ON FINANCIAL GENEROSITY AND WELL-BEING: WHERE, WHEN, AND HOW SPENDING MONEY ON OTHERS INCREASES HAPPINESS

by

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ABSTRACT

Can money buy happiness? Recent research has shown that how people spend their money can have important consequences for their well-being. Specifically, research by Dunn, Aknin, and Norton (2008) demonstrated that spending money on others (*prosocial spending*) leads to higher levels of happiness than spending money on oneself (*personal spending*). This dissertation extends upon the work of Dunn et al. (2008) in five ways. First, Study 1 examines whether the mood benefits of prosocial spending are self-perpetuating by asking people to recall a previous personal or prosocial spending experience, report their happiness and make a future spending choice. Findings support the presence of a feedback loop; recalling a previous act of prosocial spending led to higher levels of happiness, and higher levels of happiness, in turn, predicted a willingness to engage in prosocial spending again. Second, Studies 2 - 4 test whether the relationship between prosocial spending and happiness requires positive social connection. Participants given the opportunity to spend on others by making a charitable donation (Study 2) or engaging in interpersonal spending (Studies 3 and 4) were happier when giving allowed for positive interpersonal connection with a beneficiary, but not when this connection was blocked or minimized. Third, Studies 5 and 6 examine whether perceived prosocial impact – the belief that one made a positive influence on someone else – represents another critical moderator of the emotional benefits of generous spending. Fourth, Studies 7, 8a, and 8b investigate whether the happiness benefits of prosocial spending exist outside North America and in other countries around the world. Using data from the Gallup World Poll, the relationship between prosocial spending and well-being was found to be positive in the majority of countries surveyed (Study 7). Furthermore, participants in Canada and Uganda (Study 8a) and India (Study 8b) who
recalled making a purchase for someone else reported higher levels of happiness than those who recalled making a purchase for themselves. Finally, Study 9 explores whether the emotional benefits of sharing one’s resources are detectable in children (< 24 months). Taken together, this research provides greater insight into the relationship between generous financial behavior and well-being.
PREFACE

I am the primary author of the work presented in this PhD dissertation. I was responsible for the design of experiments, data collection, data analysis and manuscript preparation. Additional contributions for each chapter are described below.

Chapter 1: Introduction.

I am the primary author of this chapter, with intellectual contributions from E. Dunn.

Chapter 2: A positive feedback loop between prosocial spending and happiness.

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Chapter 3: Positive interpersonal connection as a moderator for the emotional benefits of prosocial spending.

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data collection and analyses. G. Sandstrom, E. Dunn and M. Norton provided intellectual
ccontributions and edited the manuscript.

Chapter 4: Feeling like you made a difference: The importance of perceived prosocial
impact when giving to others.
I designed the experiments, supervised data collection, conducted the analyses and prepared
the manuscript. A. Grant provided statistical advice. A. Whillans wrote the first draft of the
introduction. E. Dunn, M. Norton and A. Grant helped design the experiments and provided
intellectual contributions.

Chapter 5: Is the link between prosocial spending and well-being a psychological
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conducted all analyses with the Gallup World Poll data. E. Dunn, M. Norton, C. Barrington-
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Chapter 7: General Discussion.

I am the primary author of this chapter, with intellectual contributions from E. Dunn.

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CHAPTER 1 INTRODUCTION

Over half of the employed Canadian population spends forty or more hours a week at work (Statistics Canada, 2006). This means that on typical work days, these Canadians are spending over one third of their day in their office or place of employment. Why are people spending so much time working when they could be engaging in other, perhaps more enjoyable, activities? While people are of course working to make enough money to pay their monthly bills, they may also work to earn extra income to spend at their leisure because they believe that having more money will bring them greater happiness. Support for this possibility comes from research by Kahneman, Krueger, Schkade, Schwarz, and Stone (2006) who found that people often overestimate the relationship between wealth and well-being. For instance, when these authors asked a sample of working women to estimate the percentage of time they had spent in a bad mood the previous day and predict how much time women with high incomes (above $100,000 US) and low incomes (below $20,000 US) had spent in a bad mood, respondents predicted that low income women spent twice as much time in a bad mood than high income women. Similarly, when Aknin, Dunn, and Norton (2009) asked a nationally representative sample of Americans to imagine how happy individuals with various levels of income might be, participants envisioned a much steeper relationship between money and happiness than what the actual data reveal. Specifically, when predicting the happiness of individuals from across the income spectrum – with household incomes ranging from $5,000 US to $1,000,000 US – participants accurately associated higher incomes with higher well-being, and were nearly correct in estimating the happiness of high income earners. However, when it came to predicting the happiness of individuals below the median income, participants made large errors, anticipating that low income would be associated with substantially lower well-being.
Importantly, predictions were nearly identical when participants were asked to predict how happy they themselves might be at these same income levels. Thus, it seems that people inflate the degree to which income is associated with well-being, and apply this inaccurate intuition to both themselves and others when anticipating the emotional consequences of different income levels.

**Previous Research on Money and Happiness**

Although people envision a strong relationship between money and happiness, the vast amount of research conducted on this topic has revealed mixed findings on the extent to which income is associated with well-being. Indeed, because the question of whether money can buy happiness has been of long standing interest to scholars in multiple fields, investigations of this question have taken various forms. With hundreds of papers published on the topic, most examinations use correlational analyses to examine the link between overall income and well-being. The results of this large literature are complicated and sometimes inconsistent, but the general consensus in the field is that money has a small but significant impact on happiness within nations (e.g., Frey & Stutzer, 2000; Diener & Biswas-Diener, 2002; Diener, Harter, Ng & Arora, 2010).

**Individual Income and Well-being Within Nations**

One of the most common ways to study the link between money and happiness is by examining the relationship between household income and happiness within nations at any one point in time (Diener & Oishi, 2000). This approach uses correlational methods to determine whether wealthier people within a given country are happier than less wealthy individuals.
Typically, investigations of this type reveal a small relationship between wealth and well-being. For instance, examining interview data from over 6,000 people in Sweden, Frey and Stutzer (2000) found that higher incomes were correlated with higher life satisfaction, but that “the differences in subjective well-being are rather small” (pg. 925). Similarly, looking at data from 19 countries in the World Values Survey, Diener and Oishi (2000) found that the relationship between income and life satisfaction was captured by an average correlations of .13, with values ranging from -.02 in Brazil to .38 in South Africa. Comparable modest estimates have been shown in the United States ($r = .12$; Diener, Sandvick, Seidlitz & Diener, 1993). Importantly, national wealth appears to influence the strength of this relationship; the relationship between income and well-being is larger in poorer areas and nations, such as the villages of Barasi and Bhopalpani in India ($r = .22$; Brinkerhoff, et al., 1997) and poor areas of Calcutta ($r = .45$; Biswas-Diener, & Diener, 2001). Therefore, while there is variation in the extent to which money and happiness correlate within nations, leading experts have characterized the relationship as “relatively small” (Diener & Oishi, 2000, p. 194).

Even within one nation, the relationship between wealth and well-being can be complex and vary depending on the type of well-being assessed. Kahneman and Deaton (2010) distinguished between two types of well-being: emotional well-being (which refers to how often and intensely a person experiences positive emotions), and life satisfaction (which refers to a person’s overall cognitive evaluation of their life). Analyzing American data from the Gallup World Poll, Kahneman and Deaton (2010) found that these two forms of well-being have different associations with income. Specifically, high earners (individuals who earn more than $4,000 US per month) reported higher levels of life satisfaction ($r = .64$) than low earners (individuals who earn less than $4,000 US per month), but these earning groups showed no
difference in positive affect. Thus, it appears that cognitive measures of well-being (e.g., life satisfaction) may be more sensitive to income than moment to moment experiences of positive affect. That said, when income reports were treated in a more continuous fashion—by looking at where an individual falls on the income spectrum rather than classifying an individual as a high or low earner— income had a clear positive impact on emotional well-being up until an annual income of approximately $75,000 US. At this point, the benefits associated with a higher income appear to have flattened as if a satiation point has been reached. Therefore, even within a single nation, the relationship between wealth and well-being is complex.

National Income and Well-being Across Countries

Another way to assess the relationship between money and happiness is to look at the correlation between a nation’s wealth (usually captured by Gross Domestic Product per capita) and the average well-being reported within that nation across a number of countries (Diener & Biswas-Diener, 2002). When examined in this fashion, the relationship between wealth and well-being is often much higher, averaging around .60 (Diener & Biswas-Diener, 2002). Indeed, when Diener and Oishi (2000) looked at data from 42 countries in the World Values Survey, they found a correlation of $r = .69$. Similarly, when Diener and Diener (1995) examined a sample of 34 countries from the World Development Report, they found a correlation of $r = .64$ between country wealth per capita and each nation’s average subjective well-being. Thus, the relationship between money and happiness is typically much larger at the national level than at the individual level.

Two major reasons have been offered to explain why the relationship between wealth and well-being is much stronger at the national level (Diener & Oishi, 2000). The first reason is
that national level analyses include a smaller error term by averaging across individual variability. By removing large amounts of individual variation, a clearer relationship between wealth and well-being can be detected. The second reason is that wealthier nations often possess other positive qualities, such as lower rates of illness, higher literacy and greater political freedoms. These positive features improve living conditions for all citizens – rich and poor – and assist in explaining why higher levels of national income correlate with higher levels of well-being.

Income and Well-being Over Time

Yet another way to examine the relationship between money and happiness is to examine longitudinal data to look at how changes in personal or country level income relate to well-being over time (Diener & Biswas-Diener, 2002; Diener & Oishi, 2000). Findings from this type of investigation often reveal that increases in wealth produce little to no change in well-being. Data collected over the past several decades, especially from World War II onward, have produced several striking examples worthy of mention. For instance, Easterlin (1995) has presented evidence from the United States, several European countries, and Japan demonstrating that while personal income and national Gross Domestic Product had escalated to nearly double their size over the past several decades, citizens’ happiness levels had remained nearly unchanged. Diener and Oishi (2000) also present data from 14 nations, such as Greece, Luxembourg, Portugal, and England and show the average correlation between economic growth and well-being is $r = .007$, which led the authors to describe this relationship as “virtually flat, despite steep economic growth in most of these countries” (p. 202). Unfortunately, however, data are rarely available from third world countries where economic growth and development may have a large impact on well-being. Indeed, several authors have
suggested that inclusion of data from third world countries and more thorough investigations reveal that increases in well-being do accompany increases in income (Stevenson & Wolfers, 2008). Nonetheless, the data collected thus far generally reveal that when the relationship between wealth and well-being is measured over time, even huge gains in income have a minute impact on happiness.

In summary, the relationship between money and happiness can be assessed in various ways, with each approach providing a valuable perspective for interpreting this complex relationship. The vast literature can be summarized in three key findings. First, the correlation between national wealth and average national well-being reports are often high. Therefore, individuals living in wealthier nations (e.g., Canada or the United States) are often happier than individuals living in poorer nations (e.g., Ghana or Ethiopia), perhaps in part because these nations offer citizens shared public goods (e.g., clean water) and a higher quality of life. Second, greater personal wealth does not correlate highly with well-being, especially in rich countries. To be sure, the average correlation between income and well-being fluctuates around .20 (Diener & Biswas-Diener, 2002; Diener, Ng, Harter, & Arora, 2010; Lucas & Dyrenforth, 2006), which is significant but falls on the lower end of conventional measures of association (Cohen, 1988). Finally, gains in income appear to have little impact on well-being. This appears to be true at both the individual and national level. Whether an individual gets a large bonus at work or a country increases its GDP over time, earning more money leads to little, if any, stable increase in happiness. Therefore, while more money is often associated with greater well-being at the country level of analysis, the same relationship is not always true when looking at individual wealth and well-being. Indeed, while many people try to accumulate wealth, seemingly motivated by the belief that greater income will bring higher happiness (Aknin, et al.,
a large body of evidence suggests that these efforts may be misdirected.

Prosocial Behaviour and Happiness

Whereas money may have a relatively small impact on happiness, a growing body of research suggests that engaging in behaviours that benefit others, called prosocial behaviour, can lead to an increase well-being. This relationship has been documented in a variety of samples using both correlational and experimental designs.

Correlational Research Linking Prosocial Behaviour and Happiness

A large number of correlational studies have examined whether prosocial behaviour is positively associated with higher levels of happiness or well-being (e.g., Hao, 2008; Waddell & Jacobs-Lawson, 2010). Since there are large national and international surveys that include questions about volunteer activities, these examinations often assess the relationship between volunteer work and well-being. With few exceptions, these studies report a positive relationship between volunteering and happiness. For instance, analyzing data from over 30,000 people in the 2007 Survey of Health, Ageing and Retirement in Europe, Haski-Leventhal (2009) found that volunteers from across 12 countries reported higher levels of life satisfaction than non-volunteers. Similarly, when Borgonovi (2008) examined the relationship between volunteering and happiness across 29 states in America, she found an overall positive relationship; the more people volunteered, the greater their reported happiness even while accounting for a number of demographic (e.g., age, marital status) and socio-economic (e.g., income, education, political orientation) factors. Furthermore, in a sample of over 2,000 Presbyterian church members, Schwarz, Meisenhelder, Ma and Reed (2003) found that giving help in less formal ways, such as
listening to others and making them feel loved and cared for, was associated with greater mental health than receiving help. Finally, providing insight into the possibility that volunteering may actually increase well-being rather than just correlate with happiness, Thoits and Hewitt (2001) examined two waves of data from the America Changing Lives survey. These researchers found that volunteer work was associated with higher levels happiness and life satisfaction, even when controlling for demographic variables and earlier happiness reports. Thus, a large body of research has shown that prosocial behaviour and well-being are positively associated, and longitudinal evidence provides suggestive support that volunteering increases happiness.

Experimental Research Shows Prosocial Behaviour Increases Happiness

While correlational research is helpful in establishing a link between prosocial behaviour and happiness, experimental evidence is needed to confirm causality. Indeed, there are several reasons that prosocial behavior may be linked to well-being. For example, classic research by Isen and colleagues has shown that positive moods encourage prosocial behaviour (e.g., Isen, 1970; Isen & Levin, 1972). Furthermore, some unmeasured third variable might be responsible for the observed relationship. Therefore, experimental designs are needed to confirm that prosocial behaviour actually causes an increase in well-being.

Moving beyond correlational designs, experimental work has shown that prosocial behaviour has a causal impact on well-being. For example, in one of the first studies to examine the emotional impact of helping behaviour, Harris (1977) randomly assigned participants to either a helping or a control condition and then asked participants to report their current mood. In the helping condition, participants were asked to help a confederate find a lost piece of paper. In the control condition, participants were not asked for help. Harris (1977) found that
participants who assisted a confederate in recovering a lost piece of paper were happier than participants in the control condition who were not asked help. Williamson and Clark (1989) adopted a similar design when they asked participants to report their happiness before and after they either received or did not receive a request to help a confederate. All participants who received a request to help agreed to do so and showed a greater increase in mood than participants who did not provide assistance. More recently, Lyubomirsky, Sheldon, and Schkade (2005) randomly assigned students to either an experimental group required to commit five random acts of kindness a week for six weeks or to a no-action reference group. As predicted, the students engaging in prosocial behaviour were happier, relative to controls, when all five acts were performed in the same day. Thus, as these results demonstrate, a growing body of research suggests that engaging in various forms of prosocial behaviour can increase happiness.

Initial Evidence for the Hedonic Benefits of Prosocial Spending

Combining these two lines of research, Dunn, Aknin and Norton (2008) took a new approach to studying the relationship between money and happiness by examining the emotional consequences of specific spending choices. Indeed, rather than focusing on the happiness associated with various income levels, Dunn et al. (2008) investigated whether people might reap emotional rewards from spending their money on others by purchasing gifts for others or making donations to charity. Specifically, they hypothesized that spending money on others (prosocial spending), through gift giving and charitable donations, would lead to higher happiness levels than spending money on oneself (personal spending).

In an initial study, a nationally representative sample of Americans was asked to rate their general happiness and estimate their monthly personal and prosocial spending (Dunn, et
Specifically, participants reported the amount of money they devote in a typical month to personal spending (bills, expenses, and gifts for themselves) and to prosocial spending (gifts for others and donations to charity). While participants spent approximately ten times more money on personal spending than prosocial spending, analyses demonstrated that individuals who spent more money in a typical month on prosocial spending reported higher levels of happiness. Meanwhile, levels of personal spending were unrelated to happiness. Importantly, this relationship remained even when controlling for annual household income, suggesting that it is not just how much people earn but also how they spend this income that can influence their happiness levels. While these results offered a promising first step in linking prosocial spending and happiness in a nationally representative sample of Americans, the correlational nature of this study did not allow conclusions of causality; it is possible that the happier people are more likely to engage in prosocial spending.

