. The participant's mean age was 22.40 ($SD =$

4.78). The careers fair offered students the chance to meet specialist and local recruitment agencies. In total, there were 9 stalls where students could discuss future employment possibilities. The careers fair was open for 2 hours but typically students were there for approximately 20 to 30 minutes. Paper versions of the questionnaires were administered at the entrance to the careers fair and again at the exit of the careers fair.

6.4.2.2 Volunteers

A total of 69 volunteers (21 male, 47 female, 1 unreported) participating in national volunteering week completed both questionnaires. The majority of participants were Caucasian (64.6%). Their mean age was 21.14 ($SD = 2.50$). The hours spent volunteering ranged from 1 to 31 ($M = 6.47$, $SD = 4.57$). The volunteers reported that their activities involved cleaning, gardening or painting (e.g., furniture, fences, walls). The data was collected in June 2010. The first questionnaire was administered online, three days prior to the commencement of national volunteering week. A low response rate led to the decision to distribute questionnaires on the day of volunteering, before volunteering started. As the volunteers all finished their projects at different times they were emailed individually on the day they anticipated finishing their projects.

6.4.2.3 Mentoring

A total of 18 students (4 male, 13 female, 1 unknown) participating in a government funded scheme called 'AimHigher Associates' completed both questionnaires. All but one participant was Caucasian. Their mean age was 22.53 ($SD = 2.90$). The hours spent mentoring ranged from 4 to 60 ($M = 21.23$, $SD = 14.55$).

The Aimhigher Associate scheme worked on the premise that existing university students were in a good position to encourage adolescents to aspire to a brighter future. AimHigher Associates either worked with GCSE students (aged 14 to 16) or A Level students (aged 16 to 18) to increase awareness of careers options and/or to assist with exam revision and coursework. The scheme ran nationwide but unfortunately I was only granted permission to collect data in the Surrey area. Before participants were allowed to join the scheme they were required to complete an application form and attend an interview. AimHigher Associates were paid £15 per hour and received reimbursements for travel costs. The first questionnaire was administered in paper form in a training session. The majority of AimHigher Associates only began visiting schools in January 2010 due to various administration processes, including CRB checks and the creation of centrally monitored email accounts and identification of suitable students to be mentored. Hence, I chose to administer the questionnaires after one school term of mentoring had finished. This was administered online in April 2010.

6.4.2.4 Innovation Academy Attendees

A total of 28 students (16 male, 10 female, 2 unreported) attending ‘Innovation Academy’ completed both questionnaires. Their mean age was 29.90 ($SD = 4.55$). Innovation academy was a 3 day residential course designed to cover all aspects of successful innovation and entrepreneurship. The advertisement stated; “the course will develop you as a confident, creative individual who is able to help catalyse change by setting up a new business, social enterprise, university spin-out or research team”. Attendees were postgraduate students who had successfully applied for and received a bursary

to cover the cost of the course. Activities involved the development of skills alongside teamwork with other attendees.

6.4.3 Measures

Brief information is listed below about the measures included in the questionnaires. Alpha coefficients for each measure for each activity are listed below in Table 23.

Table 23. *Alpha coefficients for all measures by activity*

	Careers Fair	Mentoring	Innovating	Volunteering
PA (time 1)	.89	.78	.86	.91
PA (time 2)	.96	.87	.90	.88
NA (time 1)	.80	.79	.84	.84
NA (time 2)	.89	.86	.89	.80
SWL (time 1)	.86	.75	.89	.82
SWL (time 2)	.93	.88	.86	.83
Expected agency gains	.91	.75	.78	.86
Expected communion gains	.91	.86	.78	.79
Perceived agency gains	.92	.69	.83	.79
Perceived communion gains	.87	.87	.88	.88
Trait Agency	.74	.40	.53	.55
Trait Communion	.72	.66	.79	.73

6.4.3.1 Subjective Well-being

As in Studies 1 and 2, subjective-well-being was captured using measures of positive affect, negative affect and satisfaction with life. These measures were completed both before the activity (Time 1) and again after the activity (Time 2). Participants completed these measures in reference to how they were “currently” feeling.

6.4.3.2 Expected and Perceived Gains (see Appendix 2)

Although there were clear theoretical reasons for proposing that each activity involved aspects of agency and/or communion, it is unclear to what extent they actually did involve agency and/or communion. Hence, I asked participants to indicate to what extent they expected and perceived both agency and communion gains. I first generated a list of gains participants might expect from participating in the activities and then 12 items were selected to reflect two subscales, expected agency gains and expected communion gains. At Time 1 (pre-activity) participants were asked to rate the extent to which they agreed that they expected the following gains using a 5-point scale where ‘1’ represented ‘strongly disagree’ and ‘5’ represented ‘strongly agree’. An example of an expected agency gain is, “to enhance my C.V.”. An example of an expected communion gain is, “to feel closer to the people in the community”. The perceived gains from the activities were virtually identical to the expected gains but phrased in the past tense. For example, the expected agency gain “to enhance my C.V.” became the perceived agency benefit, “I can now enhance my C.V.”. Participants were asked to indicate using a 5-point scale (where ‘1’ represented ‘strongly

disagree' and '5 represented 'strongly agree') the extent to which they agreed that their participation in the activity had resulted in each gain.

6.4.3.4 Agency and communion traits

As in Study 1, I used the PAQ (Spence et al., 1974) to assess trait agency and trait communion.

6.5 Results

6.5.1 Preliminary analyses

6.5.1.1 Does personality influence perceived and expected gains?

Before examining whether the activities that were expected to reflect agency and/or communion were indeed seen by participants to have expected and perceived agency and communion gains, I first needed to ascertain if personality might have influenced expected and perceived gains. After all, such a possibility is in line with Allport's (1935) assertion that personality makes people perceive different affordances in different situations. For example, within a communal activity such as volunteering an individual high in trait agency may be more likely to expect and perceive agency gains such as enhancing their C.V. It is plausible that personality will also influence the experience of the activity and therefore the types of gains perceived. For example, an individual high in trait communion may be more likely to build interpersonal relationships during volunteering and so perceive themselves as gaining more communion gains than someone high in trait agency focusing on goal completion. If the expected and perceived gains depend partly on participant's agency and communion traits then this may mean the activities do not differ in expected and perceived agency and communion gains as

expected. Hence to check that personality did not unduly influence expected and perceived gains correlational analyses were conducted for each activity between the traits and gains (see Table 24, below).

Table 24. *Correlations between trait agency and trait communion and the perceived and expected agency and communion gains*

Activity	Dimension	Expected Agency	Perceived Agency	Expected Communion	Perceived communion
Careers fair	Trait A	.55**	.55**	.32*	.55**
	Trait C	.37**	.03	.16	.17.
Volunteering	Trait A	.02	.01	.04	.06
	Trait C	.21	.15	.23	.21
Innovation	Trait A	.38*	.50**	.26	.06
	Trait C	.49*	.28	.33	.28
Mentoring	Trait A	.27	-.10	-.39	-.43
	Trait C	.13	.38	.62**	.28

Note: Trait A = trait agency, Trait C = trait communion.

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

Due to the small sample sizes (ranging from 18 to 69) many of the correlations were not significant. Nonetheless a general pattern can be inferred from the direction and magnitude of the correlations. Overall, these correlations showed that personality did influence participants expected and perceived gains, but within reason. Specifically when agency gains were possible (i.e., in activities that involved agency) individuals high in trait

agency were more likely to expect and perceive agency gains. However, when agency gains were less possible (i.e., in a communion activity) those who were high in trait agency did not expect or perceive agency gains. Equally when communion gains were possible those individuals high in trait communion were more likely to expect and perceive communion gains whereas when they were not possible they did not.

Having established that personality did not exert an incredibly strong influence on expected and perceived gains I next examined whether the activities that were expected to reflect agency and/or communion were indeed seen by participants to have expected and perceived agency and communion gains

6.5.1.2 Do the activities involve agency and communion gains?

To examine if within each activity participants reported expecting and perceiving one type of gain relatively more than another (e.g., more agency gains than communion gains or vice versa), I conducted paired sample t-tests for each activity between (a) expected agency gains and expected communion gains, and (b) perceived agency and communion gains. Table 25 (below) shows the means, standard deviations and differences between expected and also perceived agency and communion gains. As expected, career fair attendees reported expecting significantly more agency gains than communion gains and perceived significantly more agency gains than communion gains. In comparison, volunteers reported expecting significantly more communion gains than agency gains and perceived significantly more communion gains than agency gains. Overall there were significant differences between the expected agency gains and communion gains and perceived gains for both the

mentors and the innovators. Unexpectedly both innovators and mentors expected significantly more agency gains than communion gains, mentors also perceived themselves as obtaining more agency gains than communion gains. This suggests that although there are good theoretical reasons for proposing that mentoring and attending innovation academy involve a mix of both agency and communion, typically participants expect and perceive more agency than communion gains from these activities.

Table 25. *Expected and perceived agency and communion gains and the results of paired sample t-tests for each activity*

Gains	Activity Type			
	Careers fair	Volunteering	Innovation	Mentoring
Expected				
Agency	4.38 (.73)	3.54 (.91)	4.27 (.65)	4.36 (.58)
Communion	3.56 (.11)	3.84 (.71)	3.79 (.73)	3.66 (.73)
A minus C	$t(52) = 5.99^{**}$	$t(68) = 2.81^{**}$	$t(27) = 4.52^{**}$	$t(17) = 3.65^{**}$
Perceived				
Agency	3.29 (1.06)	3.31 (.73)	3.81 (.75)	4.15 (.53)
Communion	3.02 (.92)	4.13 (.71)	3.61 (.94)	3.44 (.86)
A minus C	$t(51) = 2.41^{**}$	$t(67) = 10.01^{**}$	$t(27) = 1.28$	$t(17) = 3.51^{**}$

Note: A minus C = agency minus communion. ****** $p < .01$.

To examine the between activity differences for expected and perceived agency and communion gains I conducted independent sample t-tests. As anticipated, career fair attendees reported expecting significantly

more agency gains than volunteers ($t(120) = 5.33, p <.01$) and volunteers reported expecting and perceiving significantly more communion gains than the career fair attendees ($t(120) = 1.82, p <.05, t(118) = 7.51, p <.01$, respectively). However, the career fair attendees did not report perceiving significantly more agency gains than the volunteers ($t(118) = .14, NS$).

To summarize, the majority of my expectations were confirmed or at least partially confirmed, indicating the activities I theorized were reflective of agency and/or communion were seen by participants as involving expected and perceived agency and/or communion gains.

6.5.2 Did the activities increase well-being?

The means and standard deviations of each aspect of subjective well-being before and after each activity are shown below in Table 26. To compare the activities effects on well-being, I conducted three mixed analysis of variances, one for each aspect of subjective well-being (i.e., one for positive affect, one for negative affect and one for life satisfaction). Each mixed analysis of variance was a four by two design, where ‘activity’ was the between subjects factor with four levels (either attending the careers fair, volunteering, innovating, mentoring) and ‘time’ was the within subjects factor with two levels (before activity and after activity). Positive affect, was not significantly affected by time ($F(1,167) = 1.67, NS, \eta p^2 = .01$) but was significantly affected by both activity and the two way interaction between activity and time (respectively, $F(3,167) = 4.17, p <.01, \eta p^2 = .07, F(3,167) = 1.67, p <.01, \eta p^2 = .07$). Pairwise analyses showed these effects were driven only by the significant decrease in positive affect experienced by innovators ($p < .01, 95\% CI: -.72$ to $-.18$) as the other activities did not significantly affect

positive affect. Hence, innovating decreased positive affect significantly more than attending a careers fair ($p < .01$, 95% CI: -.81 to -.15), volunteering ($p < .01$, 95% CI: -.88 to -.23) or mentoring ($p < .05$, 95% CI: -.88 to -.01). For negative affect, there was a significant main effect of time ($F(1,167) = 9.16$, $p < .01$, $\eta p^2 = .05$), activity ($F(3,167) = 3.63$, $p < .01$, $\eta p^2 = .06$) and time x activity ($F(3,167) = 8.85$, $p < .01$, $\eta p^2 = .14$). Pairwise analyses revealed that only those attending innovation academy experienced a significant decrease in negative affect ($p < .01$, 95% CI: -.69 to -.33). Although the career fair attendees also experienced a decrease in negative affect ($p = .08$, 95% CI: -.24 to .01) and the mentors experienced an increase in negative affect ($p = .08$, 95% CI: -.03 to -.20), these results were only just approaching significance. Hence, pairwise comparisons between the activities showed that (a) innovators had significantly larger decrease in negative affect than either career fair attendees ($p < .01$, 95% CI: -.62 to -.18), volunteers ($p < .01$, 95% CI: -.64 to -.21) or mentors ($p < .01$, 95% CI: -.98 to -.41), and (b) mentors had significantly larger increases in negative affect than career fair attendees ($p < .05$, 95% CI: -.41 to .98) and volunteers ($p < .05$, 95% CI: .03 to .53). For life satisfaction, there was a significant main effect of time ($F(1,167) = 8.65$, $p < .01$, $\eta p^2 = .05$) but not activity ($F(3,167) = 1.77$, NS, $\eta p^2 = .03$) or time x activity ($F(3,167) = .82$, NS, $\eta p^2 = .01$). This indicates that overall life satisfaction tended to increase for everyone, regardless of activity type. Pairwise analyses showed only volunteering significantly increased life satisfaction ($p < .01$, 95% CI: .05 to .40), though mentoring also increased life satisfaction this was not significant because of the low power caused by the small sample size ($p = .09$, 95% CI: -.05 to .63). There were no significant differences between the

activities in life satisfaction, presumably because three out of the four activities increased it.

Table 26. *Subjective well-being means and standard deviations for each activity at Time 1 and Time 2*

	Activity Type	Mean at T1 (SD)	Mean at T2 (SD)
Positive	Careers fair	3.14 (.82)	3.17 (1.09)
Affect	Innovation	3.86 (.57)	3.41 (.80)**
	Mentoring	3.64 (.54)	3.64 (.64)
	Volunteering	3.22 (.77)	3.32 (.69)
Negative	Careers fair	1.57 (.59)	1.45 (.57)
Affect	Innovation	2.04 (.57)	1.53 (.65)**
	Mentoring	1.64 (.49)	1.84 (.54)
	Volunteering	1.52 (.53)	1.44 (.44)
Satisfaction	Careers fair	4.60 (1.30)	4.65 (1.49)
with Life	Innovation	4.72 (1.39)	4.92 (1.20)
	Mentoring	5.17 (.87)	5.45 (1.01)
	Volunteering	4.83 (1.06)	5.05 (1.06)

Careers fair N =55, Volunteering = 69, Innovation Academy N =28, Mentoring N = 18.

6.5.2.1 Co-varying for agency and communion expectation fulfilment

It is possible that the activities did not increase well-being because the gains participants expected did not match those they perceived as having

obtained. Hence, this disappointment at the lack of expectation fulfilment may have confounded my findings. Indeed support for this explanation can be inferred from the level of agency expectation fulfilment (calculated as the difference between perceived agency and expected agency gains) and communion expectation fulfilment (calculated as the difference between perceived communion gains and expected communion gains), shown below in Table 27, where a negative score indicates expectations were not met and a positive score indicates they were. Notably, none of the activities fulfilled participants' expectations with the exception of the volunteers who had their communion expectations met.

Table 27. *Means and standard deviations of expectation fulfilment by activity type*

Activity	Expectation Fulfilment (expected gains minus perceived gains)	
	Agency	Communion
Careers fair	-1.07 (1.08)	-.57 (1.10)
Innovation	-.46 (.70)	-.18 (.90)
Mentoring	-.21 (.72)	-.21 (.64)
Volunteering	-.23 (.97)	.29 (.92)

To test the possibility that expectation fulfilment influenced changes in well-being, I repeated the above analyses (i.e., did three mixed analysis of variances one for each aspect of subjective well-being) twice, once co-varying for “agency expectation fulfilment/ disappointment” and once co-varying for “communion expectation fulfilment/disappointment”. However, this did not

influence the significance of well-being changes in any of the activities apart from for the careers fair attendees whose decrease in negative affect became significant when (a) agency expectation fulfilment was co-varied ($p < .01$, 95% CI: -.32 to -.04) and, (b) communion expectation fulfilment was co-varied ($p < .05$, 95% CI: -.29 to -.01). This may have been because the careers fair attendees had both their agency and communion expectations fulfilled the least out of any of the other activities.

6.5.3 Person-activity fit and well-being

6.5.3.1 Preliminary analyses: Differences in traits between activities?

To examine if the volunteers and career fair attendees differed in trait agency and trait communion I conducted two independent sample t-tests. These revealed no significance differences between the two groups for trait agency ($t(121) = .36$, *NS*) or trait communion ($t(121) = 1.77$, *NS*). This suggests that self-selection biases did not occur.

6.5.3.2 Trait-activity fit and well-being

A series of hierarchal regressions were conducted to examine Hypothesis 5 and assess if the activities' effects on well-being were predicted by trait agency and trait communion. The predicted variable was a Time 2 (post-activity) subjective well-being measure (either positive affect, negative affect or satisfaction with life). The same Time 1 (pre-activity) subjective well-being measure was entered as a first step in the regression. The second step consisted of the predictor variables: trait agency and trait communion. The results are displayed below in Table 28. The findings indicate some

support for person-activity fit as only the traits most related to the activities were associated with increases in well-being. Specifically, trait communion was associated with increases in positive affect after participation in a communal activity, volunteering ($t(65) = 2.15, \beta = .28, p < .05$) and trait agency was associated with increases in life satisfaction after participating in an agentic activity, attending a careers fair ($t(49) = 2.17, \beta = .17, p < .05$). It appears that the higher an individual is in trait communion the more likely they are to have increased levels of positive affect as a result of volunteering and the higher an individual is in trait agency the more likely they are to have increased levels of life satisfaction as a result of attending a careers fair. None of the other regressions revealed significant effects.

Table 28. *Predicting well-being increases from traits per each activity*

Predicted	Activity	Predictors	<i>B</i>	<i>SE b</i>	<i>B</i>	Proportion of variance
Positive Affect	Careers fair	Trait A	.24	.25	.11	$R^2 = .49, F(3, 53) = 18.27, p < .01.$
		Trait C	.18	.22	.08	
	Volunteers	Trait A	.08	.12	.07	$R^2 = .37, F(3, 68) = 14.59, p < .001.$
		Trait C	.47	.15	.32**	
Negative Affect	Careers fair	Trait A	.09	.11	.08	$R^2 = .49, F(3, 53) = 18.27, p < .01.$
		Trait C	-.09	.10	-.08	
	Volunteers	Trait A	.07	.08	.09	$R^2 = .29, F(3, 68) = 10.39, p < .01.$
		Trait C	-.10	.10	-.11	
Life Satisfaction	Careers fair	Trait A	.50	.23	.17*	$R^2 = .73, F(3, 52) = 29.45, p < .01.$
		Trait C	-.22	.22	-.07	
	Volunteers	Trait A	.04	.12	.02	$R^2 = .76, F(3, 67) = 70.81, p < .01.$
		Trait C	.06	.14	.03	

Note: Trait A = trait agency, Trait C = trait communion.

6.6 Discussion

The following section discusses if the activities involved agency and communion gains, before discussing the effect of the activities on well-being and person-activity fit. It concludes by discussing the strengths and weaknesses of Study 5.

6.6.1 Did the activities involve agency and communion gains?

The results showed participants' personality characteristics did not exert influence over expected and perceived gains to the extent that even when the activity did not offer the opportunity for certain gains they were still expected and/or perceived. Having established this, preliminary analyses showed that overall the majority of my theoretical expectations regarding the activities as involving agency and/or communion were also shared by participants, at least to the extent that they expected and perceived agency and communion gains. Hence, attending a careers fair involved more expected and perceived agency gains than communion gains. While volunteering involved more expected and perceived communion gains than agency gains. Significantly more agency gains were expected by the careers fair attendees than the volunteers and significantly more communion gains were both expected and perceived by the volunteers than by the careers fair attendees. Unexpectedly, mentoring and innovation did not involve a mix of agency gains and communion gains as typically participants in these activities expected and perceived more agency gains than communion gains. This suggests that although there were good theoretical arguments for mentoring and innovation representing both agency and communion, typically participants expected and perceived more agency than communion gains.

6.6.2 Did the activities increase well-being?

Overall, my hypotheses regarding the activities influence on well-being were not confirmed with the exception Hypothesis 2 and Hypothesis 4 which were partially confirmed as some aspects of well-being did significantly increase. Specifically, volunteering significantly increased life satisfaction (Hypothesis 2) and attending innovation academy significantly decreased negative affect (Hypothesis 4). However, some of the activities did results in small positive changes to aspects of well-being, although these were not significant. Specifically, volunteering increased positive affect and decreased negative affect, attending a careers fair decreased negative affect and both innovating and mentoring increased life satisfaction. Therefore there is some indication that these activities were beneficial for well-being and perhaps if the sample sizes were larger these findings may have reached significance. However, on the other hand some of the results were also in the opposite direction to my hypotheses. Specifically, innovating significantly decreased positive affect and mentoring increased (but not significantly) negative affect. Below I offer some explanations for these findings.

6.6.2.1 Attending a careers fair and well-being

Hypothesis 1 was not supported as attending a careers fair did not significantly increase participants' well-being. In fact, there were barely any changes in positive affect (.03 increase) or life satisfaction (.05 increase) and although negative affect somewhat decreased, subsequent item analysis of the negative affect scale showed this overall effect was driven by a reduction in nervousness, which was presumably a result of students anxieties about meeting possible future employers.

A likely explanation for the minimal changes to positive affect and life satisfaction is the small scale of the event (just nine potential employers) which meant students did not spend long immersed in the activity and I was not able to track this information and control for it. The small scale of the event is also reflected in attendees low scores in agency and communion expectation fulfilment, which were the lowest out of any of the other activities. When agency and communion expectation fulfilment were controlled for, the decreases in negative affect participants experienced became significant. This suggests that the lack of expectation fulfilment (or disappointment) may have increased the likelihood of negative affect for those attending the careers fair.

6.6.2.2 Volunteering and well-being

Hypothesis 2 was generally supported as findings showed that volunteering was beneficial for well-being. Although only life satisfaction significantly increased, slight increases in positive affect and slight decreases in negative affect were also observable. Such findings are in line with past research linking volunteering to increased well-being (e.g., Borgnovi, 2008; Meier & Stutzer, 2004). However, the present study goes beyond previous research in a number of ways. Firstly, the before/after design employed by Study 5 enabled some initial indications of the direction of causality. Secondly, its use of a younger population shows volunteering can benefit younger adults and not just the older generation. Thirdly, it shows that even just a few hours of volunteering doing relatively mundane tasks (cleaning, painting furniture, and gardening) can significantly increase life satisfaction. To the extent that volunteering is representative of communion behaviour, these findings suggest communion behaviour may be beneficial for well-

being, in particular for life satisfaction. The fact that volunteering exerted the largest influence on life satisfaction suggests that while perhaps the tasks were not very enjoyable perhaps participating in them still fulfilled participants desire to contribute to society.