Therefore, an experimental design was used to examine whether spending money on others leads to higher happiness levels than spending money on oneself (Dunn et al., 2008). Participants were approached in person during the morning hours and reported their baseline happiness level. After doing so, participants were randomly assigned to one of four spending conditions, receiving either $5 or $20 CDN to spend on either themselves or others. Participants in the personal spending condition were asked to spend their windfall on a bill, expense or gift for themselves, while participants in the prosocial spending condition were asked to spend their windfall on a gift for someone else or a donation to charity. All participants were told to spend the money before the end of the day so that a research assistant could call them in the evening with a series of follow-up questions and they could report their happiness levels. As predicted, participants who spent their windfall on others were happier at the end of the day than
participants who spent the windfall on themselves. Interestingly, the amount of money that participants spent ($5 or $20) did not influence happiness levels, suggesting that how people spent their money was more important than how much money they spent. Therefore, this experimental study provides support for the causal claim that spending money on others leads to higher happiness than spending money on oneself.

While it is not surprising that people devote a large portion of their income to personal spending, the relative infrequency with which people engage in prosocial spending may also be a result of an under appreciation of its emotional benefits. To find out whether people recognize that spending money on others will make them happier than spending money on themselves, another sample of participants was asked to read brief descriptions of the four conditions in the experimental study and predict which spending condition would make them happiest (Dunn et al., 2008). A significant majority of participants reported believing that spending money on themselves would make them happier than spending the money on someone else, suggesting that people do overlook the happiness returns associated with prosocial spending.

Overview of the Dissertation

Previous research by Dunn et al. (2008) has revealed that spending money on others leads to higher levels of happiness than spending money on oneself and that people often fail to notice the hedonic benefits of prosocial spending. However, a number of important questions remain unanswered. This dissertation presents ten studies – organized into five manuscript-style research chapters – designed to examine a series of questions that unpack and extend the original examination of the mood benefits of prosocial spending.

First, Study 1 examines whether a positive feedback loop exists between prosocial spending and happiness. Given that spending money on others increases happiness (Dunn et al.,
2008), and higher levels of happiness increase rates of subsequent prosocial behaviour (e.g., Isen, 1970), might the mood benefits of prosocial spending be self-reinforcing? To investigate this question, participants were asked to recall a previous spending memory, report their happiness, and then make a future spending decision. Findings reveal support for a positive feedback loop between generous spending and well-being; memories of prosocial spending led to higher levels of happiness, and higher levels of happiness predicted a future willingness to engage in prosocial behaviour.

Second, Studies 2, 3, and 4 examine whether social factors – such as positive connection with the recipient – moderate the mood benefits of prosocial spending. Study 2 focuses on charitable giving and investigates whether social connection is necessary for experiencing the emotional rewards of generous spending. Participants were given the opportunity to donate to a charity but were assigned to do so either by giving the donation to a representative of the charity or by giving to a third party individual unaffiliated with the charity. Supporting the importance of social connection for prosocial spending, giving larger donations only predicted higher levels of happiness when participants gave to a representative of the charity. Studies 3 and 4 extend this investigation to the realm of interpersonal giving. In Study 3, participants were asked to split a monetary sum between themselves and a peer. Donations for the peer were either transferred by the participant or an intermediary. Findings replicate the importance of social connection; larger donations only led to higher levels of happiness when participants delivered their donation to the recipient. By randomly assigning participants to spend gift cards in one of several ways, Study 4 examines whether people experience the highest levels of happiness when they spend on others in a way that fosters social connection. Again, findings support the importance of social connection for reaping the emotional gains of generous spending;
participants who spent on others – and spent time with that person while doing so – reported the highest levels of happiness at the end of the day.

Next, Studies 5 and 6 investigate whether feeling that one has made a meaningful impact on a recipient is also critical for experiencing the happiness gains of prosocial spending. Study 5 examines this question within the realm of interpersonal spending using a recall paradigm. Participants reflected upon a time they spent money on themselves or someone else; amongst those asked to recall a time they spent on someone else, some recalled a time this purchase had a meaningful impact on the recipient while others recalled a time their purchase did not have a meaningful impact on the recipient. Participants then reported their happiness and completed measures of several possible mediators. Results reveal that recalling a time one spent on someone else and this purchase had a large impact on the recipient led to higher levels of happiness than recalling a time one spent on someone but did not have an impact. Study 6 extends this investigation to the realm of charitable giving. Participants were given the opportunity to donate to either a high or low impact charity before reporting their happiness. Findings demonstrate that giving larger donations predicted higher levels of happiness, but only when participants gave to a high impact charity.

Studies 7, 8a and 8b explore whether the observed mood benefits of prosocial spending documented in Canada and the United States emerge in other countries around the world, particularly in countries where scarce financial resources may limit the opportunity for individuals to spend money on others. Study 7 examines data from the Gallup World Poll to determine whether recent charitable behaviour is associated with higher levels of happiness in nationally representative samples from over 130 countries around the world. Results reveal a positive relationship in the majority of countries surveyed, even while controlling for income
and a number of demographic variables. Having found support for the association between prosocial spending and well-being in many of the world’s countries, Studies 8a and 8b use an experimental recall paradigm to determine whether prosocial spending leads to higher levels of well-being in three countries that differ greatly in per capita income: Canada and Uganda (Study 8a) and India (Study 8b). Participants were asked to recall a time they spent on themselves or someone else and then report their happiness. Supporting the possibility of a universal link between generous spending and happiness, recollections of prosocial spending led to higher levels of happiness than recollections of personal spending in all three countries.

Finally, Study 9 examines whether young children between the ages of 22-24 months experience emotional benefits from sharing their resources with others. Toddlers were given the opportunity to share treats (their own or others’) and receive treats while their emotional reactions were videotaped. After coding emotional expressions for happiness, results revealed that children were happier after giving treats away than when receiving treats themselves. Further, children expressed more happiness after sharing their own resources than when giving from a common resource pool. Thus, these findings suggest that humans may have evolved to find prosocial behavior “self-rewarding,” such that giving to others produces pleasurable feelings even before substantial learning and socialization has occurred.

The final chapter of this dissertation summarizes the research contained in chapters 2-6 and discusses limitations, implications and several avenues for future research.
CHAPTER 2 A POSITIVE FEEDBACK LOOP BETWEEN PROSOCIAL SPENDING AND WELL-BEING

Can simple interventions lead to sustainable increases in subjective well-being? Much of the research conducted to date suggests that while happiness levels can be increased, these effects are often fleeting. Indeed, several strategies have been shown to boost well-being levels temporarily, but their positive emotional outcomes tend to fade over time if the strategies are not repeated regularly (e.g., Emmons & McCullough, 2003; Seligman, Steen, Park, & Peterson, 2005). While the benefits of these strategies may be transitory, it is possible that the well-being experienced after engaging in these behaviours might encourage people to engage in the same behaviours again. If this is the case, a positive feedback loop may occur, offering a potential path to sustainable happiness. Here, we test whether such a positive feedback loop exists between spending money on others and happiness.

The goal of increasing happiness over time is complicated by the fact that two distinct literatures point to the relative stability of people’s level of happiness. First, happiness is shaped to a large extent by stable genetic predispositions, with estimates from twin and adoption studies suggesting that up to 80% of the variance in happiness levels can be attributed to genetic variation (Lykken & Tellegen, 1996), although a more widely accepted figure is 50% (Lyubomirsky, et al., 2005). Second, a complementary body of research on hedonic adaptation demonstrates that people adapt to most life changes, whether large or small (Frederick &

Loewenstein, 1999). Recent work, however, suggests that adaption is not inevitable—at least when it comes to negative events (Diener, Lucas, Schimmack, & Helliwell, 2009). For instance, divorce (Lucas, 2005), disability (Lucas, 2007), and unemployment (Lucas, Clark, Georgellis, & Diener 2004) have been shown to exert a lasting negative impact on well-being. Unfortunately, people appear to adapt more thoroughly to positive life changes, such as marriage (Lucas et al., 2003) and increased income (Helliwell, 2002; Lykken & Tellegen, 1996). Given the relative stability of happiness in the wake of positive life events, it is an open question as to whether increased happiness can be maintained in the longer term.

Although happiness levels appear to be relatively stable, several promising strategies have been shown to increase happiness. For instance, recent research has shown that spending money on others leads to higher levels of happiness than spending on oneself (Dunn et al., 2008). Specifically, participants assigned to spend a small windfall on someone else by purchasing a gift or making a donation to charity (prosocial spending) were significantly happier at the end of the day than participants assigned to spend the same size windfall by paying for a bill, expense, or gift for themselves (personal spending, see Dunn et al., 2008). Other strategies shown to successfully boost happiness over longer periods of time include using one’s character strengths in new ways (Seligman et al., 2005) and keeping a gratitude journal (e.g., Emmons & McCullough, 2003). Importantly, however, regular or repeated practice of these strategies is required to maintain long-term happiness gains. Thus, while several interventions have been shown to increase happiness in the short term or over elongated periods with intentional practice, it remains to be seen whether these strategies can provide a sustainable route to happiness.
The sustainability of these strategies may depend on the boost in happiness they produce; if people experience an initial rise in happiness, they may be more likely to practice the strategies in the future. Providing initial support for this idea, Cohn and Fredrickson (2010) have shown that individuals who experience positive emotions in the first few weeks after a loving-kindness meditation intervention are more likely to continue this practice as much as 15 months later. These findings are consistent with the broaden-and-build theory of positive emotions, which suggests that positive emotions serve to broaden an individual’s thoughts and build enduring resources (Fredrickson, 1998; 2001). Thus, we propose that a similar pattern may emerge for other happiness interventions, such as prosocial spending. Indeed, given that previous research has shown that spending money on others leads to higher levels of happiness than spending on oneself (Dunn et al., 2008; Dunn, Ashton-James, Hanson, & Aknin, 2010), here we examine whether simply recalling memories of generous spending produces similar emotional gains. Most importantly, we explore whether these higher levels of happiness promote future acts of generous spending. In sum, the present study explores whether recalling a previous act of prosocial spending leads to an increase in happiness, and whether higher levels of happiness, in turn, lead people to want to spend on others again in the near future (see Figure 1).
Figure 1. Model of positive feedback loop between prosocial spending and happiness. Recalled acts of prosocial spending lead to higher levels of happiness. Happiness, in turn, increases the likelihood of engaging in future acts of prosocial spending. © Journal of Positive Psychology, 2011, by permission.

Study 1

Method

Fifty-one individuals (51% female, $M_{age} = 20.3$) on the University of British Columbia campus were asked to recall and describe in as much detail as possible the last time they spent either $20 or $100 on either themselves or someone else. That is, participants were randomly assigned to one of four recall conditions in a 2 (spending amount: $20$ versus $100$) X 2 (purchase target: self versus someone else) design. Recall instructions were designed to elicit
vivid reminiscence and modeled on those used by Strack, Schwarz, and Gschneidinger (1985). After describing this memory, participants reported their happiness on the Subjective Happiness Scale ($\alpha = .86$; Lyubomirsky & Lepper, 1999).

Next, participants were offered a choice between two monetary windfall amounts ($5$ vs. $20$) and two different ways to spend this money. These four spending options were selected to map on to the conditions used in previous research (Dunn et al., 2008), enabling comparison across studies. Consistent with this previous research, participants were told they could spend the money on (1) a bill, expense, or gift for themselves (personal spending) or (2) on a gift for someone else or donation to charity (prosocial spending). Participants were told that they should choose whichever option would make them the happiest and that once their decision was made, they would receive the appropriate amount of money with a reminder of the spending guidelines. Importantly, this procedure was conducted in an anonymous fashion to mitigate social desirability concerns by giving participants cue cards labelled A, B, C, or D on one side with a condition description on the other side (Figure 2). Participants were informed that all research assistants were unaware of which condition assignment corresponded to each letter, so the research assistants would never know which spending experience they had selected. Participants were given several minutes to read the spending descriptions on the cue cards and choose their spending experience. After deciding, participants informed the research assistant of

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2 Participants also reported their current positive affect on the Positive Affect and Negative Affect Schedule (Watson, Clark, & Tellegen, 1988). Results on this additional measure of well-being can be found in Appendix 1, Tables 6-8.
their choice using the appropriate letter (A, B, C, or D) and then received an envelope with the windfall amount and a spending direction reminder.³

*Figure 2.* Future spending type selection cue cards. © Journal of Positive Psychology, 2011, by permission.

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**Results and Discussion**

*Reflecting on prosocial spending increases happiness*

We predicted that recalling a previous act of prosocial spending would make people happier than recalling a previous act of personal spending. To investigate this question, we analyzed happiness ratings on the Subjective Happiness Scale with a 2 (purchase target: self vs. prosocial spending) × 2 (spending type: self vs. prosocial) mixed ANOVA. Although this procedure was carefully designed to minimize social desirability concerns, it is conceivable that some participants who selected the prosocial spending option actually intended to spend the money on themselves. This possibility is unlikely given that previous work has shown that the majority of participants are quite willing to express a preference for spending money on themselves, even when social desirability concerns are higher (Dunn et al., 2008). In addition, research suggests that making an initial commitment to engage in prosocial behaviour does lead to longer term prosocial behaviour (Nelson & Norton, 2005).
versus someone else) X 2 (purchase amount: $20 versus $100) ANOVA. As expected, participants randomly assigned to recall a purchase made for someone else were significantly happier ($M = 5.59, SD = 0.72) than participants assigned to recall a purchase made for themselves ($M = 4.94, SD = 1.33), $F(1, 47) = 4.66, p < .04, d = .61$. Neither the main effect of purchase amount, $F(1, 47) = 1.03, p = .32$, nor the interaction between purchase amount and purchase target, $F(1, 47) = 0.11, p = .74$, approached significance. Thus, people felt happier when they thought about a time when they had spent money on others rather than themselves, and this effect was consistent across smaller ($20) and larger ($100) purchases (Path A in Figure 1). Results on additional measures of well-being can be found in Appendix 1, Table 6.

**Higher levels of happiness predict future prosocial spending**

Not surprisingly, when participants were offered the option of selecting between two windfall amounts, the majority of participants (though not all) opted to take $20 over $5, $X^2(1) = 32.96, p < .001$. Participants were more equally divided on whether to spend this money on themselves or someone else $X^2(1) = .18, ns$ (see Table 1). Our critical question, however, was whether higher levels of happiness led participants to select a prosocial spending choice in the future. To investigate this question, purchase amount, purchase target, and happiness were entered into a logistic regression equation predicting future spending choice. Consistent with our hypothesis, happiness was the only significant predictor of future spending choice ($B = .95, p < .02$), such that participants who felt happier after the recollection task were more likely to choose to engage in prosocial spending in the future. Neither the main effect of purchase amount ($B = -.06, p = .94$) nor purchase target ($B = .24, p = .44$) approached significance. Interestingly, the positive effect of happiness on participants’ preference for future prosocial spending emerged consistently across experimental conditions. When a Happiness X Purchase Target
interaction term and Happiness X Purchase Amount interaction term were added to the logistic regression above, happiness remained the only significant predictor of future spending choice ($B = 1.03, p = .04$). The main effect of happiness was not significantly moderated by purchase target ($B = .33, p = .51$) or purchase amount ($B = -.79, p = .09$), indicating that higher levels of happiness predicted a greater willingness to engage in prosocial spending across experimental recall conditions. In sum, the happier participants felt after the memory exercise, the more likely they were to choose to engage in prosocial spending when presented with a new windfall (Path B in Figure 1). Results on additional measures can be found in Appendix 1, Table 7.

Table 1. Future spending selection in Study 1. Table shows the number of participants selecting each of the four future spending choices. © Journal of Positive Psychology, 2011, by permission.

<table>
<thead>
<tr>
<th>Future spending choice</th>
<th>Selection by personal spending recall</th>
<th>Selection by prosocial spending recall</th>
<th>Total Selection Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>$20$ Personal Spending</td>
<td>14</td>
<td>11</td>
<td>25</td>
</tr>
<tr>
<td>$20$ Prosocial Spending</td>
<td>9</td>
<td>12</td>
<td>21</td>
</tr>
<tr>
<td>$5$ Personal Spending</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>$5$ Prosocial Spending</td>
<td>0</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

Indirect effect

Finally, we predicted that reflecting upon a previous prosocial spending experience would lead to a future willingness to engage in prosocial spending by making people feel happier. To test for the presence of this indirect effect, analytic computations were conducted
with Prodclin2 (MacKinnon, Fritz, Williams, & Lockwood, 2007; MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002), which accommodated our dichotomous dependent variable. Supporting our hypotheses, the indirect mediation model CI_{.95} [.02, .75] via happiness was significant (Figure 3), providing evidence that past acts of generosity promote future acts of generosity to the extent that overall happiness levels are increased. In contrast, the direct path between recalled spending and future spending choice did not reach significance (B = 0.44, p = 0.12), suggesting that reflecting on past prosocial spending does not inevitably lead people to choose prosocial spending in the future. The absence of a direct path between recalled spending and future spending suggests that participants are not simply motivated by a drive for consistency between their past and future spending choices. Rather, the observed pattern of results suggests that reflecting on a past instance of prosocial spending facilitates future prosocial spending primarily by increasing happiness levels. Results on additional measures of well-being can be found in Appendix 1, Table 8.

Figure 3. Indirect mediation model of recalled spending behaviour to future spending choice via happiness level. †p < .13. *p < .05. © Journal of Positive Psychology, 2011, by permission.
General Discussion

These results support the existence of a positive feedback loop between prosocial spending and happiness. Taken together, our results show that (a) recalling a past prosocial spending experience leads to higher levels of happiness, (b) higher levels of happiness increase the likelihood of engaging in prosocial spending, and (c) recalling a past experience of prosocial spending increases the likelihood of spending a new windfall on others to the extent that happiness levels are elevated in the interim. This suggests that spending money on others may be self-reinforcing as long as this prosocial experience provides happiness.

The present findings are consistent with classic research (e.g., Isen, 1970; Isen & Levin, 1972) demonstrating that happiness facilitates prosocial behaviour. Indeed, our results show that people experiencing higher levels of happiness after recalling either a personal or prosocial spending experience were more likely to commit to spending a windfall on someone else. This suggests that people may act generously after experiencing any happiness inducing event – whether that be recalling a previous prosocial spending experience or indulging in a slice of chocolate cake. That said, in contrast to a fleeting pleasure like eating chocolate cake, prosocial spending may be particularly promising route to prosocial behaviour because it has been shown to increase happiness immediately after spending (Dunn et al., 2008; Dunn et al., 2010) and later upon reflection, as demonstrated here. This research also supports the broaden-and-build theory of positive emotions by demonstrating that higher levels of happiness may expand an individual’s mindset to include thoughts of others. Finally, our findings also dovetail with those of Cohn and Fredrickson (2010) by demonstrating that initial happiness gains can cause a happiness intervention to become self-reinforcing. Therefore, to the extent that initial happiness gains predict continued practice and continued practice predicts sustained benefits, a positive
feedback loop between practice and well-being may be essential for achieving sustainable happiness.

The feedback loop between prosocial spending and happiness presented here may seem intuitive, but previous research on prosocial behaviour has shown that one kind act does not always inspire similar behaviour in the future. Specifically, research on moral licensing has shown that committing one kind deed may actually decrease the likelihood of committing a future kind act because knowledge of one’s earlier generosity inflates one’s sense of morality and permits self-interested acts in the future (see Merritt, Effron, & Monin, 2010). For example, if someone gives money to a homeless individual one afternoon, they may be less likely to donate to a charity collector later that evening. This is because one’s initial act of generosity boosts feelings of moral behaviour, thereby freeing one to act less generously later. Thus, a moral licensing hypothesis might have predicted that recalling a previous act of prosocial spending would have decreased the likelihood that participants would choose to engage in prosocial spending when presented with the new windfall. The present data therefore add to our understanding of when prosocial behaviour might be repeated, by suggesting that happiness experienced after the initial kind deed may be key to determining whether this initial kind deed leads to another.

Prosocial spending may increase happiness both immediately after spending and upon recollection, but does the amount of money spent influence the happiness returns? Replicating previous findings (Dunn et al., 2008), the data presented here suggest that how money is spent may matter more than how much money is spent. That is, participants who recalled spending on others felt happier than those who spent money on themselves, and the benefits of prosocial spending were the same regardless of whether they spent $100 or just $20. Recent work
suggests that prosocial behaviour leads to emotional gains by providing opportunities for positive social contact (Aknin, Dunn, Sandstrom, & Norton, 2011); therefore, prosocial spending should promote happiness if the spending opportunity fosters positive relations with others, which may be largely independent of the specific amount of money spent.

Of course, this study is not without limitations. First, as mentioned above, these data were collected on a Canadian university campus, and recent research suggests that it is critical to look beyond Western, educated, industrialized, rich and democratic (“WEIRD”) samples in understanding human behaviour (see Henrich, Norenzayan, & Heine, 2010a, 2010b). Thus, these pathways are now being studied in other countries around the world. Initial research suggests that the emotional benefits of prosocial spending may extend well beyond the limited population studied in the present research (Aknin, Barrington-Leigh, Dunn, Helliwell, Biswas-Diener, Kemeza, Nyende, Ashton-James, & Norton, 2011).

A second limitation is that participants in this study were asked to recall a previous spending occasion, rather than actually going out and buying something for themselves or someone else. We chose this reminiscence-based methodology because it has been used successfully in previous research for studying the long-term emotional consequences of real world spending experiences (e.g., Carter & Gilovich, 2010; Van Boven & Gilovich, 2003). A final limitation is that participants’ future spending choices may have been influenced by social desirability concerns. This possibility seems unlikely however, because past research has

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One additional limitation is that we did not measure individual difference in social value orientations and typologies (McClintock, 1978; Van Lange, Otter, De Bruin, & Joireman, 1997). Given that participants were randomly assigned to conditions, it is unlikely that these
shown that most people are quite willing to report preferring to spend money on themselves, even when no special precautions are taken to minimize social desirability concerns (Dunn et al, 2008). Further, because there was no way for research assistants to know which spending experience participants selected, it is unclear who participants might have been trying to deceive by selecting the prosocial spending option.

These important limitations notwithstanding, this initial research has implications for both organizations and individuals. First, because these data suggest that past instances of prosocial spending lead to future acts of prosocial spending only to the extent that recollections of earlier spending produce feelings of happiness, fundraising organizations may benefit from making initial donation experiences as pleasurable and memorable as possible to encourage subsequent generous behaviour. If initial donation experiences are positive, providing donors with the opportunity to reflect upon these donations may make them more receptive to providing continued support. Second, these findings have implications for individuals seeking to escape the hedonic treadmill. These data suggest that while the benefits of a happiness intervention may fade, higher levels of happiness may reinforce other happiness-increasing behaviours – as seen in the prosocial spending and happiness feedback loop we demonstrate. Therefore, to the extent that happiness-increasing strategies boost happiness in the short term and encourage the same behaviour again, people may be able find a path to sustainable happiness.

individual differences account for our findings. That said, future research should examine how such variables interact with the feedback loop presented here.
CHAPTER 3 POSITIVE INTERPERSONAL CONNECTION AS A MODERATOR FOR THE EMOTIONAL BENEFITS OF PROSOCIAL SPENDING

In recent years, cause-related marketing has become increasingly ubiquitous, as one corporation after another links purchases of its products to charitable donations. Companies want to be associated with positive acts and the warm glow of giving (Andreoni, 1989; 1990) and such efforts can pay: socially responsible corporate initiatives can influence consumer choice and increase sales (Barone, Miyazaki, & Taylor, 2000; Lev, Petrovits, & Radhakrishna, 2010). Several notable cases suggest a role for a simple factor that influences that payoff: connectedness between the giver and the recipient. With the Pepsi Refresh Project, for example, PepsiCo allowed consumers to propose and vote for projects in their communities (such as cleaning up local rivers); PepsiCo then funded those projects, linking Pepsi to causes close to consumers’ homes – and hearts. Similarly, successful non-profits such as Donorschoose.org and Kiva.org make the link between giver and recipient as evident and tangible as possible: Donorschoose.org allows givers to directly fund classroom in their hometowns, while Kiva.org enables givers to select the specific individual whose business they decide to finance. While previous research has focused on how emotion affects consumers’ propensity to donate to charity or buy cause-related products (Kogut & Ritov, 2005; Small & Loewenstein, 2003; Small & Simonsohn, 2008; Strahilevitz & Myers, 1998), we explore the impact of connection not on the initial decision to give but on the subsequent emotional experience of the giver. Reaping the

largest returns from their investments in prosocial campaigns requires companies to understand when and why charitable behavior has the biggest influence on consumers: what kind of giving most alters consumers’ affective responses and subsequent behavior?

One of the most reassuring aspects of human nature is that people not only behave generously toward one another in daily life, but often seem to enjoy doing so; for instance, people reap pleasure from doing volunteer work (Thoits & Hewitt, 2001), engaging in random acts of kindness (Lyubomirsky, Sheldon, & Schkade, 2005), and spending money on others (Dunn et al., 2008; Dunn, et al., 2010). But do good deeds always produce good feelings? A recent review notes that “surprisingly, there is little direct evidence that helping others actually makes the helper feel good” (Dovidio, Piliavin, Schroeder, & Penner, 2006, p. 240). Indeed, much of the evidence is mixed. For instance, in one of the first papers examining the emotional consequences of prosocial behavior, Harris (1977) showed that helping a confederate search for a missing item led to an increase in happiness, but providing directions to a campus administration building did not. Similarly, Williamson and Clark (1989) found that assisting a confederate led to emotional gains when participants desired a communal relationship with the confederate, but not when they desired an exchange relationship.

We propose that emotional benefits are most likely to emerge when prosocial behavior facilitates positive social connection between the giver and recipient—and are less likely to emerge when such interaction is precluded. While engaging in prosocial behavior may not always lead to emotional gains, the literature on well-being has demonstrated that social relationships are one of the most robust and reliable predictors of happiness (Lyubomirsky, King, & Diener, 2005). Indeed, quality social relationships appear necessary for achieving high levels of happiness (Diener & Seligman, 2002; Myers, 2000) and satisfying humans’
fundamental need to belong (Baumeister & Leary, 1995; Ryan & Deci, 2000). If social relationships are such a strong predictor of well-being, it seems possible that prosocial behavior might increase happiness when it facilitates the development of social relationships through positive social connection.

Re-examining past research through this lens clarifies the seemingly variable relationship between prosocial behavior and happiness. Across investigations, prosocial behavior commonly produces hedonic gains when enacted in ways that allow for increased social connection. As Williamson and Clark (1989) suggested, helping someone search for a missing item may have provided more happiness than giving directions because the former experience provides more connection between benefactor and beneficiary. Furthermore, people tend to experience the largest emotional benefits from writing gratitude letters when they share the letter with the target (Lyubomirsky, 2008), which allows for greater positive social connection. Thus, greater emotional payoffs seem to transpire when good deeds involve social connection. Given the plausible but untested role of social connection, the present research examines whether social connection is necessary for experiencing the emotional rewards of generous behavior.

To examine whether social connection acts as a critical catalyst in transforming generous behavior into positive feelings, we present three studies in which we manipulate levels of social connection while participants engage in prosocial spending. In Study 2, we examine whether the emotional benefits of charitable giving are greatest when people have the opportunity to donate to someone who is personally connected to the charity (vs. giving to someone who is not). In Study 3, we turn our focus to interpersonal giving and investigate whether giving more money in a dictator game leads to higher levels of happiness when participants personally deliver
money to a recipient than when this donation is delivered via an intermediary, which blocks the opportunity for social connection with the recipient. Finally, in Study 4, we examine whether participants experience the highest levels of happiness when they are assigned to spend a gift card on someone else in a way that maximizes social connection. Taking an applied approach, we focus our examination on the broader conditions that moderate the emotional benefits of prosocial spending. We expect that the emotional benefits of generosity are most likely to emerge when prosocial spending provides an opportunity for positive social connection.

Across studies, we measured the broad construct of subjective well-being using multiple scales. In order to maximize the breadth of our measures and the brevity of our paper, we standardized and averaged each scale to create composite measures of well-being, which are reported in text. In line with recent guidelines for maximizing transparency (Simmons, Nelson & Simonsohn, 2011), we report results on each independent scale in Appendix 1, Tables 9-11.

Study 2: Charitable Giving

Study 2 explores whether donating to charity produces greater emotional benefits when givers have the opportunity for positive social connection with the beneficiary—or, as we examine here, even a representative of the beneficiary. Although individuals may rarely have the opportunity for direct social connection with the end recipients of their charitable donation, people are often asked to give to charity by someone who is connected to the cause. For example, many food bank volunteers who solicit donations are individuals who care about hunger and poverty and may serve meals to the needy, but are not those in need of food themselves. Given that offering a donation to someone who cares about the cause provides an opportunity for social connection, we hypothesized that emotional benefits of prosocial
spending would be amplified when people gave a donation to someone who was personally involved with the charity, such that the link between charitable behavior and subsequent happiness would be more pronounced in the presence of social connection.

**Method**

**Participants**

Sixty-eight individuals (54% female; $M_{age} = 22.8$, $SD = 5.7$) participated in this study in exchange for ten dollars.

**Procedure**

Participants were approached in public places on a university campus and asked to complete a short study investigating how people evaluate charitable appeals. After providing consent, participants were paid for their participation and asked to put the payment away; we encouraged participants to put their payment away because doing so tends to increase the perception that payment for an experiment is equivalent in value to one’s own hard-earned cash (Raghubir & Srivastava, 2008). Participants then reported their pre-task general happiness on a single-item measure (Do you feel happy in general? 1-no, 5-yes; Abdel-Khalek, 2006) and a two-item measure of the Subjective Happiness Scale ($\alpha = .77$; SHS; Lyubomirsky & Lepper, 1999). We created a composite measure of baseline happiness by averaging standardized scores on these two measures, which were highly correlated ($r = .59$). Afterward, participants were presented with a print ad for a real charity called ACTS; they were informed that ACTS “is devoted to bringing fresh water to rural communities in Africa and sends many volunteers from North America to East Africa to help with this cause annually.” As participants examined this
ad, the research assistant explained that in the past, participants who had seen this ad had asked if they could donate to ACTS, and that they were welcome to make a donation.

Participants were then randomly assigned to the high or low social connection condition. In the high social connection condition, the research assistant (who was blind to our hypotheses) explained:

I am actually personally involved with this charity and even though we’re doing research on charitable appeals, I chose this charity because of my connection to this charity. My friend just got back from working with this organization in Africa and I’m helping to raise money on his behalf. So if you’d like to donate that would be awesome. Would you like to donate?

If the participant chose to donate, the research assistant accepted the donation, thanked the participant, and asked them to record their name and the donation amount on a record form.

In contrast, participants in the low social connection condition were not informed that the research assistant had a personal connection to the charity. Rather, the research assistant simply explained that any donation the participant chose to make would go to the charity. Before turning away from the participant, the research assistant provided the participant with an envelope and instructed the participant to place any money they wished to donate in the envelope and to drop the envelope in a collection box a short distance away. All funds collected went to the advertised charity.

After making their donation decision, all participants completed a final survey, reporting their positive affect on the Positive and Negative Affect Schedule ($\alpha = .86$; PANAS; Watson, Clark, & Tellegen, 1988), their current overall happiness on a one-item measure (1- not at all, 5-
extremely), and their life satisfaction on the Satisfaction with Life Scale ($\alpha = .87$; SWLS; Diener, Emmons, Larsen, & Griffin, 1985). We created a composite of post-donation well-being by averaging participants’ standardized scores on these three measures, which were all positively correlated ($r$’s > .20).

Results and Discussion

Condition had no impact on the amount of money participants donated to charity, with participants giving roughly five dollars to charity in both the high social connection ($M = $5.07, $SD = 4.32$) and the low social connection condition ($M = $5.00, $SD = 3.40$), $F(1, 66) = .01$, ns. Our critical question, however, was whether the emotional benefits of generosity were greater when participants gave to someone who was personally involved with the charity, thereby establishing a positive social connection. To investigate this question, we centered donations to a mean of zero and dummy coded condition assignment (-1 = low social connection, 1 = high social connection). Then, baseline happiness, donation amount, condition, and a Donation X Condition interaction term were entered into a regression equation predicting post-donation well-being. As expected, baseline happiness ($\beta = 0.27, p = .03$) and the Donation X Condition interaction term ($\beta = 0.34, p < .01$) were the only significant predictors of well-being ratings, suggesting that the impact of donation size on happiness depends upon whether the charitable donation was given in the high or low social connection condition.