6.6.2.3 *Mentoring and well-being*

Interestingly, mentoring appeared to have both positive and negative effects for well-being, as although positive affect did not change, both negative affect and life satisfaction increased. Though these increases were not significant, with a larger sample size they may have been. Such results are consistent with literature theorizing that mentors may experience satisfaction from various benefits including passing on skills and wisdom to another generation (Bozionelos, 2003; Busch, 1985; Fleming, 1991; Kram, 1985; Levinson, Darrow, Klein, Levinson & McKee, 1978; Matters, 1994; Ragins & Scandura, 1994; Willis & Dodgson, 1986; Wright & Wright, 1987) and also literature pointing out the drawbacks of mentoring (Jaccobi, 1991; Long, 1997). Hence, mentoring may have increased life satisfaction but not positive affect because working with challenging students may not necessarily have been enjoyable but may have contributed to feelings of having a purpose in life. It is likely that mentoring may also have increased negative affect because of the stress it involved. All mentors were required to perform a certain number of “interventions” to justify government expenditure on the scheme. Yet, the bureaucracy involved meant participants were unable to start mentoring until certain tasks had been completed (e.g., having a CRB, attending training about child protection, the school selecting mentees that fitted certain criteria, etc.) which was typically a lengthy process. Hence,

when mentors were finally able to begin mentoring they may have been under increasing time pressure to complete the required number of interventions in a short space of time. This pressure may have been further intensified as all mentors were full time students required to meet certain deadlines. Such an explanation is consistent with the concerns listed by Long (1997) about the darker side of mentoring.

6.6.2.4 Innovation and well-being

Hypothesis 4 was only partially confirmed as results showed that attending innovation academy decreased both positive and negative affect. This significant reduction in positive affect the innovators experienced is likely due to situation effects of the questionnaire administration. Participants received the first question via email from the co-ordinator of innovation academy. This same email informed participants their application for a scholarship (approx. worth £550) to attend innovation academy had been successful and contained a schedule of planned activities. This was less than ideal as this may have prompted several positive emotions that were measured such as excitement, enthusiasm, and interest. Indeed, the mean pre-activity positive affect score for innovators was noticeably higher than the other activities.

Although the decrease in negative affect confirms Hypothesis 4, it is worth noting that the venue of “Innovation Academy” may also have contributed to this finding. Specifically, because this was a residential course, participants stayed in Cumberland Lodge, a beautiful old building located in the tranquil surroundings of Windsor Park. This opportunity for participants (the majority of whom were PhD students) to take a break from their studies in

relaxing settings likely contributed to the reduction in negative affect. Indeed research suggests people feel happier when they are exposed to nature (Hartig, Evans, Jammer, Davis, & Garling, 2003). Hence, these findings should be treated with caution because of the confounding influence of situational effects.

6.6.3 Person-Activity fit and well-being

Preliminary analyses revealed no significant differences between volunteers and career fair attendees in either trait agency or trait communion. As there was no evidence of self-selection bias I was able to examine if trait agency predicted gains in well-being for career fair attendees and if trait communion predicted gains in well-being for volunteers. The results showed some support for Hypothesis 5. Specifically, trait agency was associated with increases in life satisfaction after attending a career fair and trait communion was associated with increases in positive affect after volunteering. Such findings are remarkable when considering the short time frame involved, i.e., that spending anywhere between twenty minutes and a couple of hours involved in an activity congruent with one's traits is associated with increases in aspects of well-being. However, the fact that these findings did not consistently emerge over each and every aspect of well-being suggests that these results need to be confirmed in subsequent studies before firm conclusions can be drawn.

6.6.4 Strengths and weaknesses

6.6.4.1 Strengths

Study 5 contributed to the existing literature by examining the effect of four naturalistic activities on subjective well-being. As evidenced from the sparse literature review, three of these activities (attending a careers fair, mentoring, innovating) have received little empirical attention and hitherto their influence on well-being was unknown. Although more is known about volunteering, the present research went beyond past research by using a before/after design and examining if well-being is increased by volunteer work rather than voluntary organization membership in younger as opposed to older people. Study 5 also considered factors that may have influenced the effects the activities had on participant's well-being. These factors were expectation fulfilment and person-activity fit. Although expectation fulfilment did not considerably influence the activities effects on well-being, co-varying for it did mean the changes in negative affect experienced by the career fair attendees became significant. Examining person-activity fit enabled me to see that while it does not contribute to day to day well-being (as in Studies 1 to 4), within the context of an activity person-activity fit appears to be associated with changes in well-being.

6.6.4.2 Limitations

Study 4 had a number of limitation, most of which stemmed from the study's naturalistic design. Firstly and foremost, the results may say more about how well-being is affected by each specific type of activity than about how well-being is affected by agency and communion behaviours. This is because participants in each activity were exposed to situational factors that

may have influenced well-being (e.g., students who attended innovation academy were all exposed to the beautiful location, mentors were all held back by bureaucratic administration). Hence, each activity had its own systematic situational biases which could not be controlled for and likely contaminated my findings. Secondly, all the activities had relatively small sample sizes, making significance harder to obtain. Thirdly, all the activities involved a range of different factors that could have had contextual influences on the measures of well-being depending on when and where the pre-activity and post-activity questionnaires were administered. For instance, well-being may have been influenced by the environment the activity took place in, the time spent in the activity, the other people and the social dynamic involved in the activity, the time of year and weather etc. Fourthly, the differences between the activities in these variables as well as the mixed effects they had on well-being (e.g., innovation academy decreased both positive affect and negative affect) made comparisons between the activities relatively meaningless and no “neutral activity” was included with which comparisons could be made. Hence, it cannot be concluded with confidence that any one type of activity is more beneficial for well-being than another type of activity or than doing no activity or even a neutral activity. In summary, these limitations mean the findings from Study 5 should be interpreted with considerable caution as clearly a carefully controlled experiment is needed to establish the influence of each type of behaviour on well-being.

CHAPTER 7: STUDY 6

In Study 5, analysis of four naturalistic activities that involved agency and/or communion behaviours offered mixed support for the notion that agency and/or communion behaviours can increase well-being. However, given the results may have been influenced by activity-specific variables that could not be controlled for, Study 6 employed an intervention study to establish the direct effects of agency, communion and a-c behaviours on well-being. To ensure that well-being increases were a result of the active behaviours rather than the effects of merely participating in a “happiness experiment”, the well-being increases of the active behaviour conditions were compared to a control behaviour condition, not expected to increase well-being. To ensure an appropriate control behaviour was selected, a pilot study was conducted to examine the correlations between the control behaviour and subjective-well-being. In addition to examining, if agency, communion and a-c behaviour could increase well-being, Study 6 also examined the contribution of person-activity fit to well-being increases.

7.1 Introduction

The following chapter is divided into six sections. The first section reviews existing happiness enhancing interventions that involved participants enacting aspects of agency and/or communion behaviour. It then goes to formulate hypotheses about the effects of each behaviour on well-being and considers which behaviour will be the most effective in increasing happiness. Finally, the first section concludes by considering the hypotheses person-activity fit would make about the role subjective and objective person-activity fit will play in moderating participant’s increases in well-being. The second

section presents a pilot study which was used to select an appropriate control behaviour to compare the active behaviours (i.e., agency, communion, and, a-c) to. The third and fourth sections present the methods and the results, respectively. The fifth section provides a discussion of the findings. Finally, the sixth section concludes with some limitations of Study 6 and future directions.

7.1.1 Existing happiness-enhancing interventions involving the two dimensions

As noted in Chapter 2, the broad nature of the agency-communion framework means it can encompass existing happiness-enhancing interventions. In the following section, I further justify this claim by explicitly noting how existing interventions involve agency or communion. I also review the findings of each relevant intervention, as this provides some indication as to whether agency and communion behaviours will increase well-being in the present study.

7.1.1.1 Existing interventions involving agency

Many intervention studies have examined a key aspect of agency - goal orientation. This is because goal orientation involves a number of the processes agency entails, namely; self-control, self-direction, self-expansion and, self-mastery (Helgeson, 1994). Intervention studies have shown activities involving goal orientation (e.g., goal analysis and planning, goal training, life coaching etc) increase subjective-well-being and psychological well-being - in particular environmental mastery (Ferguson, Conway, Endersby & MacLeod, 2009; Green, Oades & Grant, 2006; Spence & Grant, 2007; MacLeod et al., 2008). Hence, there is some indication that

activities involving agency can increase well-being within the context of an intervention study. Other intervention studies also support this idea as findings show simply recalling or imagining the self-mastery aspect of agency can increase individual's short-term well-being, though these increases do not tend to persist over time. Specifically, one study found participants who wrote about a time they were at their best and reflected on the personal strengths involved experienced a significant increase in happiness and decrease in depression compared to a control group (Seligman et al., 2005). Another study found that imagining best possible selves significantly increased positive affect compared to a control group (Sheldon & Lyubomirsky, 2006b).

Other intervention studies have shown increasing people's independence can enhance their well-being. Specifically, a study in a nursing home found that residents who were assigned to a condition emphasizing their autonomy and the personal-choices/decisions available to them, experienced a significant increase in well-being compared to a control group (Langer & Rodin, 1976). Similar research has since replicated these findings. Specifically, residents in care homes who were given control over the decoration of their surroundings experienced an increase in well-being compared to a control group (Gleibs, Sonnenberg, & Salam, under review). However, both of these studies have focused exclusively on an elderly population. Therefore, it remains to be seen if encouraging people to enact behaviours with a focus on the autonomy and independence aspects of agency could increase well-being.

To summarize, the above research has shown that activities involving agency such as goal orientation (Ferguson et al., 2009; Green et al., 2006;

Spence & Grant, 2007; MacLeod et al., 2008), recalling oneself at one's best (Seligman et al., 2005), imagining one's best possible selves (Sheldon & Lyubomirsky, 2006) or having one's sense of autonomy increased (Glebis et al., under review; Langer & Rodin, 1976) can enhance individual's well-being. Such findings as well as the positive correlations found between agency behaviours and well-being in Studies 1 to 4 lead me to hypothesize the following:

Hypothesis 6: Participants practising agency behaviours will experience an increase in well-being.

7.1.1.2 Existing interventions involving communion

Many intervention studies have examined a key aspect of communion; kindness. Communion clearly involves kindness as evidenced by the inclusion of "kind" and "helpful" in the attributes used to measure trait communion (Spence et al., 1979). Consistently, intervention studies have found that enacting small acts of kindness or even counting one's own acts of kindness can increase well-being (Buchanan & Bardi, 2010; Lyubomirsky, Tkach & Sheldon, 2004, Otake, Shimai, Tanaka, Otsui, & Frederickson, 2006; Tkach, 2006). Specifically in 2010, I found participants who performed daily acts of kindness for just 10 days experienced a significant increase in life satisfaction compared to a control group (Buchanan & Bardi, 2010). Other unpublished studies, have also shown kind acts such as holding doors for strangers and washing roommates plates, can increase individual's subjective well-being when enacted over 6 weeks or 10 weeks (Lyubomirsky et al., 2004; Tkach, 2006, reviewed in Boehm & Lyubomirsky, 2009). In a similar vein, an experiment found participants who behaved pro-socially by spending the

money they were given on others were happier than participants who had spent money on themselves (Dunn, Aknin, & Norton, 2006). Hence, there is ample support for the notion that at least the kindness aspect of communion can increase well-being.

To date, other intervention studies have not examined the other major aspect of communion, developing and maintaining close interpersonal relationships. However, there is research that suggests relationships are strongly positively related to well-being. For example, Diener and Seligman (2002) found that those who are happiest are those that tend to be the most sociable and have closer social relationships. Other studies consistent with this finding have shown the best predictors of happiness are social relationships (lack of loneliness and satisfaction with friendships), perceived companionship and social support (Baldassare, Rosenfield, & Rook, 1984; Chu, Saucier, & Hafner, 2010; Lu, 1999; Lyubomirsky, Tkach & Dimatteo, 2006). Indeed, even when controlling for the major influence of personality, friendship variables still account for 58% of the variance in an individual's happiness (Demir & Weitekamp, 2007). Despite the lack of intervention studies examining if activities where participants focus on developing and maintaining relationships, there is ample indication from correlational studies that this activity may well increase well-being.

To summarize, the above research has shown that activities involving the kindness aspect of communion can increase well-being (Buchanan & Bardi, 2010; Chu et al., 2010; Lyubomirsky, et al., Sheldon, 2004, Otake et al., 2006; Tkach, 2006). The other major aspect of communion - maintaining and developing interpersonal relationships - has not yet been tested in an

intervention study although correlational research consistently finds it to be a strong predictor of happiness (Baldassare et al., Demir & Weitekamp, 2007; Diener & Seligman, 2002; Lu, 1999; Lyubomirsky et al., 2006). Hence, existing research along with the positive correlations between communion and well-being found in Studies 1 to 4 as well as the significant increase in life satisfaction experienced by the volunteers in Study 5 lead me to form the following hypothesis.

Hypothesis 7: Participants practising communion behaviours will experience an increase in well-being.

7.1.2 Predicting which behaviour will be the most effective in enhancing well-being

Following Bakan's (1966) hypothesis that agency and communion are needed for optimal well-being as well as the strength of the positive correlations between well-being and a-c behaviour in Study 1 I formulated the following hypothesis.

Hypothesis 9: A-c behaviour will increase well-being significantly more than either agency behaviour or communion behaviour.

In addition, given that agency was more strongly correlated to the majority of well-being aspects than communion behaviour in Studies 1 to 4 and several other existing studies (e.g., Saragovi et al., 1997; 2002), I hypothesize the following:

Hypothesis 10: Agency behaviour will increase well-being significantly more than communion behaviour.

7.1.3 Person-activity fit

A secondary aim of Study 6 was to examine the contribution of person-activity fit to well-being increases. As noted in Chapter 2, only a few intervention studies have examined if person-activity fit can moderate increases in happiness and those that have reveal divergent findings (Giannopoulos & Vella-Brodrick, 2011; Sergeant & Mongrain, 2011; Schueller, 2011; Sheldon & Lyubomirsky, 2006; Silberman, 2007). Within my thesis, my findings have also provided mixed support for the role of person-activity fit. Specifically, Studies 1 to 4 did not find interaction terms comprised of traits and behaviours, values and behaviours, and goals and behaviours significantly predicted higher well-being. However, in Study 5, the higher careers fair attendees were in trait agency, the more likely they were to experience an increase in life satisfaction and the higher volunteers were in trait communion, the more likely they were to experience an increase in positive affect. Given the divergent findings revealed about the influence of person-activity both within the existing literature and within my own thesis, Study 6 examined if agency and communion behaviours can benefit anyone equally or if they would be of more benefit to those whose personality fitted with the behaviour they were asked to enact. Study 6 also went beyond existing research and Studies 1 to 5 by conceptualizing person-activity fit at two levels, subjectively and objectively fit. According to Kristof-Brown and Guay (2011) subjective fit is defined as, “the match between the person and the environment as they are perceived and reported by the person” and objective fit refers to, “the fit between the person and the environment, as it exists independently of the person’s perception” (p. 27). In Study 6, the

objective person-activity fit measure examined the correspondence between traits and the assigned behaviour condition and the subjective person-activity fit measure asked participants to indicate the extent to which the behaviours fitted with their personality and values. This distinction between objective and subjective person-activity fit is important because it may be that it is one's self-perception of person-activity fit rather than actual person-activity fit that relates to well-being.

Accordingly, if person-activity theory is correct the following hypotheses should be confirmed:

Hypothesis 11: Trait agency will predict increases in well-being in the agency condition and trait communion will predict well-being in the communion condition.

Hypothesis 12: Self-perceived person-activity fit will predict increases in well-being, regardless of behaviour condition.

7.2 Pilot Study: Selecting a control behaviour

Past research has persuasively argued that in order to effectively establish the effects of happiness enhancing activities that at the very least active behaviours should be compared to an adequate control condition (Wood, Froh, & Geraghty, 2010). Hence, to ensure that well-being increases were a result of the active behaviours rather than the effects of merely participating in a "happiness study", I compared the well-being increases of the active behaviour conditions to a control behaviour condition. A pilot study was conducted to select a control behaviour and also to examine the associations between well-being and the proposed control behaviour.

I first established four criteria important for an effective control behaviour, namely that the control behaviour should: (1) involve participants actively and deliberately doing something (2); be effortful but possible for all participants to do (3); appear plausible as a happiness-enhancing behaviour; and (4) be distinct from the experimental conditions. I then generated a number of behaviours fitting this criteria and included control activities used by past intervention studies (Burton & King, 2004; King, 2001; King & Miner, 2000; Seligman et al., 2005; Sheldon & Lyubomirsky, 2006b). To assess the appropriateness of these control behaviours I asked 6 judges from a social psychology lab group to provide feedback using our criteria. Following feedback, I selected a behaviour previously used in an intervention study (Sheldon & Lyubomirsky, 2006b), focusing on life's daily details. To ensure this behaviour was comparable to my active behaviours I generated specific examples of behaviours participants could enact. For example, "Notice the shapes of things around you". I next created a questionnaire, containing measures of these seven control behaviours as well as measures of agency, communion and a-c behaviours (adapted from Study 1 to include items that all participants could feasibly do in 7 days), and subjective well-being.

Sixty three respondents completed this questionnaire which assessed subjective well-being and behaviours using the measures employed in Study 1. The results are displayed in Table 29 (below).

Table 29. *Correlations between each behaviour type and well-being in the pilot study*

	Positive Affect	Negative Affect	Life Satisfaction
Agency	.26*	-.16	.17
Communion	.28*	-.11	.11
A-C	.38**	-.12	.12
Control	.12	.05	.19

Note: * = $p < .05$, ** = $p < .01$.

The control behaviour was not significantly correlated with any of the well-being measures and had the weakest correlations out of all the behaviours for both positive and negative affect. However, unexpectedly the control behaviour was positively correlated with life satisfaction, although this correlation was not large enough to reach significance. Nonetheless, I decided to use focusing on life's daily details as the control behaviour in Study 6. This is because it (a) met the 4 criteria I generated regarding a suitable control behaviour, (b) was not significantly correlated with any of the well-being measures (and had the weakest positive correlations with the measures of affect compared to the other behaviours) and, (c) had been previously used in past interventions.

7.3 Study 6: Method

7.3.1 Participants

Participants were recruited using the same methods as Study 1, i.e., using online advertisements. One-hundred and sixty one participants (121

females, 35 males, 5 unknown), aged 18 to 59 ($M = 30.01$, $SD = 10.00$) completed the experiment, reported performing the behaviour at least five times, and completed the post-experiment questionnaire without delay (i.e., one day after the end of the experiment)⁴. The majority of participants were from the United Kingdom (72%) and the United States (12%).

7.3.2 Procedure

The intervention was administered via the internet as past intervention studies have found this an efficient and effective means of delivering happiness enhancing interventions and collecting data (e.g., Seligman et al., 2005; Mitchell, Stanimirovic, Klein & Vella-Brodrick, 2009). Figure 5 (below) depicts a summary of the procedure. Participants were recruited to take part in an experiment examining the effects of certain types of behaviours on happiness. They were informed that the study would involve completing questionnaires about their happiness and personality traits and enacting a certain type of behaviour daily for seven days. To avoid expectation biases contaminating baseline measures of well-being¹ participants completed measures of well-being and traits before they were randomly assigned to one of the four conditions -- agency, communion, combined agency-communion or the control. After reading the behaviour instructions participants indicated their consent to proceed with the experiment which was to start the following day. For the seven day duration of the study participants received daily emails

⁴ In total, 301 respondents completed both questionnaires but of these 59 responses were excluded from the analyses because they reported doing their assigned behaviour less than 5 times. An additional 81 were excluded because they completed the post-experiment questionnaire late, in some cases up to 18 days after the post-experiment questionnaire was sent!

prompting them to perform the suggested behaviour. Eight days after the completion of the pre-experiment questionnaire participants completed the post-experiment questionnaire. If after learning about the behaviour they were being asked to do, participants decided not to proceed they responded to a brief questionnaire. This questionnaire asked participants to indicate why they had not chosen to proceed.

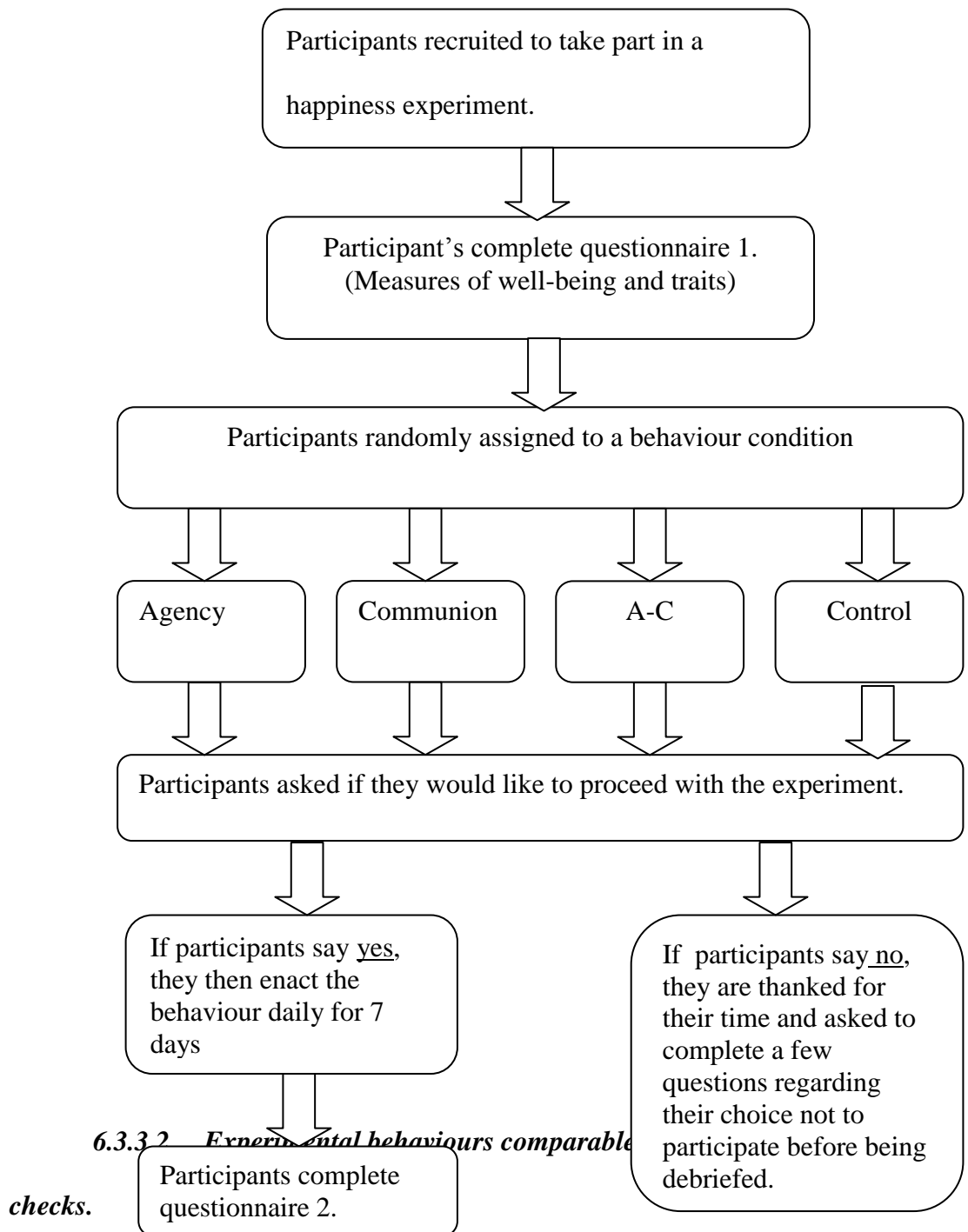
7.3.3 Materials and Measures

7.3.3.1 Behaviour instructions (see Appendix 3).

All participants received instructions requesting they behave in a certain way, every day for the next seven days. Instructions included adjectives explaining how a person focused on agency/communion/ agency-communion combined/life's daily details would be and behave along with a list of suggested behaviours. Participants were also encouraged to think of their own behaviour acts but to email me to check that it fitted the criteria (only a few participants emailed me to clarify if behaviours they had thought of fitted the criteria). Examples of suggested behaviours for each condition are as follows: Agency: "Improve existing skills – for instance, perfect a recipe or improve your score in a typing test/running lap/computer game". Communion: "Do favours without being asked, such as offering your seat on a bus/train to a person who is standing". A-C: "Teach someone else how to do something you're good at (a skill)". Control: "Notice the shapes of things around you". Participants were asked to indicate in the post-questionnaire approximately how many times they had enacted the behaviour for the experiment in the past week.