We examined the relationship between donation size and post-donation well-being while controlling for baseline happiness in each condition. We found that larger donations were associated with higher well-being ratings in the high social connection condition ($\beta = 0.32, p = .04$), but not in the low social connection condition ($\beta = -0.33, p = .10$). As predicted, the link
between giving and subsequent happiness was strongest when participants gave the donation
directly to someone who was personally connected to the charity (Figure 4; see Appendix 1,
Table 9 for results on each individual measure). Given that participants in the low social
connection condition were also committing prosocial acts, it is striking that the relationship
between donation size and life satisfaction was negative (though not significantly so),
highlighting the critical role of social connection in producing positive feelings from giving.

Figure 4. Donation size (centered to a mean of zero) and social connection interact to predict the
emotional rewards of charitable giving while controlling for baseline happiness (Study 2).
Study 3: Classroom Dictator Game

Using a paradigm that mirrors common real-world instances of charitable giving, Study 2 provides initial evidence for the role of social connection: people who donated more money to charity experienced higher well-being afterward only if they gave their donation to a charitable representative who was personally connected with the cause. Although giving to charitable organizations is common, people more often give to other individuals, including friends and acquaintances (Dunn et al., 2008). To generalize the role of connection to interpersonal contexts, Study 3 used a dictator game paradigm in which we paid participants $10 and let them decide how much of their payment to give to a peer. We manipulated whether participants delivered the money to the recipient personally (enabling brief social connection) or through an intermediary (precluding social connection). Our account suggests that the emotional benefits of prosocial spending are most likely to occur when generous acts provide positive social connection between the giver and recipient; therefore, we predicted that greater generosity would predict higher levels of happiness only when givers were allowed to interact with recipients.

Method

Participants

Forty-eight undergraduates (63% female; $M_{age} = 23.0$, $SD = 5.7$) participated in exchange for a chocolate bar. All individuals participated in this study in a large classroom at the same time.
Procedure

Participants reported their pre-task general happiness on the same single-item pre-task measure as Study 2 (Abdel-Khalek, 2006). Half the participants were then informed that they had been randomly assigned to the decision maker role in a dictator game, and were given ten one-dollar coins as additional compensation for participation. Once again, participants were asked to sign a receipt to acknowledge this payment and ensure a sense of ownership. Decision makers were told that they had each been randomly paired with a fellow student, who had not received any money, and that they should decide how much money to keep and how much (if any) to give this other student. We manipulated the degree of social connection that this transaction allowed by informing half of the decision makers they would personally deliver the funds to the recipient (high social connection condition), and informing the other half that a research assistant would deliver the funds on their behalf (low social connection condition). Decision makers placed whatever amount they wished to donate (from $0-$10) in an envelope and gave the donation directly to the recipient or to the research assistant who delivered the funds. Research assistants delivering donations on behalf of participants in the low social connection condition took funds directly to the recipient seated in the same classroom. Thus, decision makers could see that their donation had been delivered to a recipient by simply watching the research assistant complete this task. All participants then reported their current happiness on the same one-item post-task measure used in Study 2 and their current positive affect on the PANAS ($\alpha = .83$; Watson, et al., 1988). Consistent with Study 2, we created a composite measure of post-donation happiness by averaging standardized scores on these two scales, which were positively correlated ($r = .25$).
Results and Discussion

Consistent with the results of Study 2, decision makers gave away approximately half their windfall to their paired recipient, regardless of whether they were in the high ($M = $5.50, $SD = 2.71$) or low social connection condition ($M = $5.25, $SD = 2.67$), $F(1, 22) = .05, ns$. Again, our primary interest was in whether the emotional benefits of generosity were greater when donations were made in person. As in Study 2, we centered donations to a mean of zero and dummy coded condition assignment (-1 = low social connection, 1 = high social connection). We then entered pre-task happiness, donation amount, condition, and a Donation X Condition interaction term into a regression equation predicting post-task positive affect. The interaction term was the only significant predictor of positive affect ($\beta = 0.47, p < .02$), indicating that the impact of donation amount on positive affect was dependent upon the level of social connection.

We split decision makers into high and low social connection groups and entered pre-task happiness and donation amount as predictors of post-task positive affect. In line with our predictions, larger donations were associated with higher post-task positive affect in the high social connection condition ($\beta = 0.83, p < .005$), but this effect was again eliminated – and reversed – in the low social connection condition ($\beta = -0.60, p < .01$). Thus, giving larger donations produced higher levels of positive affect (above and beyond baseline levels of happiness), but only when a social interaction took place between benefactor and beneficiary (Figure 5; see Appendix 1, Table 10 for results on each individual measure).
Figure 5. Donation size (centered to a mean of zero) and social connection interact to predict post-donation well-being while controlling for baseline happiness (Study 3).

Similar to the results of Study 2, we observed a negative relationship between donation size and happiness in the low social connection condition, such that participants who offered larger donations to their paired recipient reported lower levels of happiness if they were unable to deliver this donation to the recipient themselves. These results suggest that giving away a valuable resource – even if this resource was just recently acquired – can be unpleasant. Indeed, these findings suggest that participants relabelled the study payment as their own hard earned cash. As such, we believe the negative relationship between donation size and happiness reflects a well-documented phenomenon called the pain of paying (Prelec & Loewenstein, 1998), the emotional toll people feel when their economic resources are depleted. While a small sample size prevented us from directly comparing the happiness reports of participants offering small
($0 - $4), medium ($5), and large ($6 - $10) donations in the high and low social connection conditions, the negative relationship between donation size and happiness shown in the low social connection condition suggests that participants experienced an emotional toll when parting with their study payment if there was no opportunity for social interaction while giving this donation.

Study 4: Starbucks Gift Cards

Study 3 replicated the importance of social connection for the emotional benefits of giving and extended these findings to the realm of interpersonal giving; people who made more generous financial decisions experienced more positive affect afterward if they were allowed to interact with their beneficiary. While this design allowed us to investigate our hypothesis in a controlled context, the artificiality of this paradigm represents a limitation. Therefore, in Study 4, we conducted a field study to examine the emotional consequences of generous spending in a more naturalistic setting.

Study 4 also allowed us to address two additional limitations of Studies 2 and 3. First, in both studies, the opportunity for social connection was confounded with social recognition of committing a kind act: in the high social connection condition, the benefactor could both interact with and receive positive recognition from the beneficiary, whereas there was no such opportunity in the low social connection condition. Second, donation sizes were not randomly assigned; participants were allowed to decide how much money to give away to charity (Study 2) or peers (Study 3). Therefore, in Study 4, participants were instructed to give the same gift (a Starbucks gift card) directly to someone else, while we manipulated the degree of interaction
between giver and recipient. Finally, in Study 4 we examined happiness at the end of the day, rather than immediately after the prosocial spending experience.

**Method**

**Participants**

Fifty individuals (66% female; $M_{age} = 21.0, SD = 2.5$) participated in a study on gift card spending. Eight additional participants – evenly dispersed across conditions – could not be reached for follow-up calls and were removed from analyses.

**Procedure**

Participants were approached in the morning on campus and given a $10$ Starbucks gift card to use by the end of the day. Using a $2$ (spending type: personal vs. prosocial) X $2$ (social connection: high vs. low) design, participants were randomly assigned to spend the gift card on either themselves or someone else in a way that either minimized or maximized social connection (Table 2). Specifically, participants who were told to use the card to benefit someone else were instructed either (a) to give the gift card in its entirety to someone else as a gift and not to accompany the recipient to Starbucks, thereby minimizing social connection, or (b) to visit Starbucks with this person and spend the gift card on both themselves and the recipient, thereby maximizing social connection. Participants who were told to spend the card on themselves were instructed either to (a) go to Starbucks by themselves, or (b) go to Starbucks with a friend but to spend the gift card only on themselves.$^6$

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$^6$ To confirm that these four conditions were ecologically valid, we asked an additional sample of 40 undergraduates to report how frequently they engaged in the four types of coffee
Table 2. Spending directions and contrast weights for the four conditions in Study 4.

<table>
<thead>
<tr>
<th>Gift Card Target</th>
<th>Social Connection</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oneself</td>
<td>Please use this $10.00 Starbucks gift card to buy yourself a coffee/treat while alone.</td>
<td>Contrast Weight = -1</td>
<td>Please use this $10.00 Starbucks gift card to buy yourself a coffee/treat while visiting Starbucks with a friend.</td>
</tr>
<tr>
<td>Someone Else</td>
<td>Please give this $10.00 Starbucks gift card to someone else as a gift.</td>
<td>Contrast weight = -1</td>
<td>Please use this $10.00 Starbucks gift card to buy yourself and someone else a coffee/treat to have while visiting Starbucks.</td>
</tr>
</tbody>
</table>

Participants were contacted in the evening by a research assistant, blind to condition, and rated their current affect on the 10 positive affect items on the PANAS ($\alpha = .80$; Watson, et al., 1988), overall happiness on the four-item SHS ($\alpha = .77$; Lyubomirsky & Lepper, 1999), and life buying behaviors assigned in Study 4. Participants reported that they engage in all four types of spending behavior at least 10% of the time. We also confirmed that buying a coffee for oneself while with others, an experience that some may consider awkward, represents a familiar spending behavior. When participants were asked to rate how common or uncommon this spending behavior is on a 7-point likert scale (1 – very uncommon, 7 – very common), participants rated this behavior significantly above the midpoint ($M = 5.38$, $SD = 1.92$), $t(39) = 4.54, p < .001$.  


satisfaction on the SWLS ($\alpha = .86$; Diener, et al., 1985). Once again, we created a composite of well-being by averaging participants’ standardized scores on all three measures ($r$’s > .09).

**Results and Discussion**

We predicted that participants would experience the highest levels of happiness when they spent the gift card on someone else in a way that maximized social connection. To test this question, we first used a 2 (spending type: personal vs. prosocial) X 2 (social connection: high vs. low) Analysis of Variance (ANOVA). Results revealed a non-significant interaction $F(1,46) = 1.32, p > .25$, and a non-significant main effect of spending type $F(1,46) = 0.68, p > .40$ and social connection $F(1,46) = 2.32, p > .12$. Given our specific prediction, however, we used a planned contrast to analyze well-being with weights reflecting our hypothesized pattern, as shown in Table 2 (see Appendix 1, Table 11 for results on independent well-being measures). As expected, this contrast was significant, $t(46) = 2.01, p = .05$, demonstrating that participants randomly assigned to spend the gift card on someone else by going to Starbucks with that individual were significantly happier at the end of the day than participants in the other three spending conditions (Figure 6).\(^7\) Thus, participants who spent on others in a way that allowed for social connection experienced the highest levels of happiness at the end of the day.

\(^7\) Given that past research has shown a link between social interaction and happiness (e.g., Watson, Clark, McIntyre & Hamaker, 1992), It is likely that participants experienced increased positive mood immediately after visiting Starbucks with a friend, even in the absence of prosocial spending. We expected the hedonic effects of this single interaction to last through the end of the day – when happiness was assessed – only when coupled with the positive benefits of prosocial spending.
Using a field study designed to mimic everyday spending behaviors, Study 4 provided additional support for our hypothesis that the emotional benefits of spending are greatest when people spend on others in a way that facilitates social connection. That said, asking participants to engage in everyday spending behaviors allows for several confounds. For instance, participants who gave away the gift card as a gift may have exerted less effort, since they did not actually go to Starbucks themselves; many of the confounds present in this field study, however, are absent from the more controlled Study 3. Taken together with Studies 2 and 3, Study 4 supports our hypothesis by demonstrating that spending leads to the greatest hedonic benefits when people engage in prosocial spending that promotes positive social connection.
General Discussion

Across three studies, we found support for the hypothesis that social connection acts as a catalyst in transforming good deeds into good feelings. In Study 2, we showed that participants who gave larger donations to a charitable organization reported higher levels of happiness after doing so when they gave their donations directly to someone who was connected to the charity. In Study 3, we found that participants who gave more money to a paired recipient were happier when they delivered the funds directly to the beneficiary; participants did not experience the emotional benefits of giving when this same transaction was performed by an intermediary, thus inhibiting social connection. Finally, in Study 4, participants who spent a $10 Starbucks gift card on someone else, and spent time with that person while doing so, were happiest at the end of the day, again suggesting that prosocial spending that allows for positive social connection leads to higher levels of happiness. These findings help to clarify the inconsistent support for the claim that prosocial behavior leads to an increase in well-being by demonstrating that how good deeds are enacted is important for understanding when emotional benefits are experienced.

Although alternative explanations for each individual study are easy to generate, the results of all three studies presented here can be most parsimoniously explained by the hypothesis that positive social connection is important for reaping the emotional benefits of generous financial behavior. Employing three of the most widely used happiness scales, our studies demonstrate that the effects of prosocial spending on happiness may differ depending upon the degree of social connection between the benefactor and beneficiary. These results are particularly striking given the similarity of the behaviors enacted in Studies 2 and 3. That is, when participants had the opportunity to decide how much money to give to charity or another participant, donations were nearly indistinguishable in the high and low social connection
conditions ($5.07 vs. $5.00 in Study 2 and $5.50 vs. $5.25 in Study 3). Yet, generous behavior produced drastically different emotional consequences depending on the degree of social connection the situations allowed.

Because our goal was to understand the broad conditions that moderate the emotional benefits of prosocial spending rather than isolate the specific mechanisms responsible, we manipulated social connection in ways that parallel real life giving opportunities. For example, although most major charities allow people the convenience of making donations online, one of the most common reasons people give to charity is that they are asked for a contribution by someone they know who is connected to the charity (Independent Sector, 1999). This latter form of socially connected giving differs from the former in multiple ways, including anonymity, social pressure, the likelihood of a positive social interaction, and the opportunity for a direct expression of gratitude. We designed our high and low social connection conditions to mimic these real world contexts by including many of the features that socially connected giving entails; further investigation is needed to identify the specific aspects of social connection that might yield the largest emotional rewards in particular giving situations.

The implication for marketers is clear: social connection between consumers and recipients greatly enhances the impact of giving on consumers’ subsequent emotional experiences – suggesting that those companies that build connection into their cause-related marketing initiatives are likely to see a bigger payoff for such activities. Our results suggest two areas for future research as well. First, it is possible that people are more satisfied with cause-related purchases that facilitate social connection than other types of purchases. For instance, people may evaluate products from companies such as Newman’s Own more favourably (i.e. more delicious, higher quality) if consumption can be shared with others, such as when treating
a friend to dinner. This possibility seems likely given that prosocial purchases shared with others produce the highest levels of happiness (Study 4) and positive mood states lead to more favourable product evaluations (Gorn, Goldberg, & Basu, 1993). Second, it is possible that shared prosocial purchases or donations given directly to a charitable representative are more likely to be repeated. This possibility seems likely given that (a) people experience greater emotional benefits after engaging in prosocial spending that encourages social connection and (b) higher levels of happiness promote prosocial spending (Aknin, Dunn, & Norton, 2011). Thus, spending money on others in social ways should increase happiness, which should, in turn, encourage future acts of generosity.

The present research provides the first direct investigation of whether social connection acts as a critical catalyst in transforming generous behavior into positive feelings. Examining this hypothesis in three contexts designed to map instances of real-world giving, we find that financial generosity leads to the largest happiness gains when acts of giving involve increased social connection with a representative of the recipient (Study 2) or the recipients themselves (Studies 3 and 4). These results also offer a novel framework for understanding the seemingly varied support for the emotional benefits of prosocial behavior. Indeed, while past research has presented mixed results for the relationship between giving and happiness – with kind actions sometimes increasing happiness and other times not – we argue and present empirical support to suggest that prosocial behavior is most likely to produce hedonic gains when enacted in ways that allow for increased social connection. In fact, our findings dovetail with research suggesting that positive social interactions, expanded social networks, and reduced isolation mediate the emotional benefits of volunteer work (Musick & Wilson, 2003). While additional factors other than social connection likely influence the happiness gained from prosocial spending, our
findings suggest that putting the *social* in prosocial is one critical catalyst for transforming good deeds into good feelings.
CHAPTER 4 FEELING LIKE YOU MADE A DIFFERENCE: THE IMPORTANCE OF PERCEIVED PROSOCIAL IMPACT WHEN GIVING TO OTHERS

The three previous studies demonstrate that social connection with the recipient is important for participants to experience the emotional benefits of prosocial spending. While this information is valuable in its own right, knowing when the hedonic benefits of prosocial spending are most likely to occur offers some insight into an additional factor that may be critical for experiencing the emotional benefits of prosocial spending: feeling that one has had a positive influence on the recipient. Studies 5 and 6 were designed to build upon this foundation and determine whether perceived prosocial impact represents another critical factor in understanding when people reap emotional rewards from spending on others.

While believing that one has made a positive impact on others may seem like an intuitive requirement for feeling good about giving, many explanations for when and how prosocial behavior increases a helper’s happiness focus on whether helping fulfills the helper’s immediate needs for autonomy and relatedness (Deci & Ryan, 2000). For instance, in a series of diary and lab studies, Weinstein and Ryan (2010) showed that helping only increased a helper’s happiness when prosocial behaviours were enacted autonomously. Thus, helpers had to feel as if they purposefully chose to assist someone to experience the emotional rewards of giving. Similarly, additional research has shown that prosocial behavior may only increase happiness when these actions satisfy relational needs and the motivation to belong (Baumeister & Leary, 1995). Evidence supporting this possibility comes from a study conducted by Williamson and Clark (1989) in which participants were given the opportunity to help a confederate who they were led to believe was either interested in an exchange relationship (i.e. short-term, typical of acquaintances) or communal relationship (i.e. long-term, typical of family, friends, or romantic
partners). Participants only reported an improvement in mood after helping a confederate with whom they desired a communal relationship, such as a single attractive female who was looking to meet new people, and not after helping a confederate that they believed was only interested in a short-term exchange relationship, such as a married attractive female waiting for her husband. These findings suggest that helping may only lead to emotional benefits when kind acts fulfill a helper’s desire to be connected to others. Thus, while the existing literature offers several important moderators for the hedonic rewards of prosocial behavior, most research has focused on the immediate benefits helping provides the helper. Little research has examined whether prosocial behavior leads to happiness when helping influences thoughts or concerns for others.

Perceived prosocial impact is the feeling that one has made a positive impact on others (Grant, 2007), and may represent another critical moderator of the emotional benefits of giving. Indeed, the possibility that perceived prosocial impact is critical to experiencing hedonic rewards after helping others is supported by the findings of Studies 2-4, which demonstrate that the emotional benefits of giving are greatest when people give directly to a recipient or representative of a charitable cause. These acts of giving might influence happiness because donors were able to see that their gift made a positive difference to someone else.

Similarly, while past research has not directly tested whether feelings of perceived prosocial impact are important for experiencing the emotional benefits of giving, several studies indicate that helpers are sensitive to how their assistance is received. For instance, work by Smith, Keating, and Stotland (1989) on empathic joy has demonstrated that participants assigned to take the perspective of another student in need were more likely to offer help to that individual if they believed that they would receive feedback about the impact of their assistance from the recipient. Given that the decision of whether or not to provide help was contingent on
receiving feedback, it seems likely that people value knowing whether their assistance was effective. Along similar lines, an additional body of research on the identifiable victim has documented the surprising disparity between how much assistance people are willing to provide identifiable victims over equal numbers of unidentified cases (e.g., Jenni & Loewenstein, 1997; Small & Loewenstein, 2003), perhaps because offering help to a particular case allows helpers to see or imagine how their efforts will make a difference for this individual. Providing further support that perceived prosocial impact may motivate helping behavior, Grant and colleagues (Grant, 2008; Grant & Gino, 2010) have demonstrated that feeling as if one’s actions have made a positive difference for other leads to subsequent helping behaviour. Therefore, past research has linked perceived prosocial impact to prosocial behaviour but has not examined whether this concept is critical for experiencing the emotional rewards of prosocial behavior.

Studies 5 and 6 were designed to examine whether feelings of perceived prosocial impact are critical for experiencing the happiness gains associated with prosocial spending and to explore possible mediators of this effect. Study 5 investigated this question with a spending recall paradigm. Participants reflected upon a time they spent money on themselves or someone else; amongst those recalling a time they spent on someone else, some recalled a time their purchase had a meaningful impact on the recipient, and others recalled a time their purchase did not have a meaningful impact on the recipient. Participants then reported their happiness and completed measures of several possible mediators, such as perceived prosocial impact, distraction, downward social comparison, perceived social worth, and prosocial identity.

Study 6 investigated the same theoretical questions, but extended this research to the realm of charitable giving by varying the target of a charitable donation. Perceived prosocial impact is a concept frequently harnessed by charitable giving campaigns as agencies look for
ways to motivate individuals to give. For example, Goodwill Industries International provides a prosocial impact calculator on their website (see http://locator.goodwill.org/), allowing donors to compute the positive impact their donations will have on recipients. In Study 6, all participants were asked to evaluate an advertisement for UNICEF and were then presented with the opportunity to make a donation to the organization. Participants were randomly assigned to one of two conditions where they were told that their donation would either go to (a) a specific and identifiable charitable cause or to (b) the large umbrella organization. Accordingly, participants in the high prosocial impact condition were specifically told what their money would be used to buy and participants in the low prosocial impact condition were led to believe that their money would go to UNICEF’s general collection fund. Participants then completed measures of happiness, perceived prosocial impact, and several related psychological constructs. We examined the emotional benefits of giving to high and low prosocial impact charities and whether any of the psychological measures provided insight into a mediational pathway.

Across both studies, we predicted that perceived prosocial impact would influence the emotional rewards of generous spending. Specifically, we hypothesized that perceived prosocial impact would moderate the emotional benefits of giving, such that people would only experience higher levels of happiness after spending on others when they could see that their spending had a positive impact on the recipient.

We also predicted that the emotional benefits of prosocial spending may be mediated by several psychological measures – mainly perceived prosocial impact, perceived social worth, and prosocial identity. These constructs capture whether one has had a positive and meaningful impact on others, is valued by others, and is a moral person. We reasoned that these constructs may provide insight into the mediational pathway through which generous spending increases
happiness because they may be critical for establishing social relationships and a sense of social value, two concepts strongly linked to well-being (e.g. Baumeister, Campbell, Krueger, & Vohs, 2003; Baumeister & Leary, 1995), and responsive to opportunities for prosocial spending. As such, we examined whether these psychological constructs mediated the emotional rewards in Studies 5 and 6. We also wanted to explore whether prosocial spending leads to happiness through distraction of negative thoughts and relative feelings of status. Once again, we suspected that feelings of distraction and relative standing may fluctuate after recalling an act of prosocial spending and predict happiness; therefore measures of these two constructs were included in Study 5.

Study 5: Recollections of High and Low Impact Spending

Method

Participants

Four-hundred seventy nine individuals (64% female) were recruited on the University of British Columbia campus and Amazon’s Mechanical Turk system⁸ to participate in this study exchange for a candy bar or monetary payment.

Procedure

Participants were randomly assigned to one of four conditions in which they were instructed to vividly recall the last time they spent approximately twenty dollars on either: themselves (personal purchase), someone else (prosocial purchase), someone else in a way that

⁸ Research has shown that this service provides samples comparable to other methodologies (Buhrmester, Kwang, & Gosling, 2011).
had a meaningful impact on that person (prosocial boost), or someone else but the purchase did not have an impact on that person (prosocial blocked; see Appendix 2 for recall prompts). After describing the assigned spending memory, participants reported their current affect and completed several additional scales (i.e., perceived prosocial impact, distraction, prosocial identity, downward social comparison, and perceived social worth). Affect and additional scales were presented in counterbalanced order; presentation order did not influence results and therefore will not be discussed further.

**Measures**

**Positive Affect.** Positive affect was assessed with the 10 positive items from the PANAS (α = .89; Watson, et al., 1988).

**Perceived Prosocial Impact.** To examine whether recollections led to feelings of having an impact on the recipient, participants were asked to complete Grant, Campbell, Chen, Cottone, Lapedis, and Lee’s (2007) measure of Perceived Prosocial Impact. This five-item scale (α = .95) assessed whether participants felt they had made a positive, meaningful, or significant change for someone else. Sample items include “my actions made a significant difference in the recipient’s life” and “the recipient really benefited from my contribution.”

**Distraction.** To investigate whether recollections distracted participants from negative thoughts or problems, participants were asked to complete a measure of distraction (adapted from Clary, et al., 1998). This four-item scale (α = .92) captured the extent to which participants felt that their spending distracted them from thinking about problems or difficulties. For example, participants were asked to respond to questions like “to what extent did your purchase allow you to forget about your own difficulties?”
Prosocial Identity. To determine whether recollections led to an increased sense of prosocial and moral identity, participants were asked to complete a measure of prosocial identity (adapted from Aquino & Reed, 2002; Batson, Coke, Jonoski, & Hanson, 1978; Grant, Dutton, & Rosso, 2008). This nine-item scale ($\alpha = .94$) measured the degree to which participants embody prosocial and moral qualities, such as compassion and generosity.

Downward Social Comparison. To determine whether recollections led participants to compare themselves with less fortunate others, participants were asked to complete a measure of downward social comparison (adapted from Bartel, 2001). This four-item scale ($\alpha = .89$) captured the extent to which spending reminded participants of their relative good fortune. Sample items include “to what extent did your experience make you feel grateful for what you have?” and “to what extent did your experience lead you to think about how you’re better off than many other people?”

Perceived Social Worth. To examine whether people felt valued and appreciated after recalling their spending memory, participants were asked to complete several items regarding their perceived social worth (adapted from Grant et al., 2007; Grant & Gino, 2010). This five-item scale ($\alpha = .95$) measured the extent to which participants feel they are valued and appreciated by others. For example, participants were asked to report their agreement with statements like “I feel appreciated as an individual” and “I feel important to others.”

Results

Manipulation check

We predicted that participants assigned to the prosocial boost condition would report the highest levels of perceived prosocial impact, followed by participants in the prosocial spending
condition, prosocial blocked and personal spending conditions. We tested this hypothesis with a one-way ANOVA examining the perceived prosocial impact ratings provided by participants in the four recall conditions. Supporting our prediction and confirming that our manipulation was successful in eliciting differences in impactful spending, the overall omnibus ANOVA was significant, \( F(3, 457) = 67.05, p < .001 \) (see Table 3). Fisher’s LSD post hoc contrasts revealed that all means were significantly different except for personal and prosocial blocked spending condition ratings, which were marginally different from one another (\( p < .08 \)).

**Positive Affect**

In light of the hypothesized importance of prosocial impact, we predicted that positive affect ratings would be highest in the prosocial boost condition, second highest in the prosocial spending condition, third highest in the personal spending condition, and lowest in the prosocial blocked condition. To test this hypothesis, we used a one-way ANOVA to compare the positive affect reports provided by participants in all four conditions. Group means were in the predicted order (see Table 3) and the overall omnibus ANOVA was significant, \( F(3, 449) = 2.90, p < .04 \) indicating that positive affect ratings differed across the four conditions. In contrast to our hypotheses, however, Fisher’s LSD post hoc contrasts revealed that it was only participants in the prosocial boost and prosocial blocked recall conditions whose positive affect ratings differed significantly from one another. As such, we did not replicate the emotional benefits of prosocial
spending (vs. personal spending) observed in numerous other samples and could not explore potential mediators for this effect.

One reason we may not have observed positive affect differences between the personal and prosocial spending conditions is that the prosocial spending memory prompt may have elicited a mixture of high and low impact memories. To examine whether perceived prosocial impact was associated with higher levels of happiness, we examined the correlation between self-reports of perceived prosocial impact and positive affect among participants in the prosocial spending condition. As expected, higher levels of perceived prosocial impact were correlated with positive affect levels $r (91) = .39, p < .001$, indicating that higher levels of happiness were associated with impactful instances of prosocial spending. Of course, given that these data are correlational, it is possible that a participant’s current mood may have influenced their ratings of perceived prosocial impact.

9 Until this failed replication, the emotional rewards of prosocial (vs. personal) spending had been demonstrated with this recollection design in four international samples (see Studies 1, 8a, 8b of the present dissertation).
Table 3. Means and standard deviations for Study 5.

<table>
<thead>
<tr>
<th></th>
<th>Spending Memory Recalled</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Blocked (Low-Impact)</td>
<td>Personal Spending</td>
<td>Prosocial Spending</td>
<td>Boost (High-Impact)</td>
</tr>
<tr>
<td></td>
<td>Prosocial Spending</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive Affect</td>
<td>2.44 (0.83)$^{a}$</td>
<td>2.60 (0.86)$^{a,b}$</td>
<td>2.63 (0.93)$^{a,b}$</td>
<td>2.75 (0.76)$^{b}$</td>
</tr>
<tr>
<td>Perceived Prosocial Impact</td>
<td>2.59 (1.56)$^{a}$</td>
<td>2.25 (1.68)$^{b}$</td>
<td>3.80 (1.50)$^{c}$</td>
<td>4.78 (1.33)$^{c}$</td>
</tr>
<tr>
<td>Distraction</td>
<td>2.43 (1.47)$^{a}$</td>
<td>3.52 (1.89)$^{b,d}$</td>
<td>3.11 (1.71)$^{b,c}$</td>
<td>3.60 (1.72)$^{b,d}$</td>
</tr>
<tr>
<td>Prosocial Identity</td>
<td>4.41 (1.32)$^{a}$</td>
<td>2.80 (1.60)$^{b}$</td>
<td>4.63 (1.30)$^{a}$</td>
<td>5.17 (1.25)$^{c}$</td>
</tr>
<tr>
<td>Downward Social Comparison</td>
<td>3.51 (1.65)$^{a}$</td>
<td>4.17 (1.81)$^{b}$</td>
<td>3.63 (1.73)$^{a}$</td>
<td>4.56 (1.67)$^{b}$</td>
</tr>
<tr>
<td>Perceived Social Worth</td>
<td>3.13 (1.60)$^{a}$</td>
<td>2.95 (1.91)$^{a}$</td>
<td>4.16 (1.57)$^{b}$</td>
<td>4.83 (1.42)$^{c}$</td>
</tr>
</tbody>
</table>

Note: Superscript text denotes significant mean differences. Means with the same superscript are not significantly different from one another at the $p = .05$ level.
In an attempt to disentangle self-reports of positive affect and perceived prosocial impact, we asked a team of two undergraduate coders (blind to participants’ recall condition, positive affect scores, and our hypotheses) to code each spending experience provided by participants in the prosocial spending condition for the amount of impact their purchase appeared to have on the recipient. Coders demonstrated a high degree of inter-rater reliability ($\alpha = .81$). More importantly, their ratings of positive impact correlated with participants’ positive affect reports, $r (94) = .24, p < .02$, again indicating that higher levels of happiness were associated with objectively rated instances of impactful prosocial spending. Furthermore, when we split participants into high and low perceived prosocial impact categories based on coder ratings, those describing high impact purchases reported significantly higher levels of positive affect ($M = 2.91, SD = 0.88$) than those reporting low impact purchases ($M = 2.32, SD = 0.89$), $F(1,92) = 10.31, p < .005$, providing further evidence that impactful generous spending is associated with emotional rewards. Lastly, to see whether high impact prosocial spending led to higher happiness than personal spending, we compared the positive affect ratings of participants in personal spending condition to positive affect ratings provided by high impact spenders in the prosocial spending condition. Analyses revealed that participants in the prosocial spending condition who purchased a high impact gift for someone else (as rated by coders) were happier ($M = 2.91, SD = 0.88$) than participants who spent on themselves ($M = 2.60, SD = 0.86$), $F(1,163) = 4.44, p < .04$, suggesting that prosocial spending leads to greater emotional rewards than self-directed spending when gifts are appear to have a meaningful impact on the recipient.

Finally, although we manipulated prosocial impact to investigate whether this construct was a moderator of our effect, we also explored whether self-reports of perceived
prosocial impact mediated the emotional benefits of prosocial spending. We focus our investigation of mediation on participants in the high impact and low impact prosocial spending conditions because these were the only two assigned conditions yielding significant differences on our dependent variable – positive affect. To test for mediation, we used Baron and Kenny’s (1986) four step procedure. All four steps yielded significant findings (see Figure 7), indicating that self-reported feelings of perceived prosocial impact did mediate the emotional benefits of impactful prosocial spending memories (Sobel = 6.54, $p < .001$). We also explored whether the additional psychological measures mediated the emotional rewards of high impact (vs. low impact) prosocial spending. Analyses revealed evidence for significant mediation with each measure. See Appendix 1, Figures 12-15 for results.

Figure 7. Self-reports of perceived prosocial impact mediate the relationship between recalled spending memory (prosocial boost vs. prosocial blocked) and positive affect.
Discussion

The results of Study 5 provide initial support for the hypothesis that perceived prosocial impact may moderate the emotional benefits of prosocial spending. Participants assigned to recall a time they spent money on others in way that had positive impact on the recipient (prosocial boost condition) reported higher levels of positive affect and perceived prosocial impact than participants asked to recall a time they spent on someone else but it did not have an impact on the recipient (prosocial blocked condition). Furthermore, exploratory mediational analyses demonstrated that recollections of high-impact prosocial spending led to higher levels of happiness through feelings of perceived prosocial impact and a number of additional psychological constructs. Thus, perceived prosocial impact appears to be a moderator and possible mediator of the hedonic rewards of generous spending. Given that we did not observe happiness differences between the personal and prosocial spending recall conditions, however, we were unable to explore whether perceived prosocial impact (and other psychological mechanisms) may be a mediator within the larger dataset.