Figure 5.

The intervention study's procedure



To ensure the experimental behaviour groups did not differ from the control behaviour in variables theorized to influence happiness gains, in the post-experiment questionnaire participants used a 7-point scale ranging from 1 (*Not at all*) to 7 (*Extremely*) to indicate the extent they felt the assigned

behaviours were (1) typical of behaviours they would usually engage in; (2) easy to incorporate into their daily routine (3); good for their short term happiness (4); good for their long term happiness. Behaviour typicality was assessed because theoretically and empirically research has indicated novelty and variety are important factors in counter-acting the hedonic treadmill (e.g., Buchanan & Bardi, 2010; Sheldon & Lyubomirsky., 2012). Ease of incorporation into daily routine was measured because activities easily implementable on a daily basis have a higher feasibility of increasing well-being (Cantor & Sanderson, 1999). This is simply because there is a higher likelihood of participants enacting the behaviours/activities. Beliefs that the behaviours were beneficial for short-term/long-term happiness were measured to ensure the control behaviour was convincing as a happiness-enhancing behaviour.

6.3.3.3 *Well-being*

As in Studies 1, 2 and 6, positive and negative affect (Watson et al., 1988) and life satisfaction (Diener et al., 1985) were measured. The alpha coefficients in the present study for both times were also good (averages across times: PA $\alpha = .80$, NA $\alpha = .85$, SWLS $\alpha = .80$).

6.3.3.4 *Trait agency and trait communion*

As in the previous studies the personal attributes questionnaire was used to assess the personality traits of agency and communion. Alpha coefficients were acceptable (agency $\alpha = .74$, communion $\alpha = .76$).

6.3.3.5 Self-perceived person-activity fit

At the end of the post-experiment (Time 2) questionnaire participants indicated the extent to which they felt the behaviours they did fitted with their personality and also their values using a 7-point scale ranging from 1 (*Not at all*) to 7 (*Extremely*). Value-activity fit and personality-activity fit were substantially positively correlated ($r = .73, p < .01$). I therefore combined these into a single measure of self-perceived person-activity fit.

6.3.3.6 Reasons why people chose to opt out of the experiment

As can be seen in Figure 5, if after reading the behaviour instructions participants decided not to proceed with the experiment they were asked to use a 5-point scale to indicate their agreement with some reasons that might have explained why they had chosen not to participate. Reasons included “the behaviour is too effortful”, “the behaviour is too time consuming”, “the behaviour is something I would do anyway”, “I would not have the opportunity to do this behaviour”, “I don’t believe this behaviour would make me happy” and, “doing this behaviour would make me feel uncomfortable”. Participants were also given the opportunity to indicate other reasons and a few participants did. These included reasons such as, “I will be on holiday and not able to access emails for some of the next 7 days” and “Working from home a lot; not in the community as much as usual”.

7.4 Results

The results section first presents preliminary analyses before examining if agency, communion and a-c behaviour increased well-being and if person-activity fit moderated well-being increases.

7.4.1 Preliminary Analyses

7.4.1.1 Participants who chose not to proceed with the experiment

Table 30. *Descriptive statistics for the reasons participants chose not to proceed with the experiment*

Reasons	Means (<i>SD</i>)
Behaviour is too time consuming	2.42 (1.36)
Behaviour is too effortful	1.19 (1.19)
Behaviour is something I would do anyway	1.61 (1.44)
I would not have the opportunity to do this kind of behaviour	1.31 (1.30)
I don't believe this behaviour would make me happy	1.05 (1.36)
Doing this behaviour would make me uncomfortable	.98 (1.23)

As noted already, participants were given the opportunity to opt out of the experiment after reading the behaviour instructions. A total of 45 participants indicated that they did not want to proceed with the questionnaire. Of these, 9 were assigned to the agency condition, 15 to the communion condition, 13 to the a-c condition and 8 to the daily details condition. Out of these 45 participants, only 42 completed the subsequent questions regarding reasons about their decision not to proceed with the experiment. The means and standard deviations for these are listed above in Table 30. Overall, none of the reasons were rated particularly highly (the highest mean was 2.42 out of a possible score of 4) but the most frequently endorsed reason was “too time

consuming”. Endorsement of these reasons did not significantly differ across conditions.

I next examined if the participants who chose not to proceed were significantly lower or higher in well-being than the participants who completed my experiment. Analyses revealed no significant differences. Analyses also revealed no significant differences within each condition between participants who chose not to proceed and participants who chose to proceed in trait agency or trait communion. Hence, there was no indication that participants who chose not to participate did so because their traits did not match the assigned behaviour.

7.4.1.2 Differences between conditions in well-being measures at Time 1 (pre-experiment)

I first examined each of the pre-experiment well-being measures (i.e., Time 1 PA, Time 1 NA, Time 1 SWL) as a function of condition assignment using an ANOVA. There were no significant differences between the behaviour conditions in either pre-experiment positive affect, negative affect or life satisfaction ($F(3,160) = .67, NS$, $F(3,160) = .46, NS$, $F(3,160) = .54, NS$, respectively). This indicates the procedure that was adopted (see Figure 5) prevented expectation biases contaminating baseline (pre-experiment) well-being measures

7.4.1.3 The contribution of potentially confounding factors

To eliminate potential confounding factors I examined if increases in well-being were influenced by demographic variables (sex and age) and number of behaviour acts. and self-perceived person-activity fit. Only self-perceived person-activity fit was a significant factor in predicting well-being.

Specifically regression analyses in which a Time 2 (post-experiment) well-being measure (either PA, NA or SWL) was predicted while controlling for the corresponding Time 1 well-being measure in the first step showed self-perceived person-activity fit significantly predicted positive affect ($t(158) = 3.45, \beta = .24, p < .01$) and life satisfaction ($t(158) = 2.36, \beta = .10, p < .05$). Further analysis revealed that self-perceived person-activity fit even predicted positive affect and life satisfaction in the control condition ($t(51) = 2.50, \beta = .31, p < .05, t(51) = 2.27, \beta = .11, p < .05$, respectively). This suggests that even a behaviour with minimal effects on well-being (focusing on life's daily details did not significantly increase any aspect of subjective well-being) can be influenced by self-perceived person-activity fit. However, controlling for this factor did not substantially change the results hence subsequent analyses are reported without controlling for it.

7.4.1.4 Experimental behaviours comparable to control behaviour checks

Following Wood et al.'s (2010) assertion that, "the best control groups are those that are identical in all aspects apart from the aspect of interest" (p. 898), I conducted planned contrast analyses to assess whether the control group differed significantly from any of the experimental behaviour groups in variables theorized to influence happiness gains, namely, typicality, ease of integrating behaviour into daily life and subjective person-activity fit. Results showed the control behaviour was comparable to the experimental behaviours in everything apart from typicality. The control behaviour was rated as significantly less typical than communion behaviour ($t(84) = 2.81, p <$

.05). However, controlling for typicality did not substantially change the results hence subsequent analyses are reported without controlling for it.

7.4.1.5 Self-selection biases between conditions in trait agency and trait communion

As in Study 5, I also examined if the behaviour groups significantly differed in trait agency and trait communion. If people are compelled to engage in behaviours that fit their personality then this may have resulted in a biased sample such that those in the agency condition were higher in trait agency and those in the communion condition were higher in trait communion. After all, participants were given the opportunity to opt out of the experiment after being assign to a random behaviour condition. However, no significant differences emerged between any of the behaviour conditions for either trait.

7.4.2 Can agency, communion and a-c behaviours increase well-being?

The data were analysed using three different four by two (condition x time) ANOVA's, with the behaviour condition as the between subjects factor and time (pre vs. post experiment) as the within subjects factors. One ANOVA was conducted for each of the dependent variables: positive affect, negative affect and satisfaction with life⁵. The means, standard errors and

⁵ A power analysis indicated that there was sufficient statistical power for a medium effect size. Specifically, for a Cohen's (1992) medium effect size (.25) of a mixed 4 by 2 ANOVA with the standard statistical power of .80, and using a two-tail test at a significance level of .05, the minimum sample size is 157.

significant differences between pre-experiment and post-experiment for each well-being component and each behaviour condition are shown in Table 31.

For positive affect, there was a significant main effect of time ($F(1,157) = 13.87$, Wilks' lambda = .92, $p < .01$, $\eta p^2 = .08$). Within the ANOVA, analysis of each individual behaviour type showed that agency and a-c both significantly increased positive affect (respectively, $F(1,157) = 7.88$, Wilks' lambda = .95, $p < .01$, $\eta p^2 = .05$, $F(1,157) = 8.71$, Wilks' lambda = .95, $p < .01$, $\eta p^2 = .05$) while communion and the control did not (communion: $F(1,157) = 1.30$, Wilks' lambda = .99, NS , $\eta p^2 = .01$, control: $F(1,157) = .14$, Wilks' lambda = .99, NS , $\eta p^2 = .00$). There was no significant interaction between group and time ($F(3,157) = 1.89$, Wilks' lambda = .96, NS , $\eta p^2 = .03$).

For negative affect, there was a significant main effect of time ($F(1,157) = 13.87$, Wilks' lambda = .97, $p < .05$, $\eta p^2 = .03$). Within the ANOVA, analysis of each individual behaviour type analysis of each behaviour type showed that only agency significantly decreased negative affect ($F(1,157) = 4.76$, Wilks' lambda = .97, $p < .05$, $\eta p^2 = .03$). There was no significant interaction between group and time ($F(3,157) = 1.89$, Wilks' lambda = .98, NS , $\eta p^2 = .02$).

For satisfaction with life, there was a significant main effect of time ($F(1,157) = 21.08$, Wilks' lambda = .88, $p < .01$, $\eta p^2 = .11$). Within the ANOVA, analysis of each individual behaviour type, analysis of each group showed that agency, communion and a-c behaviours all significantly increased life satisfaction (agency: $F(1,157) = 7.37$, Wilks' lambda = .95, $p < .01$, $\eta p^2 = .04$, communion: $F(1,157) = 8.87$, Wilks' lambda = .95, $p < .01$, $\eta p^2 = .05$, a-c: $F(1,157) = 4.60$, Wilks' lambda = .97, $p < .05$, $\eta p^2 = .03$) while the control did

not ($F(1,157) = 1.42$, Wilks' lambda = .99, *NS*, $\eta p^2 = .01$). There was no significant interaction between group and time ($F(3,157) = .97$, Wilks' lambda = .97, *NS*, $\eta p^2 = .02$).

I next examined if the experimental groups significantly differed from each other on their effect on well-being using three ANOVAS (one for each of the well-being measure) of a 3 (behaviour: agency, communion, a-c) by 2 (time: pre-experiment and post experiment) design. Results showed that there was no interaction between the experimental behaviours and times for either positive affect ($F(2,106) = 1.03$, Wilks' lambda = .98, *NS*, $\eta p^2 = .02$), negative affect ($F(2,106) = .41$, Wilks' lambda = .99, *NS*, $\eta p^2 = .01$) or life satisfaction ($F(2,106) = .16$, Wilks' lambda = .99, *NS*, $\eta p^2 = .00$).

Having established that the experimental groups did not significantly differ from one another in their effects on well-being I examined if the experimental behaviours significantly increased well-being more than the control behaviour by conducting 3 further ANOVA's this time of a 2 (behaviour: experimental vs control) by 2 (time: pre-experiment and post experiment) design. There was a significant main effect of time for both positive affect and life satisfaction (respectively, $F(1,159) = 6.71$, Wilks' lambda = .96, $p < .01$, $\eta p^2 = .04$, $F(1,159) = 21.08$, Wilks' lambda = .88, $p < .01$, $\eta p^2 = .12$) but not negative affect ($F(1,159) = 2.12$, Wilks' lambda = .99, *NS*, $\eta p^2 = .01$). The interaction term between time and behaviour condition was significant for positive affect ($F(1,159) = 1.03$, Wilks' lambda = .96, $p < .05$, $\eta p^2 = .02$) but not negative affect ($F(1,159) = 2.00$, Wilks' lambda = .99, *NS*, $\eta p^2 = .16$) or life satisfaction $F(1,159) = .97$, Wilks' lambda = .98, *NS*, $\eta p^2 = .02$).

To summarize, these results suggest that agency, communion and a-c had positive effects on various aspects of well-being whereas the control group did not. Typically, these effects were not large enough to produce the statistically significant interactions needed to conclude that these behaviours increase well-being above and beyond the placebo effect generated by enacting control behaviour at least not for negative affect or life satisfaction. However, the experimental behaviours did increase positive affect significantly more than the control behaviour.

Table 31. *Means and standard errors for pre and post experiment, and significance of differences by behaviour condition*

Activity Condition	Mean Pre-experiment (S.E.)	Mean Post-experiment (S.E.)
Agency		
Positive Affect	2.79 (.11)	3.15 (.12)
Negative Affect	1.66 (.11)	1.44 (.09)
Life Satisfaction	4.56 (.23)	4.88 (.21)
Communion		
Positive Affect	2.67 (.12)	2.87 (.13)
Negative Affect	1.87 (.12)	1.76 (.10)
Life Satisfaction	4.02 (.24)	4.45 (.22)
A-C		
Positive Affect	2.88 (.12)	3.23 (.13)
Negative Affect	1.79 (.12)	1.65 (.10)
Life Satisfaction	4.49 (.24)	4.79 (.22)

Activity Condition	Mean Pre-experiment (S.E.)	Mean Post-experiment (S.E)
Control		
Positive Affect	2.96 (.10)	2.93 (.11)
Negative Affect	1.66 (.10)	1.66 (.08)
Life Satisfaction	4.69 (.20)	4.78 (.18)

7.4.3 Objective person-activity fit

Earlier analyses revealed subjective person-activity fit to be a significant factor in predicting well-being increases, regardless of behaviour condition. With regard to objective person-activity fit, the preliminary analyses revealed no significant difference in traits between the activity conditions.

Regression analyses were used to examine if trait agency and trait communion could moderate the effect of activity type on well-being. The interactions between behaviour condition and the traits were examined according to Aiken and West (1991) using regression as specified in Study 1. To centre the condition variable I labelled the agency condition 1 , the control condition 0 and the communion condition as -1 . A-c behaviour was excluded from the analyses because it is not apparent which trait would moderate the effects of a-c behaviour on well-being. As my previous results suggested that the activities differentially affected each well-being aspect I conducted separate regressions for each well-being aspect. The dependent variable was a post-experiment well-being measure. I entered the corresponding pre-experiment well-being measure in the first step of the regression. In the second

step I entered the centred predictor variables, condition, centred trait, and centred condition x centred trait. None of the predictor terms were significant indicating the data does not confirm the hypothesis derived from the person-activity fit theory (Hypothesis 11), when person-activity fit is measured objectively.

7.5 Discussion

The following section discusses if agency, communion and a-c behaviours increased, well-being, before considering which of the active behaviour was most effective in enhancing well-being and if the behaviours had distinct consequences for well-being. It also discusses the findings regarding person-activity fit before concluding with acknowledgement of some limitations and future directions.

7.5.1 Did agency, communion and a-c behaviour increase well-being?

The data obtained in Study 6 enabled the present findings to advance existing research by examining if deliberate enactment of agency behaviours, communion behaviours, a-c behaviours and well-being. Hypotheses 11 to 13 were partially confirmed as findings revealed that engaging in either agency, communion or a-c behaviours a minimum of five times over seven days can enhance various aspect of well-being. Specifically, enacting agency behaviours significantly increased positive affect, decreased negative affect and improved life satisfaction, enacting communion behaviours significantly increased life satisfaction, and enacting a-c behaviours significantly increased positive affect and life satisfaction. In comparison, the control behaviour did not significantly improve any aspect of well-being. The interaction term of

behaviour condition x time was only significant for one aspect of well-being: positive affect. This suggests the experimental behaviours improve positive affect more than the control group. Taken together, these findings provide weak support for the notion that agency, communion and a-c behaviours may be slightly beneficial for increasing well-being.

7.5.2 Comparing the behaviours: which increased well-being the most?

Overall, the data did not indicate that any one of the experimental behaviours was significantly more beneficial for well-being than the others. Therefore, my hypothesis (hypothesis 9) that a-c behaviour would increase well-being significantly more than either agency behaviour or communion behaviour was not confirmed. Despite this there was some indication that enacting a-c behaviour may have some slight additional benefits over communion behaviour because unlike communion behaviour performed solely, when communion behaviour is combined with agency in the same act, it increases positive affect. Perhaps if a person is being kind to another as part of a broader personal goal of, for example, teaching, it leads to increased positive affect regardless of the receiver's response, because it still fulfils the goal of teaching. However, these differences were not large enough to reach statistical significance and in Study 1 the correlations between a-c behaviour and well-being were not substantially stronger than the correlations between either agency behaviour and well-being or communion behaviour and well-being. Thus, overall my data does not support Bakan's (1966) hypothesis that having both agency and communion result in optimal well-being, at least not in the short term.

7.5.3 Distinct consequences for well-being?

Although findings showed the active behaviours did not significantly differ in their effect on well-being, there was some indication that agency and communion behaviours appeared to differ in the extent to which they affected different aspects of well-being. While agency tended to mostly affect positive affect, communion mostly affected life satisfaction. Although this finding was not anticipated, it fits with Study 5's findings in which the activity involving agency influenced affect and the activity involving communion influenced life satisfaction. One interpretation of these findings is that while agency behaviour may lead to life satisfaction through independence and obtaining important goals, primarily it influences positive affect because people enjoy the feeling of accomplishing things in life, even when these accomplishments are relatively small things such as perfecting a recipe or solving a problem by oneself. Similarly, it is possible that communion behaviours increase life satisfaction more than positive affect, because kind behaviour is not always appreciated by the receiver, hence the person's mood may not improve, but one may still feel satisfaction in doing something good which likely contributes to his or her life satisfaction. Indeed, some support for this explanation can be inferred from Schwartz and Bardi's (2001) finding that benevolence values are the most important universally. Overall, such findings suggest that it is important to examine more than one aspect of well-being, as there may be meaningful differential effects.

7.5.4 Person-activity fit

Based on previous suggestions regarding the importance of person-activity fit to the success of happiness enhancing interventions (Sheldon &

Lyubomirsky, 2006b), Study 6 examined if person-activity fit moderates the gains in well-being obtained from either agency or communion behaviours. Unlike past intervention studies Study 6 distinguished between subjective and objective person-activity fit, as has been done in occupational research (Kristof-Brown & Guay, 2011). This distinction emerged as important, as while actual (objective) person-activity fit did not influence changes in well-being, self-perceived (subjective) person-activity fit did. Hence, only Hypothesis 12 was confirmed, that subjective person-activity fit would influence changes in well-being. This is also the typical finding in occupational psychology with regard to predicting job satisfaction from person-job, person-occupation, and person-organization fit (Kristof-Brown & Guay, 2011). This finding suggests the well-being benefits that an activity brings depend very much on whether the individual perceives the behaviour as fitting his or her own traits and values. In addition, the results also show self-perceived person-activity fit may increase well-being regardless of whether a behaviour is theoretically expected to be beneficial for well-being or not, as self-perceived person-activity fit significantly predicted increases in positive affect and life satisfaction in the control condition as well as in the active conditions. Such findings suggest that if activities are to increase people's well-being, they do not need to truly match a person's personality, they just need the person to think that they match his or her personality. Overall, these results suggest the distinction between subjective and objective person-activity fit is an important one that future studies should consider further, along with examination of factors that may affect perceptions of person-activity fit.

7.6 Limitations

Unexpectedly, the control behaviour marginally increased life satisfaction. Potentially, noticing life's daily details may have drawn focus away from life's daily hassles and emphasized appreciation of previously overlooked details which may have indirectly prompted gratitude, an activity that can increase happiness (see Wood et al., 2010). This decreased the statistical power needed to identify differences in well-being increases between the control and the active groups for life satisfaction. However, the experimental behaviours were still found to significantly increase positive affect more than the control behaviour. Still, this is just one aspect out of the three measures of well-being and this suggest that perhaps the effects of the experimental behaviour were relatively small. In addition, the intervention lasted just seven days hence inferences cannot be made about the long term benefits of agency, communion and a-c behaviour. However, as the intervention shows performing these behaviours for a minimum of five times can slight enhance well-being, engaging in them over a longer duration may potentially increase well-being further. Still, longitudinal research is needed to establish the long-term benefits of these behaviours.

7.7 Conclusion

For the first time, Study 6 examined if intentionally enacting agency, communion and a-c behaviours can increase people's well-being. In doing so, it went beyond Studies 1 to 5 and established that enacting these behaviours a minimum of five times over seven days increases well-being. Moreover, compared to a control behaviour both agency and a-c behaviours significantly increased positive affect. Communion also increased life

satisfaction more than the control behaviour, although this finding was only approaching significance. However, the fact that these results were obtained despite the control behaviour increasing life satisfaction, suggests that communion behaviours may have a particularly powerful effect on life satisfaction. Overall, the findings did not show that any one type of “active” behaviour was more effective than another, the results did indicate that different behaviours influenced different aspects of subjective well-being as while agency had the strongest effect on positive affect, communion had the strongest effect on life satisfaction. With regards to person-activity fit, the results suggest agency and communion behaviours can increase anyone’s well-being regardless of objective trait-behaviour match. However, the extent to which participants perceived the assigned behaviours as matching their traits did predict well-being.

CHAPTER 8: GENERAL DISCUSSION

8.1 Introduction

The following chapter provides an extensive summary of this thesis' findings in response to each research question addressed. It then goes on to critically assess the thesis' main contributions to existing research. Finally, it concludes with some potentially promising avenues for future research.

8.2 Summary of findings

The overarching objective of the present thesis was to identify behaviours that could increase happiness. To achieve this objective this thesis applied the theoretical framework provided by two broad constructs, agency and communion. An extensive literature review (Chapter 2) of the research surrounding agency, communion and well-being revealed that past research had not thoroughly or adequately addressed the main research questions this thesis set out to answer. To thoroughly address these questions, I used correlational (Studies 1a to 4) and naturalistic studies (Study 5), as well as an intervention study (Study 6). The following section summarizes my findings in response to each research question (as outlined in Chapter 2).

8.2.1 Can agency and communion behaviours increase well-being?

Studies 1 to 4 (Chapter's 3, 4 and 5), each showed that agency and communion behaviours were significantly positively correlated with an array of hedonic and eudaimonic well-being measures. These correlations persisted even when social desirability biases were controlled for (as in Study 1b) and when these behaviours were measured using peer-reports (see Study 4).