While Study 5 explored the importance of perceived prosocial impact by examining well-being after participants reflected upon an earlier spending occasion, Study 6 was designed to test the importance of perceived prosocial impact in an applied field setting immediately after participants had the opportunity to make a charitable donation. A research design similar to Study 2 was used; participants were asked to evaluate a charitable appeal and were then given the opportunity to make a charitable donation to that cause by giving directly to someone who cares about the charity. In Study 6, levels of perceived prosocial impact were manipulated by telling participants that their donation would go to either a specific charitable cause (high perceived prosocial impact) or a large charitable organization.
(low perceived prosocial impact). This manipulation capitalized on previous identifiable victim (Jenni & Loewenstein, 1997) and framing biases (Johnson, Hershey, Meszanos, & Kunreuther, 1993) research by providing some participants with specific and vivid information about a high impact charity to which they could donate. Given the predicted importance of perceived prosocial impact, we hypothesized that larger donations given to charity would lead to larger emotional rewards, but only when donations were given to a specific and high impact charitable cause.

Study 6: Manipulating Perceived Prosocial Impact in Charitable Donations

Method

Participants

One-hundred twenty individuals (60% female; \(M_{age} = 21.4, SD = 3.5\)) participated in this study in exchange for ten dollars.

Procedure

Participants were approached in public places on a university campus and invited to complete a short study investigating how people evaluate charitable appeals. After providing consent, participants were paid for their participation, asked to sign a receipt for this payment and told to put their payment away. Participants then reported their general happiness on a single item measure (Abdel-Khalek, 2006) and an abbreviated 2-item version of the Subjective Happiness Scale (\(\alpha = .84\); Lyubomirsky & Lepper, 1999). Afterward, all participants were presented with a print ad for UNICEF. While examining the ad, participants were told that many participants had asked if they could donate to the cause after
seeing this charitable appeal, so if they wanted to make a donation to the charity they could too. Participants were also told that our lab was collecting money for this charity because one of the graduate students is very passionate about the cause and that all lab members found the charity worthwhile and important.

Participants were then randomly assigned to one of two conditions. Participants in the low perceived prosocial impact condition were told:

Before you make a decision about donating though, you should know that your donation will be given to the United Nations International Children’s Emergency Fund (UNICEF), which is a charitable foundation whose work is carried out in 190 countries around the world. The heart of UNICEF’s work is in the field with some 10,000 employees working on international priorities such as child protection, survival and development.

Participants in the high perceived prosocial impact condition were told:

Before you make a decision about donating though, you should know that your donation will be given to Spread the Net, a subsidiary branch of the United Nations International Children’s Emergency Fund (UNICEF). This cause was initiated to raise awareness and help wipe out death by malaria. Every $10 collected purchases a bed net for a child in Africa — a simple, effective, inexpensive way to make a BIG difference — saving lives, one net at a time.

Charity descriptions were taken from each charity’s respective website. Spread the Net and UNICEF were selected as donation targets because these two charities are run by the same organization (UNICEF). Thus, all funds went to the same umbrella organization but
participants in the high impact condition (i.e. those seeing a charitable appeal for Spread the Net) were informed of how their contribution would be put to use.

After hearing the assigned charity description, all participants were asked if they would like to donate to the cause. If the participant agreed, the research assistant accepted the donation, thanked the participant, and asked them to record their name and the donation amount on a record form. After making a donation decision, all participants completed a final survey in which they reported their current positive affect on the PANAS, which included the word “happy” ($\alpha = .89$ for 11-item scale; Watson, et al., 1988), and their well-being on the SWLS ($\alpha = .85$; Diener, et al., 1985). Finally, participants were asked to complete the same measures of perceived prosocial impact, perceived social worth, and prosocial identity as described in Study 5.

**Results**

*Donation rates*

In contrast to typical identifiable victim research findings, donation rates did not differ across the high and low impact conditions. Participants opted to give roughly five dollars to charity in both the UNICEF/low perceived prosocial impact ($M = 5.44$, $SD = 4.11$) and the Spread the Net/high perceived prosocial impact condition ($M = 5.07$, $SD = 4.39$), $F(1, 118) = .22$, ns.

*Manipulation check*

To ensure that participants interpreted the Spread the Net and UNICEF conditions as high and low impact charities respectively, we examined the overall levels of perceived
prosocial impact across the two conditions. Using an independent samples t-test, we found that perceived prosocial impact ratings were higher in the Spread the Net condition ($M = 4.32, SD = 2.01$) than in the UNICEF condition ($M = 3.57, SD = 1.54$), $t(117) = 2.30, p < .03$, suggesting that our manipulation successfully distinguished between high and low impact giving opportunities.

In addition to examining whether overall perceived prosocial impact levels differed across conditions, we also investigated whether offering larger donations led to higher levels of perceived prosocial impact across conditions. To find out, we entered donation amount (centered to a mean of zero), condition assignment (conditions dummy coded: -1 = low impact/UNICEF, 1 = high impact/Spread the Net) and a Condition X Donation interaction term into a regression equation predicting perceived prosocial impact ratings. All three terms were significant predictors of perceived prosocial impact (all $\beta$s > .17, all $p$s < .04), indicating that larger donations and giving to Spread the Net (rather than UNICEF) predicted higher levels of perceived prosocial impact. Importantly, however, these two main effects were qualified by a significant interaction, suggesting that larger donations given to Spread the Net had the greatest influence on perceived prosocial impact ratings.

*Emotional benefits from giving*

The two baseline measures of happiness were significantly correlated, $r(120) = .64, p < .001$, as were the two measures of post-donation well-being, $r(118) = .32, p < .001$. As such, overall means on the two scales were standardized and combined to create more reliable measures of pre- and post-donation well-being. Using these composite measures, we examined whether condition assignment influenced the hedonic rewards of giving by
entering baseline happiness, donation amount (centered to a mean of zero), condition assignment (conditions dummy coded: -1 = low impact, 1 = high impact) and a Condition X Donation interaction term into a regression equation predicting post-donation well-being.

As expected, both baseline happiness ($\beta = .58, p < .001$) and the Condition X Donation interaction ($\beta = .15, p < .05$) significantly predicted post-donation well-being, suggesting that the impact of donation size on happiness depends upon whether the donation was given to a low impact (UNICEF) or high impact (Spread the Net) charity (see Figure 8). Probing this interaction further, we examined the relationship between donation size and well-being in the UNICEF and Spread the Net conditions separately. To do so, baseline happiness and donation size were used to predict post-donation well-being for each condition independently. Analyses revealed that larger donations significantly predicted higher levels of well-being in the Spread the Net condition ($\beta = 0.29, p < .01$), but not in the UNICEF condition ($\beta = 0.00, ns$). Thus, giving more money to charity led to higher levels of well-being but only when participants gave to a specific and high impact cause. Results on individual measures of well-being can be found in Appendix 1, Table 12.

Mediation models

After finding that larger donations led to higher levels of happiness in the Spread the Net condition, we questioned whether self-reports of perceived prosocial impact, perceived social worth and prosocial identity mediated these findings. Adding each of these measures individually into the regression equation with baseline happiness and donation size predicting post-donation happiness, we found that neither measure attenuated the impact of donation size on happiness (see Appendix 1, Figures 16-18). Similarly, entering all three
Figure 8. Relationship between donation size and happiness in the high (Spread the Net) and low (UNICEF) impact conditions.

measures into the regression equation at once left the relationship between donation size and happiness effectively unchanged. Thus, self report ratings of these three psychological constructs did not mediate the relationship between generous spending and happiness.

Discussion

The results of Study 6 provide additional support for the hypothesis that perceived prosocial impact is a critical moderator of the emotional benefits of prosocial spending. Participants who gave larger donations to a charitable cause experienced higher levels of happiness after giving, but only when donations were given to a specific, high-impact charity (e.g., Spread the Net). Although we assessed several psychological constructs to explore
mediation, none of these measures could explain the emotional rewards of giving larger donations to a high impact charity in Study 6. Taken together, Studies 5 and 6 offer converging evidence to suggest that perceived prosocial impact represents another critical moderator of the observed effect – donors must feel that their spending had a positive impact on others to reap the emotional rewards of generous spending. In contrast to our hypotheses, however, perceived prosocial impact (and the other possible psychological mediators) did not explain the emotional rewards of giving consistently across both studies. As such, further research is needed to uncover whether one (or several) mediator(s) consistently explain this effect.

General Discussion

These findings extend previous research on the emotional benefits of generous behaviour by suggesting that helping is most likely to lead to happiness when helpers know that they have assisted another person in a meaningful way. While these finding may seem intuitive, previous research has focused on examining whether helping others increases happiness by directly satisfying the helper’s needs. Therefore, these findings provide a novel extension by demonstrating that helping may only lead to happiness when helpers feel they have assisted someone else. By shifting the focus of investigation from the helper to the recipient, these results provide greater insight into why benefactors may prefer offering assistance to specific, vivid and concrete causes; providing help to such causes allows helpers to see that their assistance has made a positive impact, which leads helpers to reap the largest emotional rewards.

These findings offer clear implications for how to increase the emotional rewards
associated with interpersonal and charitable giving. Whenever possible, givers should be
offered the opportunity to learn that their efforts have had a positive impact on the recipient.
Many people and charities already make use of this strategy. For instance, after contributing
to the British Columbia Guide Dog Association, donors are sent periodic updates of how
their sponsored guide dog is progressing, notifying donors of when the puppy graduates from
guide dog training and is assigned to help an individual in need. These periodic updates
allow donors to see how their money is being used to help others and likely increases the
emotional benefits of donating to this charity. Individuals also intuitively apply this strategy
when offering formal or informal thank you notes to friends and family. One familiar
example is sending thank you cards to wedding guests. It is common for a newly married
couple to send personalized thank you notes that specifically thank guests for their gift and
attending the wedding. Indeed, wedding etiquette experts encourage the newlywed couple to
offer information about how gifts will be used
(http://www.marthastewartweddings.com/photogallery/writing-thank-you-notes#slide_5), so
that benefactors know that their gift was appreciated and will have a positive impact on the
couple.

Finally, because prosocial spending represents only one form of generous behavior
(Liu & Aaker, 2008), it is possible that the importance of perceived prosocial impact extends
to other forms of prosocial behavior as well. For instance, reaping the emotional rewards of
volunteer work – when one donates their time rather than money to a cause – may also
depend on whether one feels their contributions have made a positive impact for others.
Future research should explore this possibility to gain a greater understanding of when and
how generous behaviour increases happiness.
CHAPTER 5 IS THE LINK BETWEEN PROSOCIAL SPENDING AND WELL-BEING A PSYCHOLOGICAL UNIVERSAL?

Warren Buffett, one of the richest people in the world, recently pledged to give away 99% of his wealth, saying that he “couldn’t be happier with that decision” (Buffet, 2010). Consistent with Buffett’s claim, recent research suggests that financial generosity may indeed promote happiness (e.g., Dunn, et al., 2008). For Buffett, this striking act of generosity necessitated little self-sacrifice; he noted that “my family and I will give up nothing we need or want by fulfilling this 99% pledge,” whereas for other people, “the dollars [they] drop into a collection plate or give to United Way mean forgone movies, dinners out, or other personal pleasures” (Buffett, 2010). Of course, in many parts of the world, spending one’s limited financial resources on others may mean sacrificing more than just movies and dinners out. Does spending money on others promote happiness even in relatively impoverished areas of the world?

Although this question cannot be easily answered on the basis of existing empirical research—which has been conducted almost exclusively in wealthy countries such as the U.S. and Canada—there are theoretical reasons to expect that financial generosity should promote subjective well-being around the world. In particular, evolutionary theorists have argued that the evolution of altruistic behaviour was essential in producing the large-scale

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social cooperation that allowed early human groups to thrive (Darwin, 1871/1982; Henrich &
Henrich, 2006; Tomasello, 2009; Wilson, 1975). If the capacity for generosity favored
survival in our evolutionary past, it is possible that engaging in generous behaviour might
produce consistent, positive feelings across diverse cultural contexts—akin to the pleasurable
feelings associated with other adaptive behaviours such as eating and sexual intercourse.
Building on this logic, we suggest that using financial resources to help others may yield
emotional benefits across diverse cultural contexts, such that deriving happiness from
prosocial spending is a psychological universal.

Although generosity can assume many forms, giving to others frequently involves
sacrificing money or time (Liu & Aaker, 2008). We focus our investigation specifically on
the impact of prosocial spending on happiness, which has been posited to lead to a “warm
 glow” on the part of givers (Andreoni, 1989; 1990; Harbaugh, 1998). Providing initial
evidence for the rewarding property of financial generosity, research conducted with a
sample of more than 600 North Americans demonstrated that devoting more money to
prosocial spending (on gifts for others and charitable donations) was correlated with greater
well-being, even when controlling for income. Importantly, this link is causal: North
American students who were randomly assigned to spend a small windfall on others were
significantly happier at the end of the day than those assigned to spend money on themselves
(Dunn et al., 2008).

But does this relationship between prosocial spending and happiness extend beyond
North American samples, emerging in both poor and rich countries? Cross-cultural research
has shown that the within-country correlation between how much money individuals make
and their happiness varies according to a country’s average income (e.g., Deaton, 2008;
Diener & Biswas-Diener, 2002). This suggests that the link between how individuals spend that money and their happiness might also differ between poor and wealthy countries. In particular, it would be reasonable to expect that the emotional benefits of spending money on others observed in North America might be diminished or even eliminated within very poor countries, where people might be more concerned with satisfying their own basic needs.

We propose, however, that the relationship between prosocial spending and happiness is robust and occurs regardless of differences between countries in wealth or in the specific form that prosocial spending takes. Indirect support for the universality of the prosocial spending and happiness link derives from a range of research traditions. Children as young as two show a variety of prosocial behaviours, such as sharing, helping, and comforting others (Zahn-Waxler, Radke-Yarrow, Wagner, & Chapman, 1992). Both human infants and chimpanzees will provide instrumental help to a stranger—even when no reward can be expected for helping—suggesting that humans and our nearest evolutionary relatives may find helping others inherently rewarding (Warneken & Tomasello, 2006). Among older adults, providing help to others predicts decreased risk of morbidity and mortality (Brown, Consedine, & Magai, 2005; Brown, Nesse, Vinokur, & Smith, 2003). In addition, prosocial behaviour has been linked to a set of brain regions implicated in the experience of reward, including the orbital frontal cortex and ventral striatum (Harbaugh, Mayr, & Burghart, 2007; Moll et al., 2006; Tankersley, Stowe, & Huettel, 2007), again suggesting a basic reinforcing property for generosity. Thus, while there is no question that individuals often behave selfishly, previous research provides suggestive evidence that human beings may also have a proclivity to experience emotional benefits from giving to others.
Psychological universals are defined as “core mental attributes shared by humans everywhere” (Norenzayan & Heine, 2005, p. 763), and can be classified into several categories, including accessibility universals, which appear everywhere with little or no cultural variation, and functional universals, which are potentially detectable in all cultures but that may vary in degree of expression according to the cultural context. Norenzayan and Heine (2005) argue that few psychological phenomena are likely to meet the stringent threshold for classification as accessibility universals (i.e., absence of meaningful cultural variation). We propose that the positive relationship between prosocial spending and well-being is a functional universal.

Norenzayan and Heine (2005) note that the field of psychology lacks a “a set of agreed upon methodological criteria by which we can consider universals,” such that “researchers have largely relied on appeals to their readers’ intuitions as to what kind of data would strengthen the case for universality” (p. 766). In response, Norenzayan and Heine (2005) propose that researchers should gather evidence for universals by (i) surveying individuals across a diverse array of the world’s countries (which generally necessitates the use of brief questionnaire-based correlational analyses), and (ii) conducting experimental studies within two or three cultures that differ substantially on key dimensions. In the present research, we apply this “gold standard” strategy of converging evidence to test the hypothesis that prosocial spending is linked to subjective well-being across cultures. Although the countries we studied differ on numerous dimensions, we were primarily interested in the key dimension of national-level income, which has been shown to play a critical moderating role in shaping the relationship between individuals’ wealth and well-being within countries, as discussed above; therefore, we examine the emotional benefits of prosocial spending among
individuals from countries with various ranges of income, extending previous research by examining the impact of prosocial behaviour around the world. We expected that prosocial spending would differ in both form and frequency within poor versus wealthy countries, but that the emotional consequences of generous spending would be consistently positive. If prosocial spending is manifested differently in diverse cultures but is linked to greater happiness across them, this would provide strong evidence that the warm glow of giving is a robust component of human psychology.