However, as correlations cannot be used to infer causation, further studies were needed to establish if agency and communion behaviours can increase well-being. Hence, Study 5 (Chapter 6) examined four naturalistic activities that were theorized to involve agency and/or communion. Specifically, attending a careers fair was theorized to involve agency and participating in community volunteering was theorized to involve communion. The expected and perceived agency and communion gains that participants reported gave some indication that these propositions were correct. The findings showed that attending a careers fair did not significantly improve well-being whereas volunteering significantly increased life satisfaction. Hence, Study 5 suggests communion behaviour may be beneficial for subjective well-being but only for one aspect of it. However, as noted in Chapter 5 these naturalistic activities can only be used to infer information about agency and communion behaviours. This is because each activity had systematic situational biases which may mean the results say more about how each activity affects well-being, rather than how agency and communion behaviours affect well-being.

As the naturalistic studies could only be used to infer information, Study 6 utilized an intervention study to test if enacting agency or communion behaviours could increase well-being. The findings showed that engaging in either agency behaviours or communion behaviours a minimum of five times over seven days increased certain aspects of well-being. Specifically, agency behaviours led to significant improvements in both positive affect and life satisfaction, and communion behaviours led to significant improvements in life satisfaction. Moreover, agency behaviour increased positive affect

significantly more than the control behaviour. Communion behaviour increased life satisfaction more than the control, although this finding was only approaching significance.

In summary, my findings show that agency and communion behaviour are not only correlated with well-being but enactment of these behaviours can increase certain aspects of well-being.

7.2.1.1 Which is better for increasing well-being, agency behaviour or communion behaviour?

In Chapter 2 the literature review indicated some discrepancy between past studies about the relative contributory strength of agency and communion behaviours to well-being. Studies 1a to 4 (Chapters 3 and 4) all indicated agency was more strongly correlated with the majority of well-being indicators than communion. In comparison, Study 5 (Chapter 5) showed the activity involving communion (volunteering) but not the activity involving agency (attending a careers fair) significantly increased well-being. However, differences between the activities in terms of the time spent actively involved in them make comparisons between the two relatively meaningless. Hence, meaningful comparisons about the relative strength of the two behaviours can only be drawn from Study 6. Study 6 found that agency behaviour had slightly stronger effects in increasing positive affect and decreasing negative affect than communion behaviour, while communion behaviour had slightly stronger effects in increasing life satisfaction than agency behaviour. These differences were not large enough to reach statistical significance. However, when examining if agency behaviours and communion behaviours increased

any aspect of well-being significantly more than the control behaviour, only agency behaviour did.

To summarize, taken together these findings suggest that agency behaviour may be slightly more beneficial for well-being than communion behaviour. However, these differences were not large enough to conclude that agency behaviour is a more promising pathway to happiness than communion behaviour. Moreover, the results from Studies 5 (Chapter 5) and 6 (Chapter 6) appear to suggest that each behaviour type differs in terms of the magnitude of its influence on different aspects of well-being.

7.2.1.2 Do agency and communion have distinct consequences for well-being?

As noted in the literature review (Chapter 2), Helgeson (1994) proposed that agency and communion have “distinct consequences” for well-being, with agency influencing mental health and communion influencing relationship satisfaction. As past studies revealed mixed support for this hypothesis, Study 1 retested Helgeson’s hypothesis. Specifically, it examined if agency behaviour was uniquely correlated with psychological well-being and if communion behaviour was uniquely correlated with social well-being. The results revealed mixed support, as although psychological well-being was significantly positively correlated with agency behaviour, it was also significantly positively correlated with communion behaviour. Social well-being was not significantly correlated with either agency behaviour or communion behaviour. However, social well-being may not have been an adequate means to assess relationship satisfaction as it emphasizes satisfaction with society. Interestingly, in Study 1 the one item that represented Ryff’s

(1989) measure of “positive relations with others” was more strongly correlated with communion behaviour than agency behaviour. However, an analysis of the correlations between behaviour categories and single item measure of well-being is less than ideal because single item measures have a lower reliability than indices. Happily, as Studies 3 and 4 (Chapter 4) employed a full version of Ryff’s (1989) questionnaire, I was able to examine if agency behaviours and communion behaviours were differentially associated with different aspects of well-being. These analyses revealed that overall, while both behaviours were significantly positively correlated with all six aspects of well-being, there were some differences between the behaviours in the strength of these correlations. Specifically, across both Studies 3 and 4, agency behaviour was more strongly correlated to autonomy than communion behaviour, and communion behaviour was more strongly correlated to positive relations with others than agency behaviour. Hence, Studies 1, 3 and 4 provided only partial support for Helgeson’s (1994) hypothesis, as although there were differences between the behaviours in the strength of their association to different aspects of well-being, the significant positive correlations both agency behaviour and communion behaviour had with each aspects of well-being indicate they are not uniquely associated with just one type of well-being. Hence, these correlational analyses did not provide clear support for the notion that agency and communion behaviours have “distinct consequences” for well-being. Because of this, Studies 5 and 6 only measured subjective-well-being. However, Studies 5 and 6 found that, although agency and communion behaviour had some influence on each component of subjective-well-being, they differed in the degree to which they affected

different aspects of subjective well-being. Specifically, in Study 5 the activity representative of agency (attending a careers fair) had the most influence on negative affect while the activity representative of communion (volunteering) had the most influence on life satisfaction. Similarly, in Study 6 agency behaviour exerted the most influence on positive affect, and communion behaviours exerted the most influence on life satisfaction. Taken together, Studies 5 and 6 indicate that agency behaviour most influences affect while communion behaviour most influences life satisfaction. However, this is not to say that in Study 6 (the intervention study) the other aspects of well-being did not increase. In fact, the mean changes in well-being show agency behaviour also increased life satisfaction and communion behaviour also increased positive affect. One interpretation of these findings is that while agency behaviour may lead to life satisfaction through independence and obtaining important goals, primarily it influences positive affect because people enjoy the feeling of accomplishing things in life, even when these accomplishments are relatively small things such as perfecting a recipe or solving a problem by oneself. Similarly, it is possible that communion behaviours increase life satisfaction more than positive affect, because kind behaviour is not always appreciated by the receiver. Hence the person's mood may not improve but one may still feel satisfaction in doing something good which likely contributes to his or her life satisfaction.

Curiously, there was no indication in the correlational analyses of Studies 1 and 2 that agency behaviour would most influence affect and communion behaviour would most influence life satisfaction. The difference between the findings suggests that perhaps some of the associations between

the behaviours and the other aspects of well-being may have stemmed from the opposite direction of causality, i.e., higher well-being leading to more agency behaviours and more communion behaviours. For instance, it could be that individuals who are relatively satisfied with their lives have more psychological resources to challenge themselves to enact agency behaviours, such as striving to improve their skills, being more independent, and meeting the targets they set themselves. Some support can be invoked for this explanation from findings that self-control challenges (e.g., resisting foods/cigarettes) are easier when an individual's energy resources are not depleted (Baumeister & Tierney, 2011; Muraven & Baumeister, 2000). Support can also be inferred from the observation that severely depressed individuals tend to lack the resources to cope with things they used to find manageable (Chan, Dougan, & Rector, 2012). Similarly, it could be the case that high positive affect leads to communion behaviour. In line with this, past research has indicated people in a good mood tend to be more helpful (Isen & Levin, 1972) and those that feel positive about themselves are more likely to volunteer (Plagnol & Huppert, 2009). However, further research is needed to establish if certain aspects of well-being can increase agency and communion behaviour.

7.2.1.3 Summary: Agency, communion and well-being

To summarise, little support was found for Helgeson's (1994) assertion that agency and communion have distinct consequences for well-being, such that agency uniquely influences mental health and communion uniquely influences relationship satisfaction. However, my findings show that it is important to examine more than one aspect of well-being as although the

behaviours did not have distinct consequences for well-being, they did influence the extent to which the behaviours were associated with and increased certain aspects of well-being. Future interventions should also consider several aspects of well-being rather than amalgamating the three components of subjective-well-being (e.g., as in Lyubomirsky & Sheldon, 2006b) as there may be meaningful differential effects.

8.2.2 Are both agency and communion needed for well-being?

As noted in Chapter 2, Bakan (1966) proposed that a balance of agency and communion are needed for optimal well-being. Researchers have conceptualised “balance” as meaning: (a) occurrence of one dimension without the other (i.e., unmitigated agency or unmitigated communion) and/or (b) high levels of both agency and communion. Hence, the present thesis examined if both these conceptualizations of balance were related to and resulted in higher well-being. I examined this research question in two ways. Firstly, as per previous researches’ recommendations (e.g., Fournier & Moskowitz, 2000), I examined if an interaction term comprised of the two dimensions predicted well-being benefits above and beyond those accrued from separate measures of agency and communion. Secondly, I employed a novel approach by examining if a behaviour in which agency and communion co-occur (a-c behaviour) was related to and could increase well-being.

7.2.2.1 Can an interaction term comprised of agency and communion predict well-being?

Studies 1a to 4 consistently showed an interaction term comprised of agency behaviour and communion behaviour did not significantly predict either hedonic or eudaimonic well-being measures. Consequently, I did not

pursue this avenue of research further by including a condition in the intervention study (Study 6) whereby participants enacted some agency behaviours and some communion behaviours.

7.2.2.2 Is a-c behaviour related to and can it increase well-being?

Study 1(Chapter 3) showed that a-c behaviour was significantly positively correlated with an array of well-being indicators. Although a-c behaviour did not contribute to any of the well-being measures significantly more than either agency behaviour or communion behaviour it did have the strongest positive correlations out of any of the behaviours for four out of six of the well-being measures. Curiously, it was the only behaviour to have significant positive correlations with social well-being, indicating that when both behaviours occur together they increase well-being at a societal level, as well as at a more individual level. Study 5 (Chapter 5) examined two naturalistic activities theorized to involve a mix of agency and communion - mentoring and innovation. However, in practise it seems that both activities involved participants expecting and perceiving more agency than communion gains. Still, the findings showed both these activities had positive and negative effects on well-being, though these results were only significant for the innovators. Yet, as noted in Chapter 5 (and also earlier in this chapter), the findings from these naturalistic activities say far more about the specific activities themselves than about a-c behaviour per se. However, Study 6 offered a more valid way of examining the influence of a-c behaviours on well-being. Findings showed that a-c behaviour significantly increased both positive affect and life satisfaction, although only the increase in positive affect was significant compared to the control behaviour. A-c behaviour did

not increase any aspect of subjective well-being significantly more than either agency behaviour or communion behaviour.

7.2.2.4 Summary: Are both agency and communion needed for well-being?

To summarize, there is some support for Bakan's (1966) assertion that a balance of agency and communion is needed for well-being to the extent that: (a) the unmitigated dimensions are associated with lower well-being and (b) a-c behaviour is positively associated with and can increase well-being. However, support is not evident in findings showing that: (a) an interaction term comprised of agency behaviour and communion behaviour did not significantly predict well-being and, (b) a-c behaviour does not increase well-being significantly more than either agency behaviour or communion behaviour. Hence, it can be said that a balance of agency and communion can benefit well-being but it is not crucial for well-being and does not result in "optimal" well-being.

8.2.3 Are agency behaviours and communion behaviours beneficial for everyone or only when they fit a person?

Studies 1 to 4 found no support for the notion that well-being was associated with person-activity fit. Specifically, neither hedonic nor eudaimonic well-being measures were significantly correlated with either: (a) trait-behaviour fit, (b) value-behaviour fit, or (c) goal-behaviour fit. In Studies 5 and 6, the two waves of data collected enabled me to examine if person-activity fit would moderate the changes in well-being rather than just be associated with a one-time measure of well-being. The findings indicated some support for person-activity fit as increases in life satisfaction were

significantly predicted by trait agency for careers fair attendees and increases in positive affect were significantly predicted by trait communion for volunteers. However, these findings were not consistently replicated across the other aspects of subjective-well-being, nor were they replicated in Study 6 (Chapter 6), in which there was no indication that agency and communion traits moderated the gains in well-being obtained from either agency behaviours or communion behaviours. Hence, overall there was little support for objective person-activity fit as predictor of well-being or increased well-being. The lack of support for person-activity fit cannot be attributed to self-selection biases as analyses in both Studies 5 and 6 showed no significant differences between the activities for trait agency or trait communion. However, there are several other possible explanations for these null findings.

Firstly, it could be the case that person-activity fit is a within person phenomenon influenced entirely by a person's perception of both themselves and also the activity/behaviour. There is some support for this in Study 6's finding that the extent to which participants perceived the assigned behaviour as fitting their traits significantly predicted increases in well-being. This suggests the well-being benefits an activity brings depends on whether the individual perceives the behaviour as fitting his or her own traits rather than the extent to which the behaviour actually fit the person's traits. Such findings mirror the results obtained in occupational psychology which finds subjective but not objective measures of person-job, person-occupation, and person-organization fit predict work satisfaction (Kristof-Brown & Guay, 2011).

Secondly, it could be the case that agency behaviours and communion behaviours increase well-being regardless of person-activity fit because

enacting these behaviours either creates favourable outcomes and/or satisfies universal needs, both of which are linked to higher well-being. The idea that agency and communion behaviours may create favourable outcomes is based on research that proposes conscientiousness and agreeableness create favourable outcomes associated with higher well-being (McCrae & Costa, 1991). Although conscientiousness and agreeableness are not the same as agency and communion, they are similar in the outcomes they produce. Conscientiousness and agency behaviours both promote achievement goals. Agreeableness and communion behaviours both aid positive interpersonal relationships. Both achievement and interpersonal relationships have been linked to higher well-being (Brunstein, 1993; Diener, Lucas, & Oishi, 2002; Diener & Seligman, 2002; Emmons, 1986; McGregor & Little, 1998; Reis & Gable, 2003; Sheldon et al., 2010). Alternatively, agency and communion behaviours may satisfy universal needs, the fulfilment of which is associated with higher well-being (Deci & Ryan, 1985). Specifically, agency behaviour encourages goal pursuit, independence and personal growth which may satisfy both competence and autonomy needs. Communion behaviours encourage connections with others and positive interpersonal relationships which may satisfy relatedness needs.

Thirdly, it is possible that no support for person-activity fit theory was found because agency and communion are such broad constructs that there is an increased chance of person-activity fit occurring as these behaviours may fit a person at a number of levels. For example agency behaviour may have fitted an individual who enjoys a challenge or who is conscientious or who enjoys feeling efficient or accomplished. Similarly,

communion behaviour may have fitted a person who is sociable or empathetic or has a high need for belonging.

Finally, it may be the case that person-activity fit enhances well-being gains for some people but not for others. Such an explanation suggests that a missing variable (such as openness to experience) may moderate the link between person-activity fit and changes to well-being. For example, it could be that individuals who are not open to new experiences need to obtain an adequate person-activity fit in order to increase their well-being whereas individuals who are open to new experiences do not need to obtain an adequate person-activity fit.

7.2.3.1 Summary: Person-activity fit

To summarize, my findings suggest subjective but not objective person-activity fit can influence well-being. However, further research is needed before this can be concluded definitively.

8.3 Assessing my contribution: Strengths and weaknesses

In the following section, I assess the main contributions of my thesis and note some strengths and also weaknesses.

8.3.1 The framework

As noted in Chapter 2, although past research has identified a number of activities or behaviours that people can participate in to enhance their own happiness, these have not stemmed from an overarching framework. Hence, the present thesis makes a novel contribution in this regard by being the first to apply a broad theoretical framework to examine behaviours that can increase

well-being. Below, I assess the framework in terms of its advancement of existing research, comprehensiveness and applied implications.

8.3.1.1 Can we separate agency from communion?

A key critique this thesis may face is the extent to which agency and communion are conceptually and empirically distinct. For instance, one could point to moral exemplars such as Mother Theresa who seemingly incorporated agency (a fierce ambition to use her competencies) and communion (to help others). This is an important critique to consider as if one construct is indistinguishable from the other then this could limit any conclusions drawn about the relative impact of these dimensions on well-being. In Chapter 2, the literature review demonstrates that these two constructs can be clearly and separately defined and that other published papers have employed measures of agency and communion behaviours (e.g., Saragovi et al., 1997, Fournier & Moskowitz, 2000). For example, unlike other high-order factor solutions (e.g., John & Srivastava, 1999) research has found that (a) agency and communion emerge across cultures (Abele, Uchronski, Suitner, & Wojciszke, 2008) and can be distinguished clearly even at early stages of information processing, such as recognition, categorization, and inference formation (Abele & Bruckmüller, 2011). In Chapter 3, although Study 1b agency behaviours and communion behaviours were significantly positively correlated they nonetheless emerged as two separate and distinct factors that are differentially associated with the satisfaction of basic needs (i.e., competence and relatedness). In summary, both the published literature and the present thesis strongly suggest that agency and communion are separable both conceptually and empirically.

8.3.1.2 Advancing existing research: New knowledge

Application of the framework has advanced research as instead of focusing on a stream of disparate happiness enhancing behaviours, the present thesis examined two broad categories of behaviour. This parsimonious focus revealed that divergent findings and questionable conceptualizations had resulted in unanswered questions about agency, communion and their relationship to well-being. Therefore, the present thesis advanced research by systematically addressing each of these questions using more appropriate conceptualizations and hence contributed further knowledge to this area of research. Unlike past research (Saragovi et al., 1997, 2002) the present thesis clearly distinguished between agency and communion as traits and as behaviours, making it possible to disentangle the relative contribution of both to an array of well-being measures. Distinguishing between traits and behaviours also enabled me to identify the relationship between agency and communion at both these levels. The present research also improved on past research (Saragovi et al., 1997, 2002) by developing and validating measures of agency and communion behaviours that are not based on an outdated and a now unsupported assumption, that agency is characteristic of men and communion is characteristic of women (Bakan, 1966; Twenge, 1997). I was therefore able to show that non-gender specific agency and communion behaviours are related to well-being. In addition, I also established the direction of causality between these behaviours and well-being by testing them in an intervention study. Hence, for the first time my data provide the first indication that agency and communion behaviours can improve well-being. Moreover, examining these behaviours within the same study enabled me to

compare their relative contribution to well-being and my findings strongly suggest that while both behaviours may be beneficial for well-being, it is not better for one's happiness to 'get ahead' more than it is to 'get along', or vice versa. In addition, I was able to take into consideration McNulty and Fincham's (2012) call for positive psychology to acknowledge that the same construct (e.g., kindness) can be detrimental as well as beneficial for one's well-being. Specifically, my findings suggest communion behaviour may only benefit well-being provided that it does not come at the cost of agency behaviour and vice versa. Such caveats are important to know about, particularly if these findings are used to increase well-being in vulnerable populations that may take these behaviours to the extreme in an attempt to maximize well-being.

Hence, it is clear that some further knowledge was gleaned by applying a framework and focusing on just two broad behaviours rather than a stream of disparate activities. However, to achieve a deeper understanding of the broad psychological factors behind well-being increases, it is necessary not only to know that these types of behaviours can increase well-being but also why they increase it. For instance, as noted above (see section 7.2.3) agency and communion behaviours may increase well-being because they create favourable outcomes such as promoting achievement goals and facilitating interpersonal relationships and/or because they satisfy the universal needs of autonomy, competence and relatedness. Hence, further research is needed to establish why agency and communion behaviours increase well-being.

8.3.1.3 *Comprehensiveness*

An advantage of the agency-communion framework is its comprehensiveness. Because of the construct's broad nature, the framework can encompass existing findings regarding behaviours and activities that can increase well-being. For instance, imagining best possible selves (Sheldon & Lyubomirsky, 2006b) can be subsumed under the category of agency and practising acts of kindness (Buchanan & Bardi, 2010) can be subsumed under the category of communion. However, a limitation is that, despite the breadth of the framework, it cannot encompass all interventions. For instance, practising gratitude (see review in Wood et al., 2010) or practising mindfulness (Grossman, Tiefenthaler-Gilmer, Raysz, & Kesper, 2007) cannot be categorized as either agentic or communal. This means that if the framework is to be entirely comprehensive it needs to include other broad constructs.

8.3.1.4 *Applied implications: A new approach for deriving happiness enhancing behaviours*

Whereas past research identified an almost random list of interventions by focusing on two broad factors, I was able to demonstrate that behaviours involving agency and/or communion are related to and can increase well-being. These findings could have important applied implications for future research. A top down approach could be applied to the formulation of new interventions whereby, rather than identifying specific happiness-enhancing activities researchers could derive happiness enhancing activities, from these broad behavioural constructs. This natural progression also occurred in personality research. Just as, until now, well-being researchers

have mainly identified specific happiness-enhancing activities, in the first half of the 1900's personality researchers were identifying specific traits (see historical review in John & Srivastava, 1999). However, the real progression in trait research mainly occurred after the establishment of the Big Five framework led to a top-down approach which guided subsequent research. Hence, just as a broad framework advanced personality research so too can a broad framework advance well-being research.

8.3.2 A new type of behaviour that can increase well-being

Another contribution of the present thesis is the identification of a new type of behaviour that can increase well-being: a-c behaviour. A-c behaviour was examined as it represented an additional means of testing Bakan's (1966) hypothesis that a balance of agency and communion are required for optimal well-being. Hence, alongside the typically employed method of examining if an interaction term comprised of agency and communion could predict well-being, I also examined if a-c behaviour could predict wellbeing. Testing Bakan's hypothesis using both methods turned out to be informative, as while an interaction term comprised of agency and communion behaviour did not significantly predict well-being, a-c behaviour did and it was also shown to significantly increase both positive affect and life satisfaction. Such findings suggest that when agency and communion co-occur in a single behaviour they become qualitatively distinct from the sum of agency and communion behaviour and so exert unique influences on well-being. Further support for this suggestion can also be found in the following results. Firstly, a-c behaviour was not significantly correlated with either agency behaviour or communion behaviour. Secondly, while an interaction term comprised of

agency and communion did not predict well-being, a-c behaviour did.

Thirdly, even when agency and communion behaviour were controlled for, a-c behaviour was still significantly positively correlated with all of the well-being measures. Finally, a-c behaviour was significantly positively correlated with social well-being whereas neither agency nor communion behaviour were.

Hence, by examining Bakan's (1966) hypothesis using a new approach, I identified a new type of behaviour qualitatively distinct from the sum of its separate components that is related to and can increase well-being.

Notably, a-c behaviour did not increase well-being significantly more than either agency or communion behaviour. However, when assessing the contribution of a-c behaviour it is important to note that it may improve individuals' well-being in a way that is also congruent with facilitating wellness at more collective levels, something past research has called for (Ryan & Deci, 2001). This is because a-c behaviours can benefit an individual and also others, something that is evident in the content of the behaviours used in this research (e.g., in Study 1 a-c behaviours included, "actively campaign for the rights of a group I belong to" and "make connections with others that might help both me and them in the future"). It is also evident in a-c behaviours unique association with social well-being, which in part measures social contribution. Also supporting this argument is research that found recipients of a national award for extraordinary volunteerism were higher in agency and communion than comparison participants and were more likely to integrate agency and communion within their personality (Frimer, Dunlop, Walker, Lee, & Riches, 2011). Future research should examine this new

category of behaviour further and could address the following research questions (and more besides).