Following Diener and colleagues (e.g., Diener, 2000; Diener, Oishi, & Lucas, 2003; Diener & Scollon, 2003), we view subjective well-being as including both affective (e.g., positive emotion) and cognitive (e.g., life satisfaction) components. Diener and Scollon (2003) note that, “Whether emotions or cognitions, all forms of SWB represent the person’s evaluation of his or her life, whether at the moment or across time” (p. 4). Because no single measure of SWB captures all facets of this broad construct (Diener, 1984), researchers in this area recommend using multiple measures of SWB in order to investigate whether similar effects emerge (Biswas-Diener, Kashdan & King, 2009; Diener & Biswas-Diener, 2002; Kashdan, Biswas-Diener and King, 2008). We adopt this broad approach to SWB in the present research and use the terms happiness and SWB interchangeably.

Also following past research (Aknin, Sandstrom, Dunn, & Norton, 2011; Aknin, Dunn & Norton, 2011; Dunn et al., 2008), we define prosocial spending broadly: using financial resources to benefit others, whether through donations to charities, gifts for friends and family, or additional other-oriented expenditures. Note that this definition is behavioural rather than motivational: while prosocial behaviour has been defined as an act performed to benefit another person (Penner, Dovidio, Piliavin, & Schroeder, 2005), altruism is defined as
“a motivational state with the end goal of increasing another’s welfare” (Batson & Shaw, 1991, p. 108). Given the difficulties and ambiguities inherent in assessing the underlying reasons for behaviour, we focus our investigation of financial generosity on the impact of prosocial actions on well-being, rather than on people’s underlying motivations for performing those actions.

Here, we present three studies that use multiple methods to examine whether humans around the world experience hedonic benefits from generous spending. In Study 7, we conduct correlational analyses to demonstrate a relationship between prosocial spending and well-being across 136 countries that span a wide range of income levels. We then narrow our focus to three of these countries—Canada and Uganda (Study 8a) and India (Study 8b)—that differ on the key dimension of income and show that recalling a past instance of prosocial spending has a consistent and causal impact on happiness in all three countries.

Study 7: Correlational Study with Gallup World Poll

Method

Sample

To examine the correlation between prosocial spending and subjective well-being within a large number of countries, we use data collected from 136 countries between 2006-2008 as part of the Gallup World Poll (GWP; total $N = 234,917$, $M_{age} = 38$, $SD = 17$; 49% male)$^{11}$. The sample represents over 95% of the world’s adult population (aged 15 and older)

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$^{11}$ I did not have direct access to the Gallup World Poll database. Access and analyses were provided by C.P. Barrington-Leigh and J. Helliwell.
and provides an exceptionally large and diverse snapshot. The data are collected using randomly selected, nationally representative samples with a mean size of 1321 individuals per country (SD = 730, range = 141- 4437). These samples include residents from cities, towns, and rural areas, thus representing the population of an entire country. In wealthier regions, respondents are selected through random-digit dialling for a 30-minute interview. In poorer regions, respondents are selected with random geographic sampling for a 1-hour face-to-face interview. All survey materials are presented in the local language; materials are back-translated (e.g., from English to German then German to English) to ensure accuracy.

Measures

Prosocial Spending. The GWP asks respondents whether they have donated money to charity in the past month. We use dichotomous responses (Yes/No) to this question as our index of prosocial spending.

Subjective Well-Being (SWB). Two questions in the GWP measure respondents’ subjective assessment of their life overall: First, in most countries and waves of the GWP, respondents are asked to evaluate their lives using the Cantril ladder (Cantril, 1965). Ratings on this scale require respondents to imagine a ladder with eleven steps (0: worst possible life to 10: best possible life) and report which step best represents their life. Second, in 2007 and 2008, respondents in approximately half of the countries completed a single-item measure of life satisfaction, which asks respondents to rate how satisfied they are with their life as a whole on an eleven point scale (0: dissatisfied to 10: satisfied). Consistent with recent research (Helliwell, Barrington-Leigh, Harris, & Huang, 2010), we use each individual’s response(s) to one or both of these questions – taking the average when both responses are present – as our measure of SWB.
Income and demographics. The GWP records respondents’ household income. We use the natural logarithm of household income in our within-country estimates, which do not rely on international exchange rate or purchasing power calculations. Where we do compare incomes at the international level, we use the average GDP per capita expressed in 2007 U.S.A. dollars, based on Purchasing Power Parity values from the World Bank (see Deaton, 2008 for similar methods and income comparisons, including a discussion of the empirically-preferred logarithmic form of income). As an additional measure of income and material consumption, respondents are asked if there has been a time in the last year when they have had trouble securing food for their family. Respondents also provide demographic information, including gender, age, marital status, and education level.

Results

Within-country equation

We examine the relationship between SWB and prosocial spending while controlling for household income and whether respondents had lacked enough money to buy food in the past twelve months. We also control for demographic variables (age, gender, marital status, and education level). To begin with the most stringent test of universality, we estimate a regression equation separately for each country, pooled over years 2006-2008. The equation estimated separately for each country is of the form:

\[ \text{Result} \]

\[ Consistent \ with \ other \ recent \ research \ analyzing \ SWB \ data \ in \ the \ Gallup \ World \ Poll \ (Deaton, \ 2008; \ Diener, \ Ng, \ Harter, \ & \ Arora, \ 2010), \ we \ chose \ to \ utilize \ ordinary \ least \ squares \ regression \ analyses. \ This \ analytic \ strategy \ has \ been \ validated \ against \ a \ number \ of \ other \ methods \ for \ analyzing \ the \ determinants \ of \ happiness \ (Ferrer-i-Carbonell \ & \ Frijters, \ 2004). \]
SWB\(_i\) = c_0 + a \log(\text{Income}_i) + b \text{Donated}_i + c \text{Food}_i + X^T d + g \text{dNoSWL}_i + \Sigma \text{yr} h_{\text{yr}} \text{dWave}_{\text{yr}, i} + \varepsilon_i

for individual \(i\). The coefficient \(b\) represents the relationship between individual life
evaluation (SWB\(_i\)) and donating to charity (\text{Donated}_i), while controlling for household
income (\text{Income}_i), reported food inadequacy (\text{Food}_i), an indicator for each wave (year) of the
Gallup World Poll, the remaining demographic variables (\(X_i\)), and an indicator (\text{dNoSWL}_i)
to account for whether one or two measures of life evaluation were available for the
individual.

The relationship between prosocial spending and SWB is positive in 120 out of 136
countries included in the Gallup World Poll, with this relationship reaching traditional levels
of significance \((p < .05)\) in some 59% of these 120 countries (Figure 9). In a pooled global
estimate, the prosocial spending coefficient, \(b = .27, p < .03\), exceeds half the coefficient of
log income, \(b = .41, p < .03\). Thus, in this model, donating to charity has a similar
relationship to SWB as a doubling of household income.\(^{13}\) Importantly, although rates of
prosocial spending are higher in wealthier countries, \(r(134) = 0.54, p < .001\), the size of the
relationship between prosocial spending and SWB that emerges within countries is unrelated
to rates of donation, \(r(134) = -.10, p = .23\), or to the countries’ mean incomes, \(r(134) = -.09, p = .31\), suggesting that generous financial behaviour is linked to well-being in poor and rich
countries alike.

\(^{13}\) The relationship between prosocial spending and SWB holds equally \((b = .26, p < .02)\) if we estimate a simpler equation which lacks controls for demographic variables,
household income, and access to food.
Figure 9. World map display of prosocial spending coefficients.
Although these findings point to the robustness of the relationship between prosocial spending and SWB in economically and culturally diverse areas of the world, this relationship failed to reach significance in a considerable number of individual countries. Because our ability to detect a significant relationship between prosocial spending and SWB within each country is limited by the sample size at the country level, we conducted a power analysis for this coefficient; given the median variance explained by the donation variable across countries, a sample of 1900 respondents would be required to produce a significant ($p < .05$) within-country coefficient 80% of the time. Applying this threshold, we find that amongst the subset of 23 countries with samples of at least 1900 respondents, the estimate of prosocial spending is significantly positive in 20 (87%).

Another means of maximizing power while encompassing the full diversity of our sample is to aggregate countries into seven major cultural/geographic regions used by Gallup in designing its World Poll (see Helliwell et al., 2010). When averaged within each region, the estimates for prosocial spending are strongly significant in each: Africa ($b = .29, p < .001$), Asia ($b = .20, p < .001$), Europe ($b = .27, p < .001$), the former Soviet Union and Eastern Europe ($b = .33, p < .001$), Latin America ($b = .22, p < .001$), Persia and the Middle East ($b = .18, p < .05$), as well as the USA, Canada, Australia and New Zealand ($b = .30, p < .001$).

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14 These means are calculated using confidence weights from the country-level estimates.
Multi-level modeling

While the above analyses demonstrate the considerable consistency of the relationship between prosocial spending and SWB, we do not suggest that it emerges to precisely the same extent everywhere in the world. Rather, we hypothesize that the relationship is robust throughout diverse regions of the world, and more specifically, robust in both poor and rich countries. To examine the role of national-level income more thoroughly in a multi-level framework, we next estimate a global (pooled) model in which the effect of prosocial spending is allowed to vary non-parametrically as a function of national-level income:

**Equation 2**

\[ \text{SWB}_i = c_0 + a \log(\text{Income}_i) + b(\text{GDP}) \cdot \text{Donated}_i + c \cdot \text{Food}_i + X^T_i \cdot d + g \cdot \text{dNoSWL}_i + \Sigma \cdot y_r + h \cdot \text{dWave}_{y_r,i} + e_i \]

In equation (2), the coefficient b may vary across countries as a function of national income in PPP GDP per capita. The estimate of (2) is carried out as a standard linear regression in which the Donated variable is interacted with indicators for consecutive ranges of the national income variable. By not constraining the country dependence to a parametric or linear relationship, this specification allows for a flexible moderating relationship between country variables and our main effect. Figure 10 shows this estimated relationship b(GDP) between the effect of prosocial spending and the mean purchasing power amongst nations. By averaging over respondents from multiple countries, the effective sample size is increased
as compared with individual country estimates, and the estimated coefficient is now uniformly and significantly positive ($p < .001$); indeed, it is remarkably uniform in magnitude along the entire range of incomes.

**Figure 10.** The estimated relationship between prosocial spending and mean purchasing power amongst nations, resolved over more than an order of magnitude of income. The shaded envelope shows 95% confidence intervals on the estimated coefficient for prosocial spending in each range of national income. For reference, individual country-by-country estimates from equation (1) are overlaid, showing 95% confidence intervals. The dashed lines show the extension of the range of the smallest and largest income groups estimated.
Discussion

Examining over 200,000 respondents drawn from 136 countries, we find that prosocial spending is linked to higher subjective well-being around the world. The size and significance of this relationship varies between countries, consistent with our hypothesis that the relationship represents a functional universal (as opposed to an accessibility universal). Importantly, the link between financial generosity and SWB emerged in both poor and rich countries. Thus, Study 7 provides the first empirical evidence that this link may be a widespread component of human psychology rather than limited to affluent countries such as the United States and Canada – both characterized by a level of material wealth unimaginable throughout most of human history. The robustness of the observed relationship is particularly notable given that prosocial spending was assessed with a one-item dichotomous measure, suggesting that the effect may prove even more ubiquitous if this construct were to be assessed with more in-depth measures tailored to each country.

The primary strength of Study 7 lies in its broad lens, which provides a clear snapshot of the relationship between prosocial spending and well-being in a large majority of the world’s countries, but we reiterate that this correlational design precludes causal conclusions. In particular, it is possible that respondents' answers to the donation question may be influenced by factors such as their financial security. Inclusion of a second control for material consumption – i.e., the food inadequacy term in equation (1), which also includes log of income – to reduce the income effect through donation, however, does not significantly change the donation coefficient.\(^\text{15}\) Similarly, adding or removing demographic

\(^{15}\) An alternative set of estimates were computed to account for the further possibility that the observed incidence of donating money is itself partly a reflection of real (imperfectly
variables from the equation leaves the donation coefficient effectively unchanged. Finally, the analyses above demonstrate that while donation rates are higher within wealthier countries, the well-being benefits of donating are unrelated to the reported frequency of donations. Thus, residents of richer countries donate more frequently, but the hedonic returns to donating are fairly uniform, suggesting that the findings presented in Study 7 depict a pervasive relationship between financial generosity and subjective well-being.

That said, correlational analyses are inevitably subject to alternative explanations, such that establishing the causal impact of prosocial spending on happiness necessitates the use of experimental design. Therefore, we next use experimental methodology and narrow our focus to two countries, Canada and Uganda. These two counties differ substantially in terms of our key variable of interest, per capita income (with Canada falling in the top 15% and Uganda falling in the bottom 15% of countries surveyed in Study 7), as well as frequency of prosocial spending (66% of respondents reported donating in Canada vs. 13% in Uganda). In addition, moving beyond the narrow measure of prosocial spending used in Study 7—charitable giving—we broaden our operationalization of this construct in Studies 8a and 8b, assessing the different forms that prosocial spending takes in different cultural contexts. This broader construal of prosocial spending includes all types of spending on others, such as taking a friend to lunch, and provides a fuller and more ecologically-valid representation of generous financial behaviour. Of course, spending on others versus oneself differs on multiple dimensions; in particular, it is likely that prosocial spending is intended to measured) household income. These estimates do not alter the relationship between prosocial spending and SWB, which remains positive in 120 out of 136 countries and significant \( p < .05 \) in 59% of these 120 countries.
foster social relationships, an independent predictor of well-being (e.g., Baumeister & Leary, 1995; Diener & Oishi, 2005; Diener & Seligman, 2002). We therefore assessed this construct with coder ratings (Study 8a) and self report (Study 8b) to show that the effect of prosocial spending on happiness emerges even when controlling for intentions to build or improve a social relationship.

Study 8a: Experimental Study in Canada and Uganda

To test the causal impact of prosocial spending on happiness, we randomly assigned participants in Canada and Uganda to write about a time they had spent money on themselves (personal spending) or others (prosocial spending). This reminiscence-based methodology has been used successfully in previous research to study the long-term emotional consequences of real world spending experiences (e.g., Van Boven & Gilovich, 2003; Carter & Gilovich, 2010). We assessed participants’ happiness following this task and coded their responses for the specific form that their personal and prosocial purchases had taken.

Method

Participants

A total of 820 individuals participated: 140 students from the University of British Columbia in Vancouver, Canada ($M_{age} = 20.0, SD = 3.9, 54\%$ females), 105 students from Mbarara University in Mbarara, Uganda ($M_{age} = 21.7, SD = 2.6, 24\%$ females), 382 students from Makerere University in Kampala, Uganda ($M_{age} = 23.0, SD = 4.1, 72\%$ females), and 193 adults from the city of Kampala, Uganda ($M_{age} = 27.7, SD = 7.8, 51\%$ females).
Procedure

Participants were approached on a university campus or in the city of Kampala and randomly assigned to recall a recent purchase in which they spent either ten thousand Ugandan Shillings or twenty Canadian dollars on themselves (personal spending condition) or someone else (prosocial spending condition); these amounts represented approximately equal buying power in Uganda and Canada, respectively. After describing the spending experience in detail using a procedure designed to elicit vivid reminiscence (Strack, et al., 1985), participants were asked to report their happiness on the Subjective Happiness Scale (SHS), a four-item measure of subjective well-being that has been used with samples around the world (α = .70; Lyubomirsky & Lepper, 1999). All study materials were provided in English and edited by local collaborators to ensure that questions would be comprehensible and interpreted consistently in both Canada and Uganda. Despite these methodological precautions, it is well-known that people in different cultural contexts may use differential response sets in rating themselves on subjective Likert-type scales (e.g., Bond, 1988; Heine, Lehman, Peng, & Greenholtz, 2002). Therefore, following procedures recommended to mitigate this problem (Bond, 1988; Heine, 2008; Leung & Bond, 1989), we z-scored responses on the SHS within each country prior to pooling our data across countries.16

16 The effect of prosocial spending on happiness was substantively the same using raw happiness scores rather than standardized scores. Because the use of raw scores can produce spurious results when the effect of one variable on another is examined across cultures (for a discussion of this issue, see Bond, 1988), we report results using standardized scores.
Coding. Participants’ spending descriptions were coded by undergraduate research assistants (RAs) blind to participants’ assigned condition and happiness scores, as well as the goals of the study. All spending experiences were coded by four Canadian RAs,\(^\text{17}\) with a subset rated by a Ugandan coder to check for cross-cultural consistency in interpretation; the Ugandan coder’s ratings were highly correlated with the ratings of the four Canadian coders, average \(r(88) = .65, p < .01\). Spending descriptions were rated on three major dimensions (see Table 4): (i) the social contexts of the purchase (e.g., was the spender trying to strengthen a social relationship with this purchase?; coded as 1= yes, 0= no), (ii) to what extent the spending purchase appeared to be driven by specific spending motives (rated on a scale from 1-7; 1= need vs. 7= want, 1= obligation vs. 7= volition), and (iii) whether the purchase included certain goods or activities (e.g., food, clothing, transportation, an experience, medical costs or supplies; coded as 1= included, 0= not included). To achieve an appropriate level of inter-rater reliability, an initial subset of spending descriptions were coded along the dimensions listed above and discussed to resolve inconsistencies.