8.3.3 Examining person-activity fit

By examining person-activity fit the present thesis went beyond previous research and considered if individual differences could moderate the relationship between agency and communion behaviours and well-being. Moreover, as scarce few positive psychology interventions have examined person-activity fit, the present thesis also contributed to the literature by testing person-activity fit quite thoroughly. This was done by using three different study designs (correlational, naturalistic, and experimental) and operationalizing person-activity fit both objectively (as trait-behaviour fit, value-behaviour fit, goal-behaviour fit) and subjectively (as the extent to which individuals perceived the behaviour as fitting their traits and values). This distinction emerged as important, as, while actual (objective) person-activity fit did not influence changes in well-being, self-perceived (subjective) person-activity fit did. These null results regarding objective person-activity fit emerged consistently throughout my research and represent an important contribution to existing research as they contradict past theoretical expectations (e.g., Lyubomirsky, 2008). However, a weakness of the present thesis and a weakness also observable in the few other positive psychology interventions examining person-activity fit (Giannopoulos & Vella-Brodrick; Sergeant & Mongrain, 2011; Sheldon & Lyubomirsky, 2006) is the way in which person-activity fit was tested in hindsight by examining if individual differences moderate gains in well-being. As Schueller (2011) notes, such an approach relies on random assignment resulting in behaviour conditions

containing some individuals who obtain an *adequate* person-activity fit and some individuals who obtain an *inadequate* person-activity fit. This approach is obviously not ideal, because individuals who obtain an inadequate person-activity fit and become miserable are unlikely to persevere with the behaviour and complete the second questionnaire, resulting in a biased sample.

Alternatively individuals who find their behaviour at odds to their traits may resolve this cognitive dissonance (Festinger, 1957) by concluding that they are doing this behaviour because it makes them happy. Instead, a more appropriate means of examining person-activity fit is to test the hypothesis a priori (as in Schueller, 2011 and also Silberman, 2007) by assigning some participants to person-activity fit conditions and some participants to person-activity misfit conditions and comparing the effect of condition (fit vs. misfit) on well-being. Hence, further research utilizing the afore mentioned design is needed to conclusively establish if person-activity fit can affect the gains in well-being agency and communion behaviours produce. Notably, such a study would need to make person-activity fit the main research question and not an additional research question of interest (unlike the present thesis which focused on establishing the relationship of agency and communion to well-being and addressed person-activity fit as a secondary question).

8.4 Future research

As noted throughout this discussion, there are ample opportunities for further research to extend and further validate this thesis' findings. Below I discuss two specific avenues for future research.

8.4.1 Agency, communion and well-being: A bi-directional relationship?

Notably, the present thesis only examined and established one direction of causality, that agency and communion behaviours can increase well-being. However, there was some indication in my findings that the other direction of causality is feasible, i.e., that well-being can increase agency and communion behaviours. This is because, although in the intervention (Study 6) agency behaviours and communion behaviours only significantly increased *certain* aspects of subjective well-being, in the correlational findings (Studies 1 and 2) both behaviours were significantly positively associated to *all* the subjective well-being aspects. To date, there is only minimal knowledge on this other direction of causality and existing research has yet to specifically examine if higher well-being can increase agency and communion behaviours. However, there is some support for this idea. For instance, some correlational findings suggest happy adolescents are more likely to have higher incomes as adults (De Neve & Oswald, 2012) and that employees in a good mood are more likely to behave pro-socially at work (George, 1991). Also some experiments show positive emotions can facilitate superior cognitive functions, including the ability to think broadly, rapidly integrate information and think creatively (see Fredrickson, 2003), and lead to co-operative and helpful behaviour (Isen & Levin, 1972).

To address this gap in the literature (and my thesis), future research could take a two-pronged approach. Firstly, it could employ multi-level modelling analyses such as growth curve modelling on a longitudinal dataset containing the variables of interest (agency, communion and well-being). This

information could be used to provide an estimate of how well the data fits each direction of causality. Of course, the correlative nature of the data would not allow firm conclusions of causality to be drawn, which is why the second prong of the experimental approach would be needed. These experiments would involve inducing positive/negative/neutral moods in participants by exposing them to various videos (see Fredrickson, 2003) and then asking participants to indicate if they would sign up to a series of activities involving predominantly agency or communion behaviour. In addition to the discrete (yes/no) dependent variable, continuous variables would be obtained by asking participants to indicate: (i) their willingness to participate in each behaviour using a Likert scale and (ii) the amount of time they would be willing to devote to each behaviour. Agency behaviours could include engaging in: (a) work experience as a research assistant, (b) extra revision classes and (c) attending seminars from professionals in the field about future career prospects. Communion behaviours could include: (a) helping a researcher by participating in unpaid experiments, (b) volunteering to demonstrate an experiment at a science fair and (c) donating a percentage of their participant fee to charity. Additionally, participants could indicate their current and future aspirations and these could be coded for agency/communion content. Notably, a weakness of this design is that it only examines future intention to participate in agency and communion behaviours. Another experiment would be needed to see if participants' mood influences their actual behaviour. One way of doing this would be to induce a positive/negative/neutral mood and then deceive participants into thinking they were playing a game against another participant and expose them to a "prisoners dilemma" type task and

see if they allocate the funds in a way that will enable them to ‘get ahead’ or to ‘get along’.

To take these experiments one step further and to examine if different aspects of subjective well-being are more likely to invoke agency behaviour than communion behaviour (or vice versa) one would also need to manipulate participant’s satisfaction with life and then give them the opportunity to engage in agency and communion behaviours. Seemingly, existing research has not manipulated life satisfaction, presumably because the satisfaction with life scale involves individuals making personalised evaluative judgements about their own lives depending on what aspects of life are important to them (e.g., friends, meaningful employment, money). However, perhaps this problem could be overcome by asking individuals to compare their own lives to that of a close friend or family member whom they believe to be either more or less satisfied with their lives. By imagining a close friend or family member (as opposed to an unknown/fictitious person after reading a vignette), participants would presumably be able to make “realistic” comparisons. I would expect that downward comparisons make participants feel more satisfied with their lives and upwards comparisons make participants feel less satisfied with their lives. Alternatively, perhaps life satisfaction could be manipulated by asking participants to write about the positive or negative aspects of their lives.

8.4.2 Why do agency and communion behaviours increase well-being?

In focusing on establishing that agency and communion behaviours are related to and can increase well-being, the present research overlooked an

important question which is “why do they increase well-being?”. To advance existing research, future research could examine if agency and communion behaviours are related to well-being because they satisfy universal needs. For example, agency behaviour may satisfy autonomy and competence needs (Deci & Ryan, 1985) as well as the need for positive self-regard (Heine, Lehman, Markus & Kitayama, 1999), while communion behaviour may satisfy relatedness needs (Deci & Ryan, 1985) and the need to belong (Baumeister & Leary, 1995). To examine these explanations, a questionnaire would be administered measuring agency and communion behaviours, well-being and need fulfilment. Analyses could then be conducted to examine if these factors mediated the relationship between agency and communion behaviour and well-being. To establish causality, a daily diary study could ask participants to report their agency and communion behaviours, well-being, need satisfaction and the outcomes. In addition, the intervention study carried out in Study 6 could be repeated but both the pre and post questionnaire should contain measures of need-fulfilment and favourable outcomes.

8.5 Summary and Conclusion

In summary, the present thesis found agency, communion and a-c behaviours are both related to and can increase well-being, regardless of objective person-activity fit. Findings showed that no one category of behaviour increased happiness significantly more than the others. However, the behaviours did differ in the extent to which they were associated with and increased different aspects of well-being. Specifically, while agency behaviour influenced positive affect the most, communion behaviour influenced life satisfaction the most. Interestingly, these behaviours were

more likely to increase well-being if participants perceived them as fitting their personality. Overall, findings suggested a balance of agency and communion was beneficial for well-being as (a) unmitigated agency and unmitigated communion behaviours were both associated with lower well-being and (b) a-c behaviour was related to and increased well-being.

The present thesis contributed to the literature in a number of ways. Firstly, for the first time, the present thesis applied a theoretical framework to examine behaviours that could increase well-being. In doing so it advanced existing research by addressing the questions past research had left unanswered and also provides a new approach to deriving future happiness enhancing behaviours. However, future research is needed to identify a more comprehensive framework that can encompass all the existing interventions. Secondly, the present thesis identified a new type of behaviour (a-c behaviour) that can increase well-being, which it found appeared to be qualitatively distinct from the sum of its separate components (i.e., agency behaviour and communion behaviour). Finally, for the first time, the present thesis examined if agency and communion behaviours only increase well-being for those who obtain a good person-activity fit. By conceptualizing person-activity fit both objectively and subjectively, this thesis discovered the extent to which an individual perceives behaviours as fitting his or her traits influences well-being but not the extent to which the behaviours actually fit the individual's traits.

To conclude, the present thesis revealed some interesting findings and contributed to the advancement of existing research. However, there is still ample scope for future research and it is hoped that the present thesis will

continue to advance existing research by stimulating further theoretical thinking and studies.

REFERENCES

- Abele, A. E. (2003). The dynamics of masculine-agentic and feminine-communal traits: Findings from a prospective study. *Journal of Personality*, 85, 768-776.
- Abele, A. E., Cuddy, A. J., Judd, C. M., & Yzerbyt, V. Y. (2008). Fundamental dimensions of social judgment. *European Journal of Social Psychology*, 38(7), 1063-1065.
- Abele, A. E., Uchronski, M., Suitner, C., & Wojciszke, B. (2008). Towards an operationalization of the fundamental dimensions of agency and communion: Trait content ratings in five countries considering valence and frequency of word occurrence. *European Journal of Social Psychology*, 38(7), 1202-1217.
- Abele, A. E., & Wojciszke, B. (2007). Agency and communion from the perspective of self versus others. *Journal of Personality and Social Psychology*, 93(5), 751-63.
- Adams, G. A., King, L. A., & King, D. W. (1996). Relationship of job and family involvement, family social support, and work-family conflict with job and life satisfaction. *Journal of Applied Psychology*, 81, 411-420.
- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, London, Sage.
- Aked, J., Michaeson, J., & Steuer, N. (2010). The role of local government in promoting well-being. Retrieved 7 December, 2011, from <http://www.idea.gov.uk/idk/aio/23693073>
- Allport, G. W. (1961). *Pattern and growth in personality*. New York: Holt, Rinehart & Winston.
- Allport, G.W. (1935). Attitudes. In C. Murchison (Ed) *Handbook of Social Psychology*.

- Andrews, F. M., & Withey, S. B. (1976). *Social indicators of well-being: America's perception of life quality*. New York: Plenum.
- Argyle, M. (1999). Causes and correlates of happiness. In D. Kahneman, E. Diener, & N. Schwarz (Eds.), *Well-being: The foundations of hedonic psychology*. New York: Russell Sage Foundation.
- Ashmore, R. (1990). Sex, gender and the individual. In L.A. Pervin (Ed.), *Handbook of personality: Theory and, research*, pp486-526.
- Aubé, J. (2008). Balancing concern for other with concern for self: links between unmitigated communion, communion, and psychological well-being. *Journal of Personality*, 76(1), 101-33.
- Autry, C. W., & Wheeler, A. R. (2005). Post-hire human resource management practices and person-organization fit: A study of blue-collar employees. *Journal of Managerial Issues*, 17, 58-75.
- Bakan, D. (1966). *The duality of human existence*. Chicago: Rand McNally.
- Baldassare, M., Rosenfield, S., & Rook, K.S. (1984). The types of social relations predicting elderly well-being, *Research on Aging*, 6, 549–559.
- Bardi, A., & Goodwin, R. (2011). The dual route to value change: Individual processes and cultural moderators. *Journal of Cross-Cultural Psychology*, 42, 271-287.
- Bardi, A., & Schwartz, S. H. (2003). Values and behaviour: Strength and structure of relations. *Personality and Social Psychology Bulletin*, 29, 1207-1220.
- Barrett, L. (1997). The relationships among momentary emotion experiences, personality descriptions, and retrospective ratings of emotion. *Personality and Social Psychology Bulletin*, 23, 1100-1110.

- Bassoff, E., & Glass, G. (1982). The relationship between sex roles and mental health: A meta-analysis of 26 studies. *The Counselling Psychologist, 10*(4), 105-112.
- Bauer, J.J., McAdams, D.P., & Pals, J.L. (2008). Narrative identity and eudaimonic well-being. *Journal of Happiness Studies, 9*(1), 81-104. DOI 10.1007/s10902-006-9021-6.
- Baumeister, R. R., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 117*, 497-529.
- Baumeister, R.F., & Tierney, J. (2011). *Willpower : Rediscovering the greatest human strength*. New York: Penguin Press.
- Bem, S. L. (1974). The measurement of psychological androgyny. *Journal of Clinical and Consulting Psychology, 42*, 155-162.
- Benet-Martinez, V., & John, O. P. (1998). *Los Cinco Grandes* across cultures and ethnic groups: Multitrait multimethod analyses of the Big Five in Spanish and English. *Journal of Personality and Social Psychology, 75*, 729-750.
- Bergeman, C. S., Plomin, R., Pedersen, N. L., & McClearn, G. E. (1991). Genetic mediation of the relationship between social support and psychological well-being. *Psychology & Aging, 6*, 640–646.
- Berrige, K.C. (1996). Food reward: brain substrates of wanting and liking. *Neuroscience and Biobehavioral Reviews, 20*, 1–25.
- Beutler, L. (1991). Have all won and must all have prizes? Revisiting Luborsky *et al.*'s verdict. *Journal of Consulting and Clinical Psychology, 59*(2), 226–232.
- Bilsky, W. & Schwartz, S. H. (1994). Values and personality. *European Journal of Personality, 8*, 163-181.

- Biswas-Diener, R., Vittersø, J., & Diener, E. (2005). Most people are pretty happy, but there is cultural variation: The Inughuit, the Amish, and the Maasai. *Journal of Happiness Studies*, *6*, 205–226.
- Boehm, J. K., & Lyubomirsky, S. (2009). The promise of sustainable happiness. In S. J. Lopez (Ed.), *Handbook of positive psychology* (2nd ed.; pp. 667-677). Oxford: Oxford University Press.
- Bonanno, G. A., Wortman, C. B., & Nesse, R. M. (2004). Prospective patterns of resilience and maladjustment during widowhood. *Psychology and Aging*, *19*, 260–271
- Bonanno, G. A., Wortman, C. B., Lehman, D. R., Tweed, R. G., Haring, M., Sonnega, J., et al. (2002). Resilience to loss and chronic grief: A prospective study from pre-loss to 18-months post-loss. *Journal of Personality and Social Psychology*, *83*, 1150–1164.
- Borgonovi, F. (2008). Doing well by doing good. The relationship between formal volunteering and self-reported health and happiness. *Social science & medicine*, *66*(11), 2321-34. doi:10.1016/j.socscimed.2008.01.011
- Boyce, C. J., Wood, A. M., & Powdthavee, N. (in press). Is personality fixed? Personality changes as much as "variable" economic factors and more strongly predicts changes to life satisfaction. *Social Indicators Research*.
- Bozionelos, N. (2004). Mentoring provided: Relation to mentor's career success, personality, and mentoring received. *Journal of Vocational Behaviour*, *64*(1), 24-46. doi:10.1016/S0001-8791(03)00033-2
- Bozionelos, N., & Bozinoleos, G. (2003) Instrumental and expressive traits: their relationship and their association with biological sex. *Social Behaviour and Personality*, *31*(4), 423 – 429.

- Bradburn, N. M. (1969). *The structure of psychological well-being*. Chicago: Alpine.
- Brajša-Žganec, A., Merkaš, M., & Šverko, I. (2011). Quality of life and leisure activities: How do leisure activities contribute to subjective well-being?. *Social Indicators Research*, *102*(1), 81-91.
- Brickman, P., & Campbell, D. T. (1971). Hedonic relativism and planning the food society. In M. H. Appley (Ed.), *Adaptation-level theory* (pp. 287-305). New York: Academic Press.
- Brickman, P., Coates, D., & Janoff-Bulman, R. (1978). Lottery winners and accident victims: Is happiness relative? *Journal of Personality and Social Psychology*, *36*, 917–927.
- Broeck, A., Vansteenkiste, M., Witte, H., Soenens, B., & Lens, W. (2010). Capturing autonomy, competence, and relatedness at work: Construction and initial validation of the Work-related Basic Need Satisfaction scale. *Journal of Occupational and Organizational Psychology*, *83*(4), 981-1002.
- Brock, D. (1993). Quality of life in health care and medical ethics. In M. Nussbaum and A. Sen (Eds.), *The Quality of Life* (pp. 95–132). Oxford: Clarendon Press.
- Bruch, M. A. (2002). The relevance of mitigated and unmitigated agency and communion for depression vulnerabilities and dysphoria. *Journal of Counseling Psychology*, *49*, 449-459.
- Brunstein, J. C. (1993). Personal goals and subjective well-being: A longitudinal study. *Journal of Personality and Social Psychology*, *65*, 1061 – 1070.
- Brunstein, J. C., Dangelmayer, G., & Schultheiss, O. C. (1996). Personal goals and social support in close relationships: Effects on relationship mood and marital satisfaction. *Journal of Personality and Social Psychology*, *71*(5), 1006 -1019.

- Brunstein, J. C., Schultheiss, O. C., & Graessman, R. (1998). Personal goals and emotional well-being: The moderating role of motive dispositions. *Journal of Personality & Social Psychology*, 75, 494–508.
- Buchanan, K. E., & Bardi, A. (2010). Acts of kindness and acts of novelty affect life satisfaction. *Journal of Social Psychology*, 150(3), 235-237.
- Buhrmester, M., Kwang, T., & Gosling, S. D. (2011). Amazon's Mechanical Turk A New Source of Inexpensive, Yet High-Quality, Data?. *Perspectives on Psychological Science*, 6(1), 3-5.
- Burda, P. C, Vaux, A., & Schill, T. (1984). Social support resources: Variation across sex and sex role. *Personality and Social Psychology Bulletin*, 10, 119-126.
- Burton, C. M., & King, L. A. (2004). The health benefits of writing about intensely positive experiences. *Journal of Research in Personality*, 38, 150–163
- Busch, J. (1985) Mentoring in graduate schools of education: Mentors' perceptions, *American Educational Research Journal*, 22(2), 257- 265.
- Buss, D.M. & Craik, K.H. (1983). The act frequency approach to personality. *Psychological Review*, 90, 105-126.
- Butler, T, Giordano, S., & Neren, S. (1985). Gender and sex-role attributes as predictors of utilization of natural support systems during personal stress events. *Sex Roles*, 13, 515-524.
- Byrne, B. (2011). *Structural equation modelling with AMOS. Basic concepts, applications, and programming*. New York: Routledge.
- Cacioppo, J. T., Gardner, W. L., & Berntson, G. G. (1999). The affect system has parallel and integrative processing components: Form follows function. *Journal of Personality and Social Psychology*, 76, 839–855.

- Cameron, D. (2010, 25 November). PM speech on well-being. *The Official Site of the British Prime Minister's Office*. Retrieved December 7, 2011, from <http://www.number10.gov.uk/news/pm-speech-on-well-being/>
- Campbell, A., Converse, P. E., & Rodgers, W. L. (1976). *The quality of American life: Perceptions, evaluations, and satisfactions*. New York: Russell Sage Foundation.
- Cantor, N., & Sanderson, C. A. (1999). Life task participation and well-being: The importance of taking part in daily life. In D. Kahneman, E. Diener, & N. Schwartz (Eds.), *Well-being: The foundations of hedonic psychology* (pp. 230–243). New York: Russell Sage Foundation.
- Carstensen, L. L., & Cone, J. D. (1983). Social desirability and the measurement of psychological well-being in elderly persons. *Journal of Gerontology*, 38(6), 713-715.
- Case, A., & Paxson, C. (2005). Sex differences in morbidity and mortality. *Demography*, 42, 189-214.
- Cattan, M., Hogg, E., & Hardill, I. (2011). Improving quality of life in ageing populations: what can volunteering do? *Maturitas*, 70(4), 328-32. doi:10.1016/j.maturitas.2011.08.010
- Chan, V.Y., Dougan, C.M., & Rector, N.A. (2012). Examination of coping in the anxiety disorder with and without comorbid depression. *International Journal of Cognitive Therapy*, 2, 186-196.
- Chaplin W. F. (1997). Personality, interactive relations, and applied psychology. In R. Hogan, J. Johnson, & S. R. Briggs, R. (Eds.), *Handbook of personality psychology*. Orlando, FL: Academic Press. (pp. 873-890.)

- Chaplin, W. F. (1991). The next generation of moderator research in personality psychology. *Journal of Personality*, *59*, 143-178.
- Chapman, N. J., Ingersoll-Dayton, B., & Neal, M. B. (1994). *Balancing the multiple roles of work and caregiving for children, adults, and elders*. In G. W. Keita & J. J. Hurrell (Eds.), *Job stress in a changing workforce: Investigating gender, diversity, and family issues* (pp. 283–300). Washington, DC: American Psychological Association.
- Charles, S. T., Reynolds, C. A., & Gatz, M. (2001). Age-related differences and change in positive and negative affect over 23 years. *Journal of Personality and Social Psychology*, *80*, 136–151.
- Chatard, A., & Selimbegovic, L. (2007). The impact of higher education on egalitarian attitudes and values: Contextual and cultural determinants. *Social and Personality Psychology Compass*, *1*, 541-556.
- Clark, A. E., Frijters, P., & Shields, M. A. (2006). Income and happiness: Evidence, explanations and economic implications.
- Clark, A.E., Georgellis, Y., Lucas, R.E. & Diener, E. (2004). Unemployment alters the set point for life satisfaction. *Psychological Science*, *15*, 8-13.
- Cnaan R, Handy F, Wadsworth M. 1996. Defining who is a volunteer: conceptual and empirical considerations. *Non-profit Volunteer Sector Quarterly*, *25*, 364-383.
- Cnaan R., & Amroffell L. (1994). Mapping volunteer activity. *Non-profit Volunteer Sector Quarterly*, *23*, 335- 354.
- Cohen, A., & Shamai, O. (2010). The relationship between individual values, psychological well-being, and organizational commitment among Israeli police officers. *Policing: An International Journal of Police Strategies & Management*, *33*(1), 30-51.

- Colley, A., Maltby, J., Mulhern, G., & Wood, A. M. (2009). The Short Form BSRI: Structure among a United Kingdom sample. *Personality and Individual Differences, 46*, 384-387.
- Costa, P.T. & McCrae, R.R. (1980). Influences of extraversion and neuroticism on subjective well-being, *Journal of Personality and Social Psychology, 38*, 668-78.
- Costello, A. B. & Osborne, J. W. (2005). Best practices in exploratory factor analysis: four recommendations for getting the most from your analysis. *Practical Assessment Research & Evaluation, 10*(7). Available online: <http://pareonline.net/getvn.asp?v=10&n=7>
- Crowne, D. P., & Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology, 24*(4), 349-354.
- Csikszentmihalyi, M. (1999). If we are so rich, why aren't we happy?. *American Psychologist, 54*(10), 821.
- Csikszentmihalyi, M. (1990). *Flow*. New York: Harper & Row.
- Cuddy, A. J., Fiske, S. T., & Glick, P. (2008). Warmth and competence as universal dimensions of social perception: The stereotype content model and the BIAS map. *Advances in experimental social psychology, 40*, 61-149.
- Danoff-Burg, S., Revenson, T.A., Trudeau, K.J., & Paget, S.A.(2004). Unmitigated communion, social constraints, and psychological distress among women with rheumatoid arthritis. *Journal of Personality, 72*, 29-46.
- Davidson, R. J., Jackson, D. C., & Kalin, N. H. (2000). Emotion, plasticity, context, and regulation: perspectives from affective neuroscience. *Psychological Bulletin, 126*(6), 890.
- De Charms, R. (1968). *Personal causation: The internal affective determinants of behavior* (pp. 319-353). New York: Academic Press.

- Deci, E. L. (1975). *Intrinsic motivation*. New York: Plenum Press.
- Deci, E. L. & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behaviour*. New York: Plenum Press.
- Deci, E. L., & Ryan, R. M. (2000). The “what” and “why” of goal pursuits: Human needs and the self-determination of behaviour. *Psychological Inquiry*, *11*, 227–268.
- Deci, R.M, & Ryan, D.L. (2008). Hedonia, eudaimonia, and well-being: An introduction. *Journal of Happiness Studies*, *9*, 1-11.
- Demir, M., & Weitekamp, L. A.(2007). I am so happy cause today i found my friend: friendship and personality as predictors of happiness. *Review Literature And Arts Of The Americas*, *8*, 181-211. doi:10.1007/s10902-006-9012-7
- De Neve, J. E. (2011). Functional Polymorphism (5-HTTLPR) in the Serotonin Transporter Gene is Associated with Subjective Well-Being: Evidence from a U.S. Nationally Representative Sample. *Journal of Human Genetics*, *56*, 456-459.
- De Neve, J. E., Fowler, J. H., Frey, B. S., & Christakis, N. A. (2010). Genes, Economics, and Happiness" *Institute for Empirical Research in Economics (University of Zurich) Working Paper No. 475*. Retrieved from Social Science Network website: <http://ssrn.com/abstract=1553633>
- DeNeve, J., & Oswald, A.J. (2012). *Happiness pay: Measuring the Effect of Subjective Well-Being on Later Income Using Sibling Fixed Effects*. Paper presented at the Royal Economic Society Annual Conference paper, University of Cambridge, United Kingdom.

DeNeve, K.M., & Cooper, H. (1998). The happy personality: A meta- analysis of 137 personality traits and subjective well-being. *Psychological Bulletin*, 124, 197–229.

Department for Environment, Food and Rural Affairs, DEFRA (2007). Retrieved 5th April 2009 from:
<http://www.defra.gov.uk/sustainable/government/what/priority/wellbeing/index.html>

Diener, E., & Biswas-Diener, R. (2002). Will money increase subjective well-being?. *Social Indicators Research*, 57(2), 119-169.

Diener, E. & Chan, M.Y. (2011). Happy People Live Longer: Subjective Well-Being Contributes to Health and Longevity. *Applied Psychology: Health and Well-being*, 3 (1), 1–43.

Diener, E. (1994). Assessing subjective well-being: Progress and opportunities. *Social Indicators Research*, 31, 103-157.

Diener, E., & Diener, M. (1995). Cross-cultural correlates of life satisfaction and self-esteem. *Journal of Personality and Social Psychology*, 68, 653-663.

Diener, E., Emmons, R., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, 49, 71-75.

Diener, E., Kesebir, P., & Tov, W. (2009). Happiness. In M. R. Leary, & R. H. Hoyle, (Eds.), *Handbook of individual differences in social behaviour* (pp. 147-160). New York: The Guilford Press.

Diener, E., Oishi, S., & Lucas, R. E. (2002). Subjective well-being: The science of happiness and life satisfaction. In C.R. Snyder & S.J. Lopez (Ed.), *Handbook of Positive Psychology*. Oxford and New York : Oxford University Press.

- Diener, E., Sandvik, E., Pavot, W., & Gallagher, D. (1991). Response artifacts in the measurement of subjective well-being. *Social Indicators Research*, 24(1), 35-56.
- Diener, E., & Seligman, M. E. (2002). Very happy people. *Psychological Science*, 13(1), 81–84.
- Diener, E., Smith, H., & Fujita, F. (1995). The personality structure of affect. *Journal of Personality and Social Psychology*, 69, 130–141.
- Diener, E., Eunkook, M.S., Lucas, R.E., & Smith, H.L. (1999). Subjective Well-Being: Three Decades of Progress. *Psychological Bulletin*, 125(2), 276-302.
- Diener, E., & Suh, E. (1997). Measuring quality of life: Economic, social, and subjective indicators. *Social Indicators Research*, 40(1-2), 189-216.
- Dolan, P., Peasgood, T., & White, M. (2008). Do we really know what makes us happy? A review of the economic literature on the factors associated with subjective well-being. *Journal of Economic Psychology*, 29, 94–122.
- DuBois, D. L., & Silverthorn, N. (2005). Natural mentoring relationships and adolescent health: evidence from a national study. *American Journal of Public Health*, 95(3), 518-24. doi:10.2105/AJPH.2003.031476
- Dunn, E. W., Aknin, L. B., & Norton, M. I. (2008). Spending money on others promotes happiness. *Science*, 58(1), 1687- 1688.
- Ebstein, R. B., Novick, O., Umansky, R., Priel, B., & Osher, Y. (1996). Dopamine D4 receptor (D4DR) exon III polymorphism associated with the human personality trait of novelty seeking. *Nature Genetics*, 12, 78 – 80.
- Eccles, J.S., & Barber, B.L. (1999). Student council, volunteering, basketball or marching band: What kind of extracurricular involvement matters? *Journal of Adolescent Research*, 14(1), 10-43.

- Emmons, R. A., & McCullough, M. E. (2003). Counting blessings versus burdens: An experimental investigation of gratitude and subjective well-being in daily life. *Journal of Personality and Social Psychology, 84*, 377-389.
- Emmons, R.A. (1986). Personal Strivings: An approach to personality and subjective-well-being. *Journal of Personality and Social Psychology, 47*, 1105-1117.
- Erikson, E.H. (1963). *Childhood and society* (2nd ed.). New York: Norton.
- Erikson, E. H. (1968). *Identity: youth and crisis*. New York: Norton.
- Evans, R. G., & Dinning, W. D. (1982). MMPI correlates of the Bern Sex Role Inventory and Extended Personal Attributes Questionnaire in a male psychiatric sample. *Journal of Clinical Psychology, 38*, 811 - 815.
- Fabrigar, L. R., Wegener, D. T., MacCallum, R. C., & Strahan, E. J. (1999). Evaluating the use of exploratory factor analysis in psychological research. *Psychological Methods, 4*(3), 272.
- Feather, N. T. (1995). Values, valences, and choice: The influence of values on the perceived attractiveness and choice of alternatives. *Journal of Personality and Social Psychology, 68*, 1135-1151.
- Ferguson, G., Conway, C., Endersby, L., & MacLeod, A. (2009). Increasing subjective well-being in long-term forensic rehabilitation: evaluation of well-being therapy. *Journal of Forensic Psychiatry & Psychology, 20*(6), 906-918. doi:10.1080/14789940903174121
- Festinger, L. (1957). *A Theory of Cognitive Dissonance*. Evanston, IL: Row, Peterson & Company.
- Fiske, S. T., Cuddy, A. J., Glick, P., & Xu, J. (2002). A model of (often mixed) stereotype content: competence and warmth respectively follow from

- perceived status and competition. *Journal of Personality and Social Psychology*, 82(6), 878
- Flanagan, T. J. (1980). Time served and institutional misconduct: Patterns of involvement in disciplinary infractions among long-term and short-term inmates. *Journal of Criminal Justice*, 8, 357-367.
- Fleming, K. (1991) Mentoring. Is it the key to opening doors for women in educational administration? *Education Canada*, 31(3), 27-33.
- Field., A.P. (2004). *Discovering statistics using SPSS: advanced techniques for the beginner*. (2nd edition). London: Sage.
- Fontaine, J. R. J., Poortinga, Y. H., Delbeke, L., & Schwartz, S. H. (2008). Structural equivalence of the values domain across cultures: Distinguishing sampling fluctuations from meaningful variation. *Journal of Cross Cultural Psychology*, 39, 345–365.
- Fordyce, M. W. (1977). Development of a program to increase personal happiness. *Journal of Counseling Psychology*, 24(6), 511-521. doi:10.1037/0022-0167.24.6.511
- Fordyce, M. W. (1983). A program to increase happiness: Further studies. *Journal of Counseling Psychology*, 30(4), 483-498. doi:10.1037/0022-0167.30.4.483
- Fournier, M.A. & Moskowitz, D.S. (2000). The mitigation of interpersonal behaviour. *Journal of Personality and Social Psychology*, 79(5), 827-836.
- Fournier, M. A., Moskowitz, D. S., & Zuroff, D. C. (2009). The interpersonal signature. *Journal of Research in Personality*, 43(2), 155-162.
- Frederick, S., & Lowenstein, G. (1999). Hedonic adaptation. In D. Kahneman, E. Diener, & N. Schwarz (Eds.), *Well-being: The foundations of hedonic psychology* (pp. 302–329). New York: Sage.

- Fredrickson, B. (2003). The value of positive emotions: the emerging science of positive psychology is coming to understand why it's good to feel good. *American Scientist*, *91* (4), 330-335.
- Fredrickson, B.L., Branigan, C.A. (2005). Positive emotions broaden the scope of attention and thought-action repertoires. *Cognition and Emotion*, *19* (3), 13–332.
- Freedman, J. (1978). *Happy People: What Happiness Is, Who Has It, and Why*. New York :Harcourt Brace Jovanovic.
- Frey, B.S., & Stutzer, A. (2002). *Happiness and economics: How the economy and institutions affect human well-being*. Princeton, NJ: Princeton University Press
- Friedman, H. S. (Ed.). (1990). *Personality and disease*. New York: John Wiley.
- Frimer, J. A., Walker, L. J., Dunlop, W. L., Lee, B. H., & Riches, A. (2011). The integration of agency and communion in moral personality: Evidence of enlightened self-interest. *Journal of Personality and Social Psychology*, *101*(1), 149-63. doi:10.1037/a0023780
- Frimer, J. A., & Walker, L. J. (2009). Reconciling the self and morality: An empirical model of moral centrality development. *Developmental Psychology*, *45*(6), 1669.
- Frimer, J. A., Walker, L. J., Lee, B. H., Riches, A., & Dunlop, W. L. (2012). Hierarchical integration of agency and communion: A study of influential moral figures. *Journal of Personality*, *80*(4), 1117-1145.
- Fritz, H.L. (2000). Gender-linked personality traits predict mental health and functional status following a first coronary event. *Health Psychology*, *19*, 420-428.

- Fritz, H. L., Nagurney, A. J., & Helgeson, V. S. (2003). Social interactions and cardiovascular reactivity during problem disclosure among friends. *Personality and Social Psychology Bulletin*, 29, 713-725.
- Fujita, F., & Diener, E. (2005). Life satisfaction set point: Stability and change. *Journal of Personality and Social Psychology*, 88, 158–164.
- Gagne, M. (2003). Autonomy support and need satisfaction in the motivation and well-being of gymnasts. *Journal of Applied Sport Psychology*, 15(4), 372-390.
- Garfield, S.L. & Bergin, A.E. (Eds.) (1986). *Handbook of psychotherapy and behaviour change*. (3rd ed.). New York: Wiley.
- Gergen, K.J. (1985). The social constructionist movement in modern psychology. *The American Psychologist*, 40(3), p.266-275.
- George, J.M. (1991). State or trait: Effects of positive mood on pro-social behaviours at work. *Journal of Applied Psychology*, 76(2), 299-307. Doi: 10.1037/0021-9010.76.2.299
- Giannopoulos, V. L., & Vella-Brodrick, D. a. (2011). Effects of positive interventions and orientations to happiness on subjective well-being. *The Journal of Positive Psychology*, 6(2), 95-105. doi:10.1080/17439760.2010.545428.
- Gilbert, T. (2006). *Stumbling on Happiness*. Knopf: New York.
- Gleibs, I.H., Sonnenberg, S., & Haslam, C. (under review). “We get to decide”: The role of collective engagement in counteracting feelings of confinement and lack of autonomy in residential care.
- Glorfeld, L. W. (1995). An improvement on Horn's parallel analysis methodology for selecting the correct number of factors to retain. *Educational and Psychological Measurement*, 55(3), 377-393.

- Graham, C., Eggers, A., & Sukhtankar, S. (2004). Does happiness pay? An exploration based on panel data from Russia. *Journal of Economic Behaviour & Organization*, 55, 319-342.
- Grant, S., Langan-Fox, J., & Anglim, J. (2009). Big Five Traits as predictors of subjective and psychological well-being. *Psychological Reports*, 105, 201-231.
- Grant-Vallone, E. J., & Donaldson, S. I. (2001). Consequences of work-family conflict on employee well-being over time. *Work & Stress*, 15, 214–226.
- Green, L. S., Oades, L. G., & Grant, A. M. (2006). Cognitive-behavioural, solution-focused life coaching: Enhancing goal striving, well-being, and hope. *The Journal of Positive Psychology*, 1(3), 142-149.
doi:10.1080/17439760600619849
- Greenfield, E. a, & Marks, N. F. (2004). Formal volunteering as a protective factor for older adults' psychological well-being. *The journals of gerontology. Series B, Psychological sciences and social sciences*, 59(5), S258-64. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/15358800>
- Grossman, P., Tiefenthaler-Gilmer, U., Raysz, A., & Kesper, U. (2007). Mindfulness training as an intervention for fibromyalgia: Evidence of post intervention and 3-year follow-up benefits in well-being. *Psychotherapy and Psychosomatics*, 76, 226–233.
- Hagemeyer, B., & Neyer, F. J. (2012). Assessing implicit motivational orientations in couple relationships: The Partner-Related Agency and Communion Test (PACT). *Psychological assessment*, 24(1), 114.
- Hamer, D. H. (1996). The heritability of happiness. *Nature Genetics*, 14, 125-6.
- Harlow, H. F. (1958). The nature of love. *American Psychologist*, 13, 673–685.

- Harlow, R. E., & Cantor, N. (1996). Still participating after all these years: A study of life task participation in later life. *Journal of Personality and Social Psychology, 71*, 1235–1249.
- Harris, J.R., Pedersen, N.L., Stacey, C., McClearn, G.E. & Nesselroade, J.R. (1992). Age differences in the etiology of the relationship between life satisfaction and self-rated health. *Journal of Aging and Health, 4*, 349-368.
- Hartig, T., Evans, G., Jammer, L., Davis, D., & Garling, T. (2003). Tracking restoration in natural and urban field settings. *Journal of Environmental Psychology, 23*, 109-123.
- Haslam, N., Whelan, J. & Bastian, B. (2009). Big Five traits mediate associations between values and subjective well-being, *Personality and Individual Differences, 46*, 40–42.
- Hayton, J. C., Allen, D. G., & Scarpello, V. (2004). Factor retention decisions in exploratory factor analysis: A tutorial on parallel analysis. *Organizational research methods, 7*(2), 191-205.
- Headey, B.W. (2006). Happiness: extending dynamic equilibrium theory to account for both short term stability and long term change, *Social Indicators Research, 79*, 369-403.
- Heine, S.H., Lehman, D.R., Markus, H.R., & Kitayama, S. (1999). Is there a universal need for positive self-regard? *Psychological Review, 106*, 766–794.
- Helegeson, V.S. (1995). Masculinity, men's roles and coronary heart disease. In D.F. Sabo & D.F. Gordon (Eds) *Men's health and illness: Gender, power, and the body* (pp.68-104). Thousand Oaks, CA: Sage.
- Helgeson, V. S. (1994). Relation of agency and communion to well-being: Evidence and potential explanations. *Psychological Bulletin, 116*, 412-428.

- Helgeson, V. S., & Fritz, H. L. (1999). Unmitigated agency and unmitigated communion: Distinctions from agency and communion. *Journal of Research in Personality*, 33, 131-158.
- Helgeson, V. S., & Fritz, H. L. (2000). The implications of unmitigated agency and unmitigated communion for domains of problem behaviour. *Journal of Personality*, 68(6), 1031-1057.
- Helgeson, V. S., & Palladino, D. K. (2012). Agentic and communal traits and health: adolescents with and without diabetes. *Personality & Social Psychology Bulletin*, 38(4), 415-28. doi:10.1177/0146167211427149
- Helgeson, V.S. & Fritz, H.L. (1996). Implications of unmitigated communion and communion for adolescent adjustment to type I diabetes. *Women's Health: Research on Gender, Behaviour, and Policy*, 2, 163-188.
- Helgeson, V.S. (1990). The role of masculinity in a prognostic predictor of heart attack severity. *Sex Roles*, 22, 755-774.
- Helgeson, V.S. (1993). Implications of agency and communion for patient and spouse adjustment to a first coronary event. *Journal of Personality and Social Psychology*, 116, 412-428.
- Helgeson, V.S., & Fritz, H.L. (1998). A theory of unmitigated communion. *Personality and Social Psychology Review*, 2, 173-183.
- Heller, D., Watson, D., Hies, R. (2004). The role of person versus situation in life satisfaction: A critical examination. *Psychological Bulletin*, 130, 574-600.
- Helmreich, R. L., Spence, J. T., & Wilhelm, J. A. (1981). A Psychometric Analysis of the Personal Attributes Questionnaire. *Sex Roles*, 7 (11), 1097-108.
- Higgins, E. T. (1987). Self-discrepancy; A theory relating self and affect, *Psychological Review*, 94, 319-340.

- Hitlin, S., & Piliavin, J. A. (2004). Values: Revising a dormant concept. *Annual Review of Sociology*, 30(10), 359-393.
- Hodgins, H. S., Koestner, R., & Duncan, N. (1996). On the compatibility of autonomy and relatedness. *Personality and Social Psychology Bulletin*, 22, 227-237.
- Hogan, R. (1983). *A Socioanalytic Theory of personality*. In M. M. Page (Ed.), Nebraska symposium on motivation (pp. 55-89). Lincoln: University of Nebraska Press.
- Holahan, C. K., & Spence, J. T. (1980). Desirable and undesirable masculine and feminine traits in counselling clients and unselected students. *Journal of Consulting and Clinical Psychology*, 48, 300-302.
- Horn, J. L. (1965). A rationale and test for the number of factors in factor analysis. *Psychometrika*. 30. 179-185.
- Horowitz, L. M., Wilson, K. R., Turan, B., Zolotsev, P., Constantino, M. J., & Henderson, L. (2006). How interpersonal motives clarify the meaning of interpersonal behavior: A revised circumplex model. *Personality and Social Psychology Review*, 10(1), 67-86.
- Hsee, C. K., & Hastie, R. (2006). Decision and experience: why don't we choose what makes us happy?. *Trends in Cognitive Sciences*, 10(1), 31-37.
- Hunter, K., & Linn, M. (1981). Psychological differences between elderly volunteers and non-volunteers. *International Journal of Aging and Human Development*, 12, 205-213.
- Huppert, F.A. (2009). Psychological Well-Being: Evidence regarding its causes and consequences. *Applied Psychology: Health and Well-Being*, 1(2), 137-164.
- Ilardi, B. C., Leone, D., Kasser, T., & Ryan, R. M. (1993). Employee and Supervisor Ratings of Motivation: Main Effects and Discrepancies Associated with Job

- Satisfaction and Adjustment in a Factory Setting¹. *Journal of Applied Social Psychology*, 23(21), 1789-1805.
- Inglehart, R., Foa, R., Peterson, C., & Welzel, C. (2008). Development, freedom, and rising happiness: A global perspective (1981–2007). *Perspectives On Psychological Science*, 3(4), 264-285.
- Isen, A. N., & Levin, P. F. (1972). Effect of feeling good on helping: Cookies and kindness. *Journal of Personality and Social Psychology*, 21(3), 384 – 388.
Doi:10.1037/h0032317
- Jacobs Bao, K., & Lyubomirsky, S. (in press). The rewards of happiness. In I. Boniwell & S. David (Eds.), *Oxford handbook of happiness*. Oxford: Oxford University Press.
- Jensen, J. P. & Bergin, A. E. (1988). Mental health values of professional therapists: A national interdisciplinary survey. *Professional Psychology: Research and Practice*, 19, 290-297.
- John, O. P., & Srivastava, S. (1999). The big five trait taxonomy: History, measurement and theoretical perspectives. In L.A. Pervin, & O.P.John, (Eds.), *Handbook of personality* (pp.102-139). New York, NY: The Guildford Press
- John, O. P., Donahue, E. M., & Kentle, R. L. (1991). The Big Five Inventory-- Versions 4a and 54. Berkeley, CA: University of California, Berkeley, Institute of Personality and Social Research.
- Johnson, M. (1988). Influences of gender and sex-role orientation on help-seeking attitudes. *Journal of Psychology*, 122, 237-241.
- Johnson, M. K., Beebe, T., Mortimer, J. T., & Snyder, M. (1998). Volunteerism in Adolescence: A process perspective. *Journal of Research on Adolescence*, 8(3), 309- 332.

- Joshanloo, M., & Ghaedi, G. (2009). Value priorities as predictors of hedonic and eudaimonic aspects of well-being. *Personality and Individual Differences, 47*, 294–298.
- Judd, C., James-Hawkins, L., Yzerbyt, V., & Kashima, Y. (2005). Fundamental dimensions of social judgment: Understanding the relations between judgments of competence and warmth. *Journal of Personality and Social Psychology, 89*, 899-913.
- Kahneman, D., & Deaton, A. (2010). High income improves evaluation of life but not emotional well-being. *Proceedings of the National Academy of Sciences, 107*(38), 16489-16493.
- Kahneman, D., Diener, E., & Schwartz, N. (1999). *Well-being: The foundations of hedonic psychology*. New York: Russell Sage Foundation.
- Kane, R. A. (2003). Definition, measurement, and correlates of quality of life in nursing homes: Toward a reasonable practice, research, and policy agenda. *The Gerontologist, 43*(2), 28-36.
- Kanter, R. M. (1985). *Mentoring at work*. Glenview, IL.: Scott, Foresman.
- Karabati, S., & Cemalcilar, Z. (2010). Values, materialism, and well-being: A study with Turkish university students. *Journal of Economic Psychology, 31*(4), 624-633.
- Kashdan, T.B., Biswas-Diener, R., & King, L.A. (2008). Reconsidering happiness: the costs of distinguishing between hedonia and eudaimonia. *The Journal of Positive Psychology, 3*(4), 219-233.
- Kashdan, T. B., & Breen, W. E. (2007). Materialism and diminished well-being: Experiential avoidance as a mediating mechanism. *Journal of Social and Clinical Psychology, 26*(5), 521-539.

- Kasser, T. & Ahuvia, A.C. (2002). Materialistic values and well-being in business students, *European Journal of Social Psychology*, 32, 137–146.
- Kelley, H. H., Holmes, J. G., Kerr, N. L., Reis, H. T., Rusbult, C. E., & Van Lange, P. A. M. (2003). *An atlas of interpersonal situations*. New York: Cambridge University Press.
- Kasser, T., & Ryan, R. M. (1996). Further examining the American dream: Differential correlates of intrinsic and extrinsic goals. *Personality & Social Psychology Bulletin*, 22, 280-280.
- Kasser, T., & Ryan, R. M. (1993). A dark side of the American dream: correlates of financial success as a central life aspiration. *Journal of Personality and Social Psychology*, 65(2), 410.
- Keyes, C. L. M. (2009). The nature and importance of mental health in youth. In R. Gilman, M. Furlong, & E. S. Heubner (Eds.), *Promoting Wellness in Children and Youth: A Handbook of Positive Psychology in the Schools* (pp.9-23). New York: Routledge.
- Keyes, C. L. M. (1998). Social well-being. *Social Psychology Quarterly*, 61, 121–140.
- Keyes, C. L. M. (2000). Subjective change and its consequences for emotional well-being. *Motivation and Emotion* 24, 67-84.
- Keyes, C. L. M. (2002b). The mental health continuum: From languishing to flourishing in life. *Journal of Health and Social Behaviour*, 43, 207-222.
- Keyes, C. L. M., & Ryff, C. D. (1998). *Generativity in adult lives: Social structural contours and quality of life consequences*. In D. P. McAdams & E. de St. Aubin (Eds.), *Generativity and adult development: How and why we care for*

- the next generation (pp. 227-263). Washington, D.C.: American Psychological Association.
- Keyes, C.L.M. (2002a). Complete mental health: An agenda for the 21st century. In C.L.M. Keyes & J. Haidt (Eds.), *Flourishing: Positive psychology and the life well-lived* (pp. 293–312). Washington, DC: American Psychological Association.
- Keyes, C.L.M., Shmotkin, D., & Ryff, C.D. (2002). Optimizing well-being: The empirical encounter of two traditions. *Journal of Personality and Social Psychology*, 82, 1007–1022.
- Kiesler, D. (1996). Some myths of psychotherapy research and the search for a paradigm. *Psychological Bulletin*, 65(2), 110–136.
- Kiesler, D. J., & Auerbach, S. M. (2003). Integrating measurement of control and affiliation in studies of physician-patient interaction: The interpersonal circumplex. *Social Science and Medicine*, 57, 1707-1722.
- King, L. A. (2001). The health benefits of writing about life goals. *Personality and Social Psychology Bulletin*, 27, 798–807.
- King, L. A., & Miner, K. N. (2000). Writing about the perceiving benefits of traumatic events: Implications for physical health. *Personality and Social Psychology Bulletin*, 26, 220- 230.
- Kline, S. R. (1999). *Langmuir*, 15, 2726-2732.
- Kluckhohn, C. (1951). Values and value-orientations in the theory of action: An exploration in definition and classification. In T. Parsons & E. Shils (Eds.), *Toward a general theory of action* (pp. 388-433). Cambridge, MA: Harvard University Press.
- Kohn, M. L. (1969). *Class and conformity*. Homewood, Il: Dorsey Press.

- Kotre, J. (1984). *Outliving the self: Generativity and the interpretation of lives*.
Baltimore: John Hopkins.
- Kristof-Brown, A. & Guay, R. P. (2011). Person-environment fit. *APA handbook of industrial and organizational psychology*, Vol. 3: Maintaining, expanding, and contracting the organization, APA Handbooks in Psychology (pp. 3-50).
Washington, DC: American Psychological Association
- Kristof-Brown, A.L., Zimmerman, R.D. and Johnson, E.C. (2005) Consequences of individuals' fit at work: A meta-analysis of person–job, person–organization, person–group, and person–supervisor fit. *Personnel Psychology*, 58, 281-342.
- Krueger, A. B., & Mueller, A. (2011). Job Search, Emotional Well-Being, and Job Finding in a Period of Mass Unemployment: Evidence from High-Frequency Longitudinal Data. *Brookings Papers on Economic Activity*, 1, 1-57.
doi:10.1353/eca.2011.0001
- Kuiper, N. A., & Borowicz-Sibenik, M. (2005). A good sense of humor doesn't always help: Agency and communion as moderators of psychological wellbeing. *Personality and Individual Differences*, 38, 365-377.
- Kumashiro, M., Rusbult, C. E., & Finkel, E. J. (2008). Navigating personal and relational concerns: the quest for equilibrium. *Journal of Personality and Social Psychology*, 95(1), 94.
- Layard, R. (2003). Happiness: has social science a clue? Lecture 1: what is happiness?
Are we getting happier?.
- Langer, E. J., & Rodin, J. (1976). The effects of choice and enhanced personal responsibility for the aged: a field experiment in an institutional setting. *Journal of Personality and Social Psychology*, 34(2), 191-8. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/1011073>

- Leary, T. (1957). *Interpersonal diagnosis of personality; a functional theory and methodology for personality evaluation*. Guilford Press: New York.
- Leonard, R. (1997). Theorizing the relationship between agency and communion. *Theory and Psychology, 7*, 823–835.
- Levinson, D., Darrow, C., Klein, E., Levinson, M. and Mckee. B. (1978). *The seasons of a man's life*. Knopf, New York.
- Levontin L., & Bardi A. (2012). *Amity goals: Unveiling a Missing Achievement Goal Using Values*. Manuscript submitted for publication.
- Lin, K. (2013). A methodological exploration of social quality research: A comparative evaluation of the quality of life and social quality approaches. *International Sociology, 28*(3), 316-334.
- Linley, P. A., Maltby, J., Wood, A. M., Osborne, G., & Hurling, R. (2009). Measuring happiness: The higher order factor structure of subjective and psychological well-being measures. *Personality and Individual Differences, 47*, 878-884.
- Linley, P. A., Joseph, S., Harrington, S., & Wood, A. M. (2006). Positive psychology: Past, present, and (possible) future. *Journal of Positive Psychology, 1*, 3-16.
- Lippa, R., & Connelly, S. C. (1990). Gender diagnosticity: a new Bayesian approach to gender-related individual differences. *Journal of Personality and Social Psychology, 59*, 51–65.
- Lippa, R., (1991). Some psychometric characteristics of gender diagnosticity measures: reliability, validity, consistency across domains and relationship to the Big Five. *Journal of Personality and Social Psychology, 61*, 1000–1011.
- Long, J. (1997). The dark side of mentoring. *The Australian Educational Researcher, 24*(2), 115-133. doi:10.1007/BF03219650

- Lu, L. (1999). Personal or environmental causes of happiness: A longitudinal analysis. *Journal of Social Psychology, 139*, 79–90.
- Lubinsky, D., Tellegen, A., & Butcher, N. (1981). The relationship between androgyny and subjective indicators of emotional well-being. *Journal of Personality and Social Psychology, 40*, 722-730.
- Lubinsky, D., Tellegen, A., & Butcher, N. (1983). Masculinity, femininity, and androgyny viewed and assessed as distinct concepts. *Journal of Personality and Social Psychology, 44*, 428-439.
- Lucas, R.E., Clark, A.E., Georgellis, Y., & Diener, E. (2003). Reexamining adaptation and the set point model of happiness: Reactions to changes in marital status. *Journal of Personality & Social Psychology, 84*, 527–539.
- Lucas, R.E., Diener, E., & Suh, E.M. (1996). Discriminant validity of well-being measures. *Journal of Personality and Social Psychology, 71*, 616–628.
- Lykken, D., & Tellegen, A. (1996). Happiness is a stochastic phenomenon. *Psychological Science, 7* (3), 186-189.
- Lyubomirsky, S. (2001). Why are some people happier than others?: The role of cognitive and motivational processes in well-being. *American Psychologist, 56*, 239-249.
- Lyubomirsky, S. (2008). *The how of happiness: A scientific approach to getting the life you want*. New York: Penguin Press.
- Lyubomirsky, S., Dickerhoof, R., Boehm, J. K., & Sheldon, K. M. (2011). *Becoming happier takes both a will and a proper way: An experimental longitudinal intervention to boost well-being*. *Emotion, 11*, 391-402.
- Lyubomirsky, S., King, L., & Diener, E. (2005). The benefits of frequent positive affect: Does happiness lead to success? *Psychological Bulletin, 131*, 803–855.

- Lyubomirsky, S., & Lepper, H. S. (1999). A measure of subjective happiness: Preliminary reliability and construct validation. *Social Indicators Research*, 46(2), 137-155.
- Lyubomirsky, S., Sheldon, K. M., & Schkade, D. (2005). Pursuing happiness: The architecture of sustainable change. *Review of General Psychology*, 9, 111–131.
- Lyubomirsky, S., Tkach, C., & DiMatteo, M. R. (2006). What are the differences between happiness and self-esteem? *Social Indicators Research*, 78, 363-404.
- Lyubomirsky, S., Tkach, C., & Sheldon, K. M. (2004). *Pursuing sustained happiness through random acts of kindness and counting one's blessings: Tests of two six-week interventions*. Unpublished data, Department of Psychology, University of California, Riverside.
- MacKenzie, D. L., & Goodstein, L. (1985). Long-term incarceration impacts and characteristics of long-term offenders: An empirical analysis. *Criminal Justice and Behaviour*, 13, 395-414.
- MacLeod, A.K., Coates, E., & Hetherington, J. (2008). Increasing well-being through teaching goal-setting and planning skills: Results of a brief intervention. *Journal of Happiness Studies*, 9, 185–196.
- Maio, G. R. (2010). Mental representations of social values. In Mark P. Zanna (Ed.), *Advances in Experimental Social Psychology* (Vol. 42, pp. 1-43). San Diego, CA: Academic Press.
- Marks, S. R. (1977). Multiple roles and role strain: Some notes on human energy, time, and commitment. *American Sociological Review*, 42, 921–936.
- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological review*, 98(2), 224.

- Maslow, A. H. (1970). *Motivation and personality*. New York: Harper & Row
- Mason, W., & Suri, S. (2012). Conducting behavioral research on Amazon's Mechanical Turk. *Behavior Research Methods*, *44*(1), 1-23.
- Matters, P. (1994). *Mentoring partnerships: Keys to leadership success for principals and managers*. Paper presented at the International Conference in Education. Melbourne University; Victoria.
- Mauss, I. B., Levenson, R. W., McCarter, L., Wilhelm, F. H., & Gross, J. J. (2005). The tie that binds? Coherence among emotion experience, behaviour, and physiology. *Emotion*, *5*, 175-190.
- Mazzucchelli, T., Kane, R.T., & Rees, C. S. (2010). Behavioural activation interventions for well-being: A meta-analysis *Journal of Positive Psychology*, *5*(2), 105-121.
- McAdams, D. P. (2001). The psychology of life stories. *Review of general psychology*, *5*(2), 100.
- McAdams, D. P. (1995). What do we know when we know a person? *Journal of Personality*, *63*, 365-396.
- McAdams, D.P. (1988). *Power, intimacy and the life story*. New York: Guilford.
- McAdams, D.P., de St. Aubin, E., & Logan, R.L. (1993). Generativity among young, mid-life, and older adults, *Psychology and Aging*, *8*(2), 221 -230.
- McAdams, D. P., Ruetzel, K., & Foley, J. M. (1986). Complexity and generativity at mid-life: Relations among social motives, ego development, and adults' plans for the future. *Journal of Personality and Social Psychology*, *50*(4), 800.
- McCrae, R. R., & Costa, P. T. (1999). A five-factor theory of personality. In L. A. Pervin & O. P. John (Eds.), *Handbook of personality* (pp. 139–153). New York: Guilford.

- McCrae, R. R., & Costa, P. T. Jr. (1991). Adding Liebe und Arbeit: The full well-being five-factor model and well-being. *Personality and Social Psychology Bulletin, 17*, 227–232.
- McCrae, R.R., & Costa, P.T., Jr (1990). *Personality in adulthood*. New York: Guildford Press.
- McCrae, R.R., & Costa, P.T. (1984). Personality is transcontextual: A reply to Veroff. *Personality and Social Psychology Bulletin, 10*, 175-179.
- McCreary, D.R., Rhodes, N.D., & Saucier, D.M. (2002). A confirmatory factor analysis of the short form Sex-Role-Behaviour-Scale. *Sex Roles, 47*, 169-177.
- Meng, X. L., Rosenthal, R., & Rubin, D. B. (1992). Comparing correlated correlation coefficients. *Psychological Bulletin, 111*(1), 172.
- McGregor, I., & Little, B. R. (1998). Personal projects, happiness, and meaning: On doing well and being yourself. *Journal of Personality and Social Psychology, 74*(2), 494–512.
- McMullen, L. M., & Conway, J. B. (1997). Dominance and nurturance in the narratives told by clients in psychotherapy. *Psychotherapy Research, 7*, 83–98.
- McNulty, J. K., & Fincham, F. D. (2012). Beyond positive psychology? Toward a contextual view of psychological processes and well-being. *American Psychologist, 67*(2), 101-110. doi:10.1037/a0024572
- Meier, S., & Stutzer, A. (2008). Is volunteering rewarding in itself? *Economica, 75*(297), 39–59.
- Mitchell, J., Stanimirovic, R., Klein, B., & Vella-Brodrick, D. (2009). A randomised controlled trial of a self-guided internet intervention promoting well-being.

Computers in Human Behaviour, 25(3), 749-760. Elsevier Ltd.

doi:10.1016/j.chb.2009.02.003

- Moen, P., Dempster-McClain, D., & Williams, R. (1992). Successful aging: A life course perspective on women's multiple roles and health. *American Journal of Sociology*, 97, 1612–1638.
- Morris, C. W. (1956). *Varieties of human value*. Chicago: University of Chicago Press.
- Morrow-Howell, N., Hinterlong, J., Rozario, P., & Tang, F. (2003). Effect of volunteering on the well-being of older adults. *Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 58B, S137–S145.
- Mosher, C. E., & Danoff-Burg, S. (2005). Agentic and communal personality traits: Relations to attitudes toward sex and sexual experiences. *Sex Roles*, 52, 122-129.
- Mosher, C., Danoff-Burg, S. (2007). College Students' Life Priorities: The Influence of Gender and Gender-linked Personality Traits. *Gender Issues*, 24, (2), 21-33.
- Moskowitz, D. S. (1994). Cross-situational generality and the interpersonal circumplex. *Journal of Personality and Social Psychology*, 66, 921-933.
- Mroczek, D. K., & Spiro, A. III. (2005). Change in life satisfaction during adulthood: Findings from the Veterans Affairs Normative Aging Study. *Journal of Personality and Social Psychology*, 88, 189–202.
- Muraven, M.R., & Baumeister, R.F. (2000). Self-regulation and depletion of limited resources: Does self-control resemble a muscle? *Psychological Bulletin*, 126, 247-259.

- Musick, M. A., Herzog, A. R., & House, J. S. (1999). Volunteering and mortality among older adults: Findings from a national sample. *Journal of Gerontology: Social Sciences, 54B*, S173–S180.
- Musick, M., & Wilson, J. (2003). Volunteering and depression: The role of psychological and social resources in different age groups. *Social Science & Medicine, 56*, 259–269.
- Myers, D.G. (1993). *The Pursuit of Happiness*. London: Aquarian.
- Myers, D. G., & Diener, E. (1995). Who is happy?. *Psychological Science, 6*(1), 10-19.
- Nagurney, A., & Bagwell, A. (2009). Relations of the gender-related personality traits and stress to sexual behaviours among college students. *North American Journal of Psychology, 11*(1), 1527 – 7143.
- Nasby, W., & Read, N. W. (1997). *The inner and outer voyages of a solo circumnavigator: An integrative case study*. Duke University Press.
- Neyer, F.J. (2000). *How does personality influence social relationships and choices of life patterns?*. Paper presented at the 10th European Conference on Personality, July 16-20, 2000, Krakow, Poland.
- Nezu, A. M., & Nezu, C. M. (1987). Psychological distress, problem solving, and coping reactions: Sex role differences. *Sex Roles, 16*, 205-214.
- Nezu, A. M., Nezu, C. M., & Peterson, M. A. (1986). Negative life stress, social support, and depressive symptoms: Sex roles as a moderator variable. *Journal of Social Behaviour and Personality, 1*, 599-609.
- Noll, H. H. (2002). *Social indicators and quality of life research: Background, achievements and current trends*. In N.Genov (Ed.) *Advances in Sociological Knowledge over Half a Century*. Paris: International Social.

- O'Connor, B. P. (2000). SPSS and SAS programs for determining the number of components using parallel analysis and Velicer's MAP test. *Behavior Research Methods, Instrumentation, and Computers*, 32, 396-402.
- Oishi, S., Diener, E., Suh, E. & Lucas, R. E. (1999). Value as a moderator in subjective well-being. *Journal of Personality*, 67(1), 157-184.
- Oman, D., Thoresen, C., & McMahon, K. (1999). Volunteerism and mortality among older adults: Findings from a national sample. *Journal of Health Psychology*, 4, 301–316.
- Onyx, J., & Warburton, J. (2003). Volunteering and health among older people : a review, 22(2).
- Orlofsky, J. L., & O'Heron, C. A. (1987). Stereotypic and non-stereotypic sex role trait and behaviour orientations: Implications for personal adjustment. *Journal of Personality and Social Psychology*, 52, 1034-1042.
- Orlofsky, J.L., Ramsden, M.W., & Cohen, R.S. (1982).Development of the revised sex role behaviour scale. *Journal of Personality Assessment*, 46, 632-638.
- Otake, K., Shimai, S., Tanaka-Matsumi, J. Otsui, K., & Fredrickson, B. L. (2006). Happy people become happier through kindness: A counting kindness intervention. *Journal of Happiness Studies*, 7, 361-375.
- Oswald, A. J., & Wu, S. (2010). Objective confirmation of subjective measures of human well-being: evidence from the USA. *Science*, 327(5965), 576-579.
- Paolacci, G., Chandler, J., & Ipeirotis, P. (2010). Running experiments on amazon mechanical turk. *Judgment and Decision Making*, 5(5), 411-419.
- Parkinson, L., Warburton, J., Sibbritt, D., & Byles, J. (2010). Volunteering and older women: psychosocial and health predictors of participation. *Aging & mental health*, 14(8), 917-27. doi:10.1080/13607861003801045

- Parsons, T., & Bales, R. F. (1955). *Family, socialization and interaction process*. Glencoe, IL: Free Press.
- Paulhus, D. L. & Trapnell, P. D.(2008). Self presentation on personality scales: An agency-communion framework. In O. P. John, R. W. Robins, & L. A. Pervin (Eds), *Handbook of Personality*. New York: Press.
- Pavot, W., Diener, E., Colvin, C. R., & Sandvik, E. (1991). Further validation of the satisfaction with life scale: evidence for the cross-method convergence of well-being measures, *Journal of Personality Assessment*, 57,2-13.
- Payne, F. D. (1987). "Masculinity," "femininity," and the complex construct of adjustment. *Sex Roles*, 17, 359-374.
- Pervin, L.A., & John, O.P. (2001) *Handbook of personality: Theory and research* (2nd ed., pp. 102-138). New York: The Guilford Press.
- Phalet, K., & Poppe, E. (1997). Competence and morality dimensions of national and ethnic stereotypes: a study in six eastern-European countries. *European Journal of Social Psychology*, 27(6), 703-723.
- Piko, B. F., Gibbons, F. X., Luszczynska, A., & Tekoźel, M. (2002). Does culture matter? Cross-cultural comparison of smoking patterns among adolescents. In I. Leal, T. Botelho, & J. P. Ribeiro (Eds.), *Proceedings of the 16th Conference of the Health Psychology Society* (pp. 9–12). Lisbon, Portugal: Institute for the Application of Psychology.
- Piliavin, J. A. (2003). Doing well by doing good: Benefits for the benefactor. In C. L. M. Keyes & J. Haidt (Eds.), *Flourishing: Positive psychology and the life well-lived* (pp. 227–247). Washington, DC: American Psychological Association.

- Plagnol, A. C., & Huppert, F. a. (2009). Happy to Help? Exploring the Factors Associated with Variations in Rates of Volunteering Across Europe. *Social Indicators Research*, 97(2), 157-176. doi:10.1007/s11205-009-9494-x.
- Pruzek, R.M. Exploratory factor analysis. *Encyclopedia of statistics in behavioral science*; Vol. II. 2005, London: Wiley & Sons.
- Ragins, B.R., & Scandura, T. A. (1994). Gender differences in expected outcomes of mentoring relationships, *The Academy of Management Journals*, 37(4), 957-971.
- Rand, D. G. (2012). The promise of Mechanical Turk: How online labor markets can help theorists run behavioral experiments. *Journal of Theoretical Biology*, 299, 172-179.
- Reis, H. T., & Gable, S. L. (2003). Toward a positive psychology of relationships. In C. L. Keyes & J. Haidt (Eds.), *Flourishing: The positive person and the good life* (pp. 129–159). Washington, DC: American Psychological Association.
- Robbins, A. S., Spence, J. T., & Clark, H. (1991). Psychological determinants of health and performance: The tangled web of desirable and undesirable characteristics. *Journal of Personality and Social Psychology*, 61, 755-765.
- Roberts, B. W., & Robins, R. W. (2000). Broad dispositions, broad aspirations: The intersection of the Big Five dimensions and major life goals. *Personality and Social Psychology Bulletin*, 26, 1284-1296.
- Roccas, S., Sagiv, L., Schwartz, S. H., & Knafo, A. (2002). The big five personality factors and personal values. *Personality and Social Psychology Bulletin*, 28, 789-801.
- Rohan, M. J. (2000). A rose by name? The values construct. *Personality and Social Psychology Review*, 4 (3) , 255-277.

- Roos, P. E., & Cohen, L. H. (1987). Sex roles and social support as moderators of life stress adjustment. *Journal of Personality and Social Psychology*, *52*, 576-585.
- Røysamb, E., Harris, J. R., & Magnus, P. (2002). Subjective well-being: Sex-specific effects of genetic and environmental factors. *Personality and Individual Differences*, *32*, 211-223.
- Rusbult, C. E., Finkel, E. J., & Kumashiro, M. (2009). The Michelangelo phenomenon. *Current Directions in Psychological Science*, *18*(6), 305-309.
- Ryan, R. M., & Deci, E. L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology*, *52*, 141–166.
- Ryan, R.M., & Deci, E.L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, *55*, 68–78.
- Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, *57*, 1069-1081.
- Ryff, C.D., & Singer, B.H. (1998). The contours of positive human health. *Psychological Inquiry*, *9*, 1–28.
- Sagiv, L., & Schwartz, S. H. (2000). Values Priorities and Subjective Well-Being: Direct Relations and Congruity Effects. *European Journal of Social Psychology*, *30*, 177-198.
- Sagiv, L., Roccas, S., & Hazan, O. (2004). Value pathways to well-being: Healthy values, valued goal attainment, and environmental congruence. In: A. Linley., & J. Stephen (Eds.), *Positive psychology in practice*. NY: John Wiley.

- Sandvik, E., Diener, E., & Seiditz, L. (1993). Subjective well-being: The convergence and stability of self-report and non-self report measures. *Journal of Personality, 61*, 317-342.
- Saragovi, C., Aube, J., Koestner, R., & Zuroff, D. (2002). Traits, Motives, and Depressive Styles as Reflections of Agency and Communion. *Personality and Social Psychology Bulletin, 28*(5), 563-577.
- Saragovi, C., Koestner, R., Di Dio, L., & Aubé, J. (1997). Agency, communion, and well-being: Extending Helgeson's (1994) model. *Journal of Personality and Social Psychology, 73*(3), 593-609.
- Salvaris, M. (2000). Community and social indicators: How citizens can measure progress. *Institute for Social Research, Swinburne University of Technology, Melbourne.*
- Schmutte, P. S., & Ryff, C. D. (1997). Personality and well-being: Re-examining methods and meanings. *Journal of Personality and Social Psychology, 73*, 549-559.
- Schueller, S. M. (2011). To each his own well-being boosting intervention: using preference to guide selection. *The Journal of Positive Psychology, 6*(4), 300-313. doi:10.1080/17439760.2011.577092
- Schwartz, S. H. (1992). Universals in the content and structure of values: theoretical advances and empirical tests in 20 countries. In M. P. Zanna (ED.), *Advances in Experimental Social Psychology*. (vol. 25, pp. 1-65). New York: Academic Press.
- Schwartz, S. H. (2005). Basic human values: Their content and structure across countries. In A. Tamayo & J. B. Porto (Eds.), *Valores e comportamento nas*

organizações [Values and behaviour in organizations] pp. 21-55. Petrópolis, Brazil: Vozes.

Schwartz, S. H. (2011). Values: Individual and cultural. In F. J. R. van de Vijver (Eds.), A. Chasiotis, & S. M. Breugelmans, *Fundamental questions in cross-cultural psychology* (pp. 463-493). Cambridge: Cambridge University Press.

Schwartz, S. H., Sagiv, L., & Boehnke, K. (2000) Worries and Values. *Journal of Personality*, 68, 309-346.

Schwartz, S.H. (1994). Are there universal aspects in the content and structure of values? *Journal of Social Issues*, 50, 19-45.

Schwartz, S.H., & Bardi, A. (2001). Value hierarchies across cultures: Taking a similarities perspective. *Journal of Cross-Cultural Psychology*, 32(3), 268-290.

Schwartz, S.H., & Sagiv, L. (1995). Identifying culture specifics in the content and structure of values. *Journal of Cross-Cultural Psychology*, 26, 92-116.

Seligman, M. E., Steen, T. A., Park, N., & Peterson, C. (2005). Positive psychology progress: Empirical validation of interventions. *American Psychologist*, 60, 410-421.

Seligman, M., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist*, 55(1), 5-14

September, A.N., M. McCarrey, A. Baranowsky, C. Parent & D. Schindler. (2001). The relation between well-being, imposter feelings and gender role orientation among Canadian university students. *The Journal of Social Psychology*, 14(2): 218-232.

- Sergeant, S., & Mongrain, M. (2011). Are positive psychology exercises helpful for people with depressive personality styles? *The Journal of Positive Psychology*, 6(4), 260-272. doi:10.1080/17439760.2011.577089
- Sheldon, K. M., Abad, N., Ferguson, Y., Gunz, A., Houser-Marko, L., Nichols, C. P., & Lyubomirsky, S. (2010). Persistent pursuit of need-satisfying goals leads to increased happiness: A 6-month experimental longitudinal study. *Motivation and Emotion*, 34, 39-48.
- Sheldon, K. M., Boehm, J. K., & Lyubomirsky, S. (in press). *Variety is the spice of happiness: The hedonic adaptation prevention (HAP) model*. In I. Boniwell & S. David (Eds.), *Oxford handbook of happiness*. Oxford: Oxford University Press.
- Sheldon, K. M., & Cooper, M. L. (2008). Goal striving within agentic and communal roles: separate but functionally similar pathways to enhanced well-being. *Journal of Personality*, 76(3), 415-48.
- Sheldon, K. M., & Elliot, A. J. (1999). Goal striving, need-satisfaction, and longitudinal well-being: The Self-Concordance Model. *Journal of Personality and Social Psychology*, 76, 482-497.
- Sheldon, K. M., & Kasser, T. (1998). Pursuing personal goals: Skills enable progress, but not all progress is beneficial. *Personality and Social Psychology Bulletin*, 24, 1319-1331.
- Sheldon, K.M., Elliot, A.J., Kim, Y., & Kasser, T. (2001). What's satisfying about satisfying events? Comparing ten candidate psychological needs. *Journal of Personality and Social Psychology*, 80, 325-339.

- Sheldon, K.M., Kasser, T., Smith, K., & Share, T. (2002). Personal goals and psychological growth: Testing an intervention to enhance goal attainment and personality integration. *Journal of Personality, 70*, 5–31.
- Sheldon, K. M., & Lyubomirsky, S. (2006a). Achieving sustainable gains in happiness: Change your actions, not your circumstances. *Journal of Happiness Studies, 7*, 55-86.
- Sheldon, K. M., & Lyubomirsky, S. (2006b). How to increase and sustain positive emotion: The effects of expressing gratitude and visualizing best possible selves. *The Journal of Positive Psychology, 1*, 73-82.
- Sheldon, K. M., & Lyubomirsky, S. (2007). Is It Possible to Become Happier? (And If So, How?). *Social and Personality Psychology Compass, 1*(1), 129-145.
- Sheldon, K. M., & Lyubomirsky, S. (2012). The challenge of staying happier: Testing the Happiness Adaptation Prevention (HAP) model. *Personality and Social Psychology Bulletin, 38*, 670-680.
- Sheldon, K. M., & Niemiec, C. P. (2006). It's not just the amount that counts: balanced need satisfaction also affects well-being. *Journal of Personality and Social Psychology, 91*(2), 331.
- Silberman, J. (2007). Positive intervention self-selection: Developing models of what works for Whom. *International Coaching Psychology Review, 2*(1), 70-77.
- Sin, N. L., & Lyubomirsky, S. (2009). Enhancing well-being and alleviating depressive symptoms with positive psychology interventions: A practice-friendly meta-analysis. *Journal of Clinical Psychology: In Session, 65*, 467-487.
- Skinner, E. A. (1995). *Perceived control, motivation, & coping*. Sage Publications, Inc.

- Smith, T.W. (1992). Hostility and health: Current status of a psychosomatic hypothesis. *Health Psychology, 11*, 139-150.
- Spence, G. B., & Grant, A. M. (2007). Professional and peer life coaching and the enhancement of goal striving and well-being: An exploratory study. *The Journal of Positive Psychology, 2*(3), 185-194.
doi:10.1080/17439760701228896
- Spence, J. T, Helmreich, R. L., & Holahan, C. K. (1979). Negative and positive components of psychological masculinity and femininity and their relationship to self-reports of neurotic and acting out behaviours. *Journal of Personality and Social Psychology, 37*, 1673-1682.
- Spence, J. T, Helmreich, R. L., & Stapp, J. (1974). The Personal Attributes Questionnaire: A measure of sex-role stereotypes and masculinity-femininity. *JSAS: Catalogue of Selected Documents in Psychology, 4*(617), 43-44.
- Spence, J. T. (1984). Masculinity, femininity and gender-related traits: A conceptual analysis and critique of current research. In B. A. Maher & W. B. Maher (Eds.), *Progress in experimental personality research* (Vol., 13pp, 1-97), San Diego, CA: Academic Press.
- Spence, J. T., & Buckner, C. (1995). Masculinity and femininity: Defining the undefinable. In P. J. Kalbfleisch, & M. J. Cody (Eds.), *Gender, power, and communication in human relationships*. (pp. 105-140). Hillsdale, New Jersey: Lawrence Erlbaum Associates, Publishers.
- Stevenson, B., & Wolfers, J. (2008). *Economic growth and subjective well-being: Reassessing the Easterlin paradox* (No. w14282). National Bureau of Economic Research.

- Stewart, A. J., Ostrove, J. M., & Helson, R. (2001). Middle aging in women: Patterns of personality change from the 30s to the 50s. *Journal of Adult Development*, 8, 23–37.
- Stiglitz, J. E., Sen, A., & Fitoussi, J. (2009). *Report by the commission on the measurement of economic performance and social progress*. Retrieved from http://www.stiglitz-sen-fitoussi.fr/documents/rapport_anglais.pdf
- Stöber, J. (2001). The Social Desirability Scale-17 (SDS-17): Convergent validity, discriminant validity, and relationship with age. *European Journal of Psychological Assessment*, 17(3), 222-232.
- Stöber, J. (1999). Die Soziale-Erwünschtheits-Skala-17 (SES-17): Entwicklung und erste Befunde zu Reliabilität und Validität [The Social Desirability Scale-17 (SDS-17): Development and first results on reliability and validity]. *Diagnostica*, 45, 173-177.
- Strupp, H. H. (1980). Humanism and psychotherapy: A personal statement of the therapist's essential values. *Psychotherapy*, 17, 396-400.
- Stumpf, S.A., Colarelli, S.M., & Hartman, K. (1983). Development of the career exploration survey. *Journal of Vocational Behaviour*, 22, 191-226.
- Swinson, J., Jacobs, M., Olliff-Cooper, J., Taylor, M., Seaford, C. (2011, 2 November). The practical politics of well-being. *New Economics Foundation*. Retrieved 7th December from <http://www.neweconomics.org/publications/the-practical-politics-of-well-being>
- Sze, J. A., Gyurak, A., Yuan, J. W., & Levenson, R. W. (in press). Coherence between emotional experience and physiology: Does body awareness training have an impact? *Emotion*, 10(6), 803-814.

- Taylor, M. C., & Hall, J. A. (1982). Psychological androgyny: Theories, methods, and conclusions. *Psychological Bulletin*, *92*, 347-366.
- Tellegen, A., Lykken, D. T., Bouchard, T. J., Wilcox, K. J., Segal, N. L., & Rich, S. (1988). Personality similarity in twins reared apart and together. *Journal of Personality and Social Psychology*, *54*, 1031-1039.
- Thoits, P., & Hewitt, L. (2001). Volunteer work and well-being. *Journal of Health and Social Behaviour*, *42*, 115–131.
- Tinsley, H. E., & Tinsley, D. J. (1987). Uses of factor analysis in counseling psychology research. *Journal of Counseling Psychology*, *34*(4), 414.
- Tkach, C.T. (2006). Unlocking the treasury of human kindness: Enduring improvements in mood, happiness, and self-evaluations. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, *67*, 603. Worcester, Mass: Clark University Press.
- Tkach, C., & Lyubomirsky, S. (2006). How do people pursue happiness? Relating personality, happiness-increasing strategies, and well-being. *Journal of Happiness Studies*, *7*, 183-225.
- Trapnell, P. D., & Paulhus, D. L. (2012). Agentic and communal values: Their scope and measurement. *Journal of Personality Assessment*, *94*(1), 39-52.
- Twenge, J. M. (1997). Changes in masculine and feminine traits over time: A meta-analysis. *Sex Roles*, *36*, 305-325.
- Varey, C., & Kahneman, D. (1992). Experiences extended across time: Evaluation of moments and episodes. *Journal of Behavioral Decision Making*, *5*, 169-186.
- Vaux, A., Burda, P., & Stewart, D. (1986). Orientation toward utilizing support resources. *Journal of Community Psychology*, *14*, 159-170.

- Veenhoven, R. (2008). Healthy happiness: Effect of happiness on physical health and the consequences for preventive health care. *Journal of Happiness Studies*, 9, 449-469.
- Veenhoven, R. (2000). The four qualities of life. *Journal of happiness studies*, 1(1), 1-39.
- Veenhoven, R. (1996). Happy life-expectancy. *Social Indicators Research*, 39(1), 1-58.
- Veenhoven, R. (1988). The utility of happiness. *Social Indicators Research*, 20, 333-354.
- Vella-Brodrick, D. A., & White, V. (1997). Response set of social desirability in relation to the mental, physical and spiritual well-being scale. *Psychological Reports*, 81(1), 127-130.
- Velicer, W. F., Eaton, C. A., & Fava, J. L. (2000). Construct explication through factor or component analysis: A review and evaluation of alternative procedures for determining the number of factors or components. In *Problems and solutions in human assessment* (pp. 41-71). Springer US.
- Verbrugge, L. M. (1985). Gender and health: An update on hypotheses and evidence. *Journal of Health and Social Behaviour*, 26, 156-182.
- Vinokur, A., & Caplan, R. D. (1986). Cognitive and affective components of life events: Their relations and effects on well-being. *American Journal of Community Psychology*, 14, 351-370.
- Vohs, K. D., Mead, N. L., & Goode, M. R. (2006). The psychological consequences of money. *Science*, 314(5802), 1154-1156.
- Wallace, D. (2004). *Random Acts of Kindness: 364 ways to make the world a nicer place*. London: Ebury Press.

- Ward, L.C., & Thorn, B.E., Clements, K.L., Dixon, K.E., & Sandford, S.D. (2006). Measurement of agency, communion and emotional vulnerability with the personality attributes questionnaire. *Journal of Personality Assessment*, *86*, 206-216.
- Waterman, A. S. (2008). Reconsidering happiness: A eudaimonist's perspective. *Journal of Positive Psychology*, *3*, 234–252.
- Waterman, A.S. (1993). Two conceptions of happiness: Contrasts of personal expressiveness (eudaimonia) and hedonic enjoyment. *Journal of Personality and Social Psychology*, *64*, 678-691.
- Waterman, A.S., Schwartz, S.J., & Conti, R. (2008). The implications of two conceptions of happiness (hedonic enjoyment and eudaimonia) for the understanding of intrinsic motivation. *Journal of Happiness Studies*, *9*, 41-79.
- Watson, D., & Clark, L. A. (1997). The measurement and mismeasurement of mood: Recurrent and emergent issues. *Journal of Personality Assessment*, *68*, 267-296.
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, *54*, 1063-1070.
- Webber, R. (2011). Volunteering among Australian adolescents, *Youth Studies Australia*, *30*(1), 9-17.
- Weiss, A., Bates, T. C., & Luciano, M. (2008). Happiness is a personal(ity) thing: the genetics of personality and well-being in a representative sample. *Psychological science*, *19* (3), 205-210.

- Wheeler, J. A., Gorey, K. M., & Greenblatt, B. (1998). The beneficial effects of volunteering for older adults and the people they serve: A meta-analysis. *International Journal of Aging and Human Development*, 47, 69–80.
- Wheeler, L., & Reiss, H. T. (1991). Self-recording of everyday life events: Origins, types, and uses. *Journal of Personality*, 59, 339-354.
- Wheeler, M. E., Keller, T. E., & Dubois, D. L. (2010). *Social Policy Report*, 24(3), 1-21.
- White, R. (1951). *Value-analysis: The nature and use of the method*. New York: Society for the Psychological Study of Social Issues.
- White, R. W. (1959). Motivation reconsidered: the concept of competence. *Psychological review*, 66(5), 297.
- Whitley, B. E. (1984). Sex role orientation and psychological well-being: Two meta-analyses. *Sex Roles*, 12, 207-225.
- Wiggins, J. S. (1991). Agency and communion as conceptual coordinates for the understanding and measurement of interpersonal behaviour. In D. Cicchetti & W. M. Grove, Eds.), *Thinking clearly about psychology. Essays in honor of Paul E. Meehl, Vol. 2: Personality and, psychopath*, pp89-113.
- Willis, H. and Dodgson, J. (1986) Mentoring of Canadian women in educational administration. *The Canadian Administrator*, 25(7), 1-6.
- Wilson, T. D., & Gilbert, D. T. (2008). Explaining away: A model of affective adaptation. *Perspectives on Psychological Science*, 3, 370-386.
- Wilson, T. D., & Gilbert, D. T. (2003). Affective forecasting. *Advances in Experimental Social Psychology*, 35, 345-411.
- Woike, B., & Polo, M. (2001). Motive-Related Memories: Content, Structure, and Affect. *Journal of Personality*, 69(3), 391-415.

- Wood, A. M., Froh, J. J., & Geraghty, A. W. A. (2010). Gratitude and well-being: A review and theoretical integration. *Clinical Psychology Review, 30*, 890-905.
- Wood, A. M., Linley, P. A., Maltby, J., Kashdan, T. B., & Hurling, R. (2011). Using personal and psychological strengths leads to increases in well-being over time: A longitudinal study and the development of the Strengths Use Questionnaire. *Personality and Individual Differences, 50*, 15-19.
- Worthington, R. L., & Whittaker, T. A. (2006). Scale development research a content analysis and recommendations for best practices. *The Counseling Psychologist, 34*(6), 806-838.
- Wortman, C.B. & Silver, R.C. (1987). Coping with irrevocable loss. In G.R. Vanderbos and B.K. Bryant (Eds.), *Cataclysms, crises, catastrophes: psychology in action*. Washington, D.C.: APA.
- Wright, C. and Wright, S. (1987) The Role of mentors in the career development of young professionals, *Family Relations, 36*(2), 204-208.
- Ybarra, O., Chan, E., & Park, D. (2001). Young and old adults' concerns about morality and competence. *Motivation and Emotion, 25*, 85–100.
- Zamble, R., & Porporino, F. (1990). 'Coping, Imprisonment and Rehabilitation', *Criminal Justice and Behaviour, 17*(1), 53-69.
- Zautra, A.J., Potter, P.T., & Reich, J.W. (1997). The independence of affects is context-dependent : An integrative model of the relationship between positive and negative affect. In M.P. Lawton (Series Ed.) & K.W. Schaie & Lawton, M.P. (Vol. Eds.), *Annual review of gerontology and geriatrics: Vol. 17. Focus on adult development* (pp. 75–103). New York: Springer.
- Zwick, W. R., & Velicer, W. F. (1986). Comparison of five rules for determining the number of components to retain. *Psychological Bulletin, 99*(3), 432-442.

APPENDICES

Appendix 1.

Items used to measure agency, communion, their unmitigated counterparts, and a-c.

Construct	Behaviour Items
Agency	<p>Do things my own way.</p> <p>Engage in optional activities to improve my career prospects.</p> <p>Rely on my own way of seeing things as a final basis for reaching conclusions.</p> <p>Strive to improve my skills.</p> <p>Stand up for my own beliefs.</p> <p>Persevere with a challenging task.</p> <p>Work on a task until it is finished.</p> <p>Do my best work under pressure.</p>
Communion	<p>Offer directions to a person that looks lost.</p> <p>Take the time to choose others a gift I know they'll love.</p> <p>Accept people as they are.</p> <p>Make people feel welcome.</p> <p>Do favours without being asked.</p> <p>Enjoy helping others.</p> <p>Rejoice in the successes of others around me.</p> <p>Give small gifts to my friends/family for no reason.</p>
A-C	<p>Enhance my C V by raising money for a worthy cause</p> <p>Strive to get a promotion so that I have more money to spend on my family friends</p> <p>Make connections with others that might help both me and them in the future</p> <p>Actively campaign for the rights of a group I belong to</p> <p>Work as a team so together we can accomplish more</p>

Construct	Behaviour Items
	Work hard to ensure our group goals are achieved
A-C cont.	Stand up for my close friends family when others talk badly of them Assertively defend my friends and family
Unmitigated agency	Act assertively even though it may make me unpopular. Dominate conversations and control what we talk about. Make decisions without consulting others who are involved in them. Insist that others do what I want. Take advantage of a good friend's nature. Take what I want despite knowing I am depriving someone else. Pursue my goals even if it upsets others. Become so focused on a project that I have no time for my friends/family.
Unmitigated communion	Lend money to friends but feel reluctant to remind them to pay me back. Agree to every suggestion I get. Give so much that others take advantage of me. Let others get their own way even if it's not what I want. Spend more time working towards group goals at the expense of my own goals. Go along with other's preferences even if it's not what I want. Help others even if it obstructs my goals. Change a decision I made because it has upset someone else.

Appendix 2.

Items used to measure the expected agency and communion gains participants anticipated obtaining from each activity in Study 5 (see Chapter 5).

Construct	Items
Agency	To create new opportunities for myself.
Gains	To develop my skills.
	To enhance my C.V.
	To gain some work experience.
	I explored new areas of interest
	To improve my career prospects.
Communion	To help others.
Gains	To give something back to society.
	To do something good for others
	To get to know other people/ to feel closer to people in the community
	To connect with my peers
	To feel like part of the university community

Appendix 3.

The behaviour instructions participants received in each condition in the intervention study (Study 6, Chapter 6)

Condition	Behaviour Instructions
Agency	<p>Every day for the next week I would like you to be agentic and behave agentially. Someone who is agentic is goal orientated and gives themselves the best chances of ‘getting ahead’ in life. An agentic person is pro-active, independent and won’t give up easily.</p> <p>Agentic behaviours you could do are;</p> <ul style="list-style-type: none">• Improve existing skills - perfect a recipe or improve your score in a typing test/running lap/computer game.• Engage in optional activities to improve your career prospects. This involves going the extra mile to take part in something that will look good on your C.V. This might mean taking on extra responsibilities, volunteering to work overtime, attending courses, arranging to do an internship or extra study.• Work on a task until it is finished. Set yourself a task and challenge yourself to complete it by the end of the day. This could involve anything from learning 10 new words (either in your own or a different language) to planning your weekend.• Behave independently. There are lots of ways of doing this. You might try to solve a problem yourself before seeking help from others. Do something the way you would like to do it or do something for yourself that someone usually does for you. <p>Of course, all of these are just suggestions. Please feel free to think of your own behaviours though they should involve at least one of the following elements; goal orientation, pro-activity, independence and/or determination. If you do think of your own behaviours please send me an email to check it fits the criteria (kathryn.buchanan.2009@live.rhul.ac.uk). Try to perform a variety of these behaviours during the 7 days. Please do not perform the exact same behaviour repeatedly.</p>

Condition	Behaviour Instructions
Communion	<p>Every day for the next week I would you to be communal and behave communally. Someone who is communal is other-orientated and likes to ‘get along’ with those around them. A communal person is kind, helpful and is understanding and aware of others.</p> <p>Examples of communal behaviour are as follows;</p> <ul style="list-style-type: none"> • Give small gifts to my friends/family for no reason • Offer directions to a person who looks lost • Do favours without being asked • Offer your seat on a bus or train to someone who is standing • Accept people as they are • Make people feel welcome • Rejoice in the successes of others • Spend some quality time connecting with friends/family <p>Of course, all of these are just suggestions of communal behaviours. Please feel free to think of your own behaviours though they should involve at least one of the following elements; kindness, helpfulness, understanding of others, awareness of others. If you do think of your own behaviours please send me an email to check it fits the criteria (kathryn.buchanan.2009@live.rhul.ac.uk). Try to perform a variety of these behaviours during the 7 days. Please do not perform the exact same behaviour repeatedly.</p>
A-C	<p>Every day for the next week I would like you to try and get along with others whilst also getting ahead in life. You should try to be kind, helpful, aware and understanding of others whilst also being goal orientated, pro-active, independent and determined. You should aim to get along and get ahead in the same behaviour.</p> <p>Here are some examples of behaviours you could do;</p> <ul style="list-style-type: none"> • Make connections with others that will help both you and another. • Work together as a team so together you can achieve more

Condition	Behaviour Instructions
A-C cont.	<ul style="list-style-type: none"> • Agree with someone else that you will help them with X and then they will help you with Y. • Ask others to tell you about their experiences and learn from them • Ask your friends/family to show you how to do something they are good at • Teach someone else how to do something your good at (a skill) • Use your skills to make something for somebody and then give it to them (this could range from a c.d, to a scarf, a picture, food) <p>Of courses these are just examples. Please feel free to think of your own behaviours that will help you get along and get ahead in the same behaviour. If you do think of your own behaviours please send me an email to check it fits the criteria (kathryn.buchanan.2009@live.rhul.ac.uk). Try to perform a variety of these behaviours during the 7 days. Please do not perform the exact same behaviour repeatedly.</p>
Control (Life's daily details)	<p>Every day for the next week I would like you to try and pay attention to the daily details of your life.</p> <p>You should try to take notice of the ordinary details of your life that you wouldn't typically think about. Here are some examples;</p> <ul style="list-style-type: none"> • Notice the colours in your environment • Read the ingredients list on the food you consume • Observe the fabric of the clothes you are wearing • Be aware of the smells around you • Listen carefully to the sounds near you • Notice the shapes of things around you <p>Of courses these are just examples. Please feel free to think of your own behaviours that will help you pay attention to the daily details of your life. If you do think of your own behaviours please send me an email to check it fits the criteria (kathryn.buchanan.2009@live.rhul.ac.uk). Try to perform a variety of these behaviours during the 7 days. Please do not perform the exact same behaviour repeatedly.</p>