\(^\text{17}\) Because the Ugandan community sample data were collected after the three student samples, these data were coded by a separate team of 4 Canadian RAs (also blind to participants’ assigned condition, happiness scores, and goals of the study). This second group of coders applied the same coding scheme to the Ugandan community sample data; to ensure that the second coding team applied the coding scheme similarly to the first team, a total of 50 spending memories drawn from the Mbaraba, Kampala and UBC student samples were coded by the second group of coders. The two coding teams showed high levels of agreement across all items, average \(r(48) = .83, p < .01\).
Table 4. Coder reliabilities and frequency ratings in Study 8a by recall condition and home country.

<table>
<thead>
<tr>
<th>Coding Dimension (alpha)</th>
<th>Type of Spending Recalled</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Purchase Context</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purchase made to strengthen an old relationship (.81)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Uganda</em></td>
<td>58.7%&lt;sup&gt;a&lt;/sup&gt;</td>
<td>14.4%&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td><em>Canada</em></td>
<td>64.2%&lt;sup&gt;a&lt;/sup&gt;</td>
<td>12.9%&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Purchase made to build a new relationship (.63)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Uganda</em></td>
<td>3.3%&lt;sup&gt;a&lt;/sup&gt;</td>
<td>1.2%&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td><em>Canada</em></td>
<td>3.0%&lt;sup&gt;a&lt;/sup&gt;</td>
<td>1.1%&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Purchase made in relation to negative event (.91)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Uganda</em></td>
<td>14.6%&lt;sup&gt;a&lt;/sup&gt;</td>
<td>1.8%&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td><em>Canada</em></td>
<td>0.0%&lt;sup&gt;b&lt;/sup&gt;</td>
<td>0.4%&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Purchase Motivation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Need vs. Want (.84)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Uganda</em></td>
<td>4.58&lt;sup&gt;a&lt;/sup&gt;</td>
<td>4.65&lt;sup&gt;a,b&lt;/sup&gt;</td>
</tr>
<tr>
<td><em>Canada</em></td>
<td>6.19&lt;sup&gt;c&lt;/sup&gt;</td>
<td>5.17&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Obligation vs. Volition (.70)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Uganda</em></td>
<td>5.46&lt;sup&gt;a&lt;/sup&gt;</td>
<td>5.32&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td><em>Canada</em></td>
<td>6.36&lt;sup&gt;c&lt;/sup&gt;</td>
<td>5.88&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Purchase Content</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal necessities (.74)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Uganda</em></td>
<td>6.8%&lt;sup&gt;a&lt;/sup&gt;</td>
<td>21.1%&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td><em>Canada</em></td>
<td>7.1%&lt;sup&gt;a&lt;/sup&gt;</td>
<td>10.2%&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Food (.95)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Uganda</em></td>
<td>33.7%&lt;sup&gt;a&lt;/sup&gt;</td>
<td>48.7%&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td><em>Canada</em></td>
<td>47.0%&lt;sup&gt;a&lt;/sup&gt;</td>
<td>46.2%&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Transportation (.97)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Uganda</em></td>
<td>14.8%&lt;sup&gt;a&lt;/sup&gt;</td>
<td>18.2%&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td><em>Canada</em></td>
<td>1.5%&lt;sup&gt;b&lt;/sup&gt;</td>
<td>1.5%&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Medical items or related costs (.94)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Uganda</em></td>
<td>9.4%&lt;sup&gt;a&lt;/sup&gt;</td>
<td>2.2%&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td><em>Canada</em></td>
<td>0.0%&lt;sup&gt;b&lt;/sup&gt;</td>
<td>0.4%&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Clothing (.92)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Uganda</em></td>
<td>15.9%&lt;sup&gt;a&lt;/sup&gt;</td>
<td>27.0%&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td><em>Canada</em></td>
<td>19.0%&lt;sup&gt;a&lt;/sup&gt;</td>
<td>21.2%&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Experience (.78)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Uganda</em></td>
<td>17.0%&lt;sup&gt;a&lt;/sup&gt;</td>
<td>21.6%&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td><em>Canada</em></td>
<td>15.7%&lt;sup&gt;a&lt;/sup&gt;</td>
<td>14.8%&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
</tbody>
</table>
Note: Superscript text denotes significant mean differences. Means with the same superscript are not significantly different from one another at the $p = .05$ level.

**Results**

To investigate whether prosocial (vs. personal) spending increased happiness across cultures, we submitted SHS ratings to a 2 (Spending Type: personal vs. prosocial) X 2 (Country: Uganda versus Canada) analysis of variance (ANOVA). As predicted, there was a significant main effect of spending type, whereby participants randomly assigned to recall a purchase made for someone else ($M = .09, SD = 1.00$) reported significantly higher happiness than participants assigned to recall a purchase made for themselves ($M = -.09, SD = 0.99$), $F(1, 784) = 8.21, p = .004, d = .19$. The interaction of spending type and country was not significant, $F(1, 784) = 1.88, p = .17, \eta^2 = .002$. Thus, participants in Canada and Uganda reported higher levels of happiness when they thought about spending money on others rather than themselves.

The higher levels of happiness reported by participants in the prosocial spending condition were not simply a result of fostering a social relationship. To address this possible alternative explanation for the impact of prosocial spending on happiness, we added coder ratings of whether a purchase was made to build or strengthen a social relationship to the 2 (Spending Type: personal vs. prosocial) X 2 (Country: Uganda versus Canada) ANOVA described above. Analyses revealed that prosocial spending memories led to higher levels of happiness even when controlling for coder ratings of both strengthening old relationships, $F(1, 736) = 3.72, p = .05$, and building new ones $F(1, 736) = 10.95, p = .001$, suggesting that prosocial spending does not increase happiness solely by improving relationships.
While the effect of prosocial spending on happiness emerged consistently across participants in Canada and Uganda, we also examined whether these same effects emerged within each country independently. In the Canadian sample, we conducted an ANOVA to compare the happiness of participants randomly assigned to the two spending recall conditions. As expected, participants assigned to recall a previous purchase made for someone else were significantly happier ($M = .20, SD = .91$) than participants assigned to recall a previous purchase made for themselves ($M = -.20, SD = 1.05$), $F(1, 138) = 5.58, p = .02, d = .41$. In the Ugandan sample, a similar analysis was conducted with an additional variable indicating the sub-sample (student sample in Mbarara, student sample in Kampala, and community sample in Kampala). Analyses revealed that participants randomly assigned to the prosocial spending recall condition reported higher levels of happiness ($M = .07, SD = 1.02$) than participants assigned to the personal spending recall condition ($M = -.07, SD = .97$), $F(1, 642) = 5.19, p = .023, d = .14$ and this main effect was not qualified by an interaction between spending condition and sub-sample, $F(2, 642) = 1.13, ns, \eta^2 = .004$. The main effect of sub-sample was significant, indicating that there were differences in happiness levels across the three Ugandan samples, $F(1, 642) = 8.27, p < .001, \eta^2 = .025$.

Although the emotional benefits of prosocial spending emerged in both countries, the specific ways in which participants spent their money (as rated by coders) varied substantially between cultures (see Table 4 for a full breakdown). For example, when recalling a time they spent money on themselves, twice as many participants in Uganda described purchasing a personal necessity, as compared with those in Canada. When recalling a time they spent money on others, almost 15% of participants in Uganda described a purchase that was made in response to a negative event, with fully 9% purchasing medical
supplies or services—whereas none of the prosocial spending descriptions provided by the Canadian participants fell into these categories. Given these important national differences in specific spending experiences, it is particularly remarkable that spending money on others produced emotional benefits in both countries. Further supporting the robustness of this pattern, the main effect of spending condition on SWB remained significant when controlling in the ANOVA for the extent to which participants’ purchases were motivated by need (vs. want), were obligatory (vs. volitional), represented a response to a negative event, or provided an experience (e.g., going to a movie), all $F_s > 8.00$, all $p < .005$.

Discussion

Providing converging evidence for our central hypothesis, Study 8a demonstrated that people in both Canada and Uganda reported greater happiness after recalling a time when they spent money on others rather than themselves. By asking people to recall a past spending experience, we were able to examine how people spent their own money in their everyday lives, yielding a rich data set that underscores the very different forms that prosocial spending can assume as a function of the cultural context. Given the differences we observed between countries in the specific nature of participants’ spending experiences, it is particularly remarkable that prosocial spending produced benefits across both countries.

Building upon these findings, Study 8b had four primary aims. First, although Study 8a demonstrates that people feel happier after reflecting on a time when they spent money on others rather than themselves, the absence of a control condition makes it difficult to ascertain whether the prosocial spending condition made people feel better – as our account holds – or the personal spending condition made people feel worse. We therefore included a control condition in Study 8b in which participants were not asked to reflect on a past
spending experience. Second, we extended our experimental research to a third country, recruiting a sample of Indian adults, a country where per-capita income is low and where the relationship between prosocial spending and happiness was relatively weak (though still significant) in Study 7. Third, in order to further address the possibility that relationship-building drives the impact of prosocial spending on happiness, we asked participants themselves to rate the extent to which purchases served to strengthen or build social relationships – rather than relying on coders as in Study 8a. Finally, Study 8a included only the SHS—which we selected because it is very brief, reliable, and cross-culturally valid—but it is somewhat surprising that we obtained significant differences as a result of our manipulation given that the SHS was designed as a global, trait-level measure (Lyubomirsky & Lepper, 1999). We assume that our manipulation led people to feel happier, which led them to evaluate their lives as being happier. To document this presumed process, we asked participants in Study 8b to complete both a measure of positive affect and the SHS, as well the life satisfaction measure from Study 7.

Study 8b: Experimental Study in India

Method

Participants

A total of 101 individuals from India (M_{age} = 28.4, SD = 8.3, range = 19-66, 43% females) completed this study online through Amazon’s Mechanical Turk service; this service has been shown to produce samples comparable to other methodologies (Buhrmester, Kwang, & Gosling, 2011).
Procedure

Consistent with Study 8a, participants in the experimental conditions were assigned to recall a recent purchase in which they spent money on themselves (personal spending condition) or someone else (prosocial spending condition); those in the control condition proceeded directly to our happiness measures without recalling a past spending experience.\(^{18}\) We created a very brief measure of current positive affect for use in India by selecting three of the items that were most strongly correlated with overall positive affect scores on the PANAS in our previous research. We also added the key word happy; participants’ current affect ratings were averaged across these four items to form an index of positive affect (\(\alpha = .66\)). Participants then completed the SHS and the one-item life satisfaction measure from the GWP. Afterward, participants in the personal and prosocial spending conditions reported the extent to which their spending experience was intended to build or strengthen a social relationship on a 10-point scale (0: not at all to 9: very much). Finally, all participants reported their demographic information.

Results and Discussion

A one-way ANOVA revealed significant between-group differences in positive affect, \(F(2, 96) = 3.44, p < .04, \eta^2 = .067\). Using LSD contrasts, we found that positive affect

\(^{18}\) Due to the limits of our online survey administration tool, we used quasi-random assignment, based on the day of the month (1\(^{st}\)-10\(^{th}\), 11\(^{th}\)-20\(^{th}\), 21\(^{st}\}-31\(^{st}\)) that participants were born; unfortunately, this resulted in uneven cell sizes. Despite uneven cells, the data did not violate the assumption of homogeneity of variance, making our statistical tests robust to Type I error inflation.
levels reported by participants in the control condition \((M = 3.72, SD = .72)\) and personal spending condition \((M = 3.64, SD = .49)\) were not significantly different from each other, \(p > .65\); most importantly, participants in the prosocial spending condition reported higher levels of PA \((M = 4.11, SD = .54)\) than participants in either of the other conditions, \(p’s < .04, d’s > .62\). Furthermore, the comparison between the personal and prosocial spending conditions remained significant \((p < .05)\) after controlling for participants’ ratings of the extent to which their purchases had built or strengthened social relationships.

*Indirect effect of prosocial spending on trait measures of SWB*

Our manipulation did not produce significant differences on either of our trait-level measures: SHS, \(F(2,97) = .85, p = .431, \eta^2 = .02\) and life satisfaction, \(F(2,98) = .02, p = .984, \eta^2 = .00\). There was, however, an indirect effect of condition on trait levels of happiness via positive affect. Using bootstrapping analyses suggested by Preacher and Hayes (2004; 2008), we found that the indirect mediation model 95% CI did not cross zero, both for the SHS \([.04, .27]\) and life satisfaction \([.06, .64]\). Thus, participants experienced more positive affect after reflecting on a past prosocial spending experience, which in turn led them to evaluate their overall well-being and their lives in general more positively.

Taken together, Studies 8a and 8b provide evidence that prosocial spending has a causal impact on happiness in both poor and rich countries (Uganda, India, and Canada). This effect emerged even when we controlled for the extent to which the spending experiences served to build or strengthen social relationships, as rated by coders (Study 8a) or participants themselves (Study 8b). Thus, while prosocial spending may enhance well-being in part by fostering social relationships, the benefits of prosocial spending cannot be entirely explained by the well-known link between social relationships and SWB.
General Discussion

Taken together, the present studies provide the first evidence for a possible psychological universal: human beings around the world experience emotional rewards from using their financial resources to benefit others. Within the vast majority of the world’s countries, we find a positive relationship between prosocial spending and well-being, whereby individuals who have recently made donations to charity report greater satisfaction with their lives, even controlling for differences in income. Focusing on three of these countries—Canada, Uganda and India—that differ dramatically in national-level income and donation frequency, we find that individuals report significantly higher happiness after reflecting on a time when they spent money on others rather than themselves. Thus, although prosocial spending differs in both frequency and form in poor versus rich countries, its link to happiness emerges in countries that vary greatly in wealth.

The present research should be viewed as simply a first step in understanding the relationship between generosity and SWB around the world. An important limitation of the current work is that only Study 7 used nationally representative samples, while the majority of participants in Study 8a were disproportionately students. It is worth noting that students in Canada and Uganda were attending public institutions that attract a diverse student body from both rural and urban areas; in Uganda, a sizeable proportion of students in our sample had their tuition costs covered by the Ugandan government (approximately 25% of our sample), and in Canada, undergraduate education is heavily subsidized by the government. Furthermore, Canadian students reported earning substantially more (an average of $5-$10,000/year) than Ugandan students (approximately $1600 Canadian dollars at 2009 PPP exchange rates), suggesting that income differences between the two countries are
manifested even among students. That said, students may differ from community members in myriad ways (Sears, 1986), and for this reason, we recruited a community sub-sample in Study 8a and a community sample in Study 8b; this sampling strategy revealed that the causal impact of prosocial spending on happiness was not limited to students.

Based on research demonstrating that helping others produces happiness among Western participants (e.g., Dunn et al, 2008; Harris, 1977; Williamson & Clark, 1989), it is tempting to simply infer that the warm glow of generosity would be fundamental to humans in all cultures (e.g., Post, 2005; Weiss, Buchanon, Altstatt, & Lombardo, 1971). This speculation is based on the assumption that human beings are essentially cut from the same cloth, such that a phenomenon discovered among Western samples will also be manifested in other cultures. A recent comprehensive review of the literature suggests that this assumption is empirically untenable (Henrich, Heine, & Norenzayan, 2010a). Even seemingly basic psychological processes, from social reasoning to spatial and visual cognition, often differ drastically across cultures. For example, the San foragers of the Kalahari do not exhibit the Muller-Lyer visual illusion—a staple of introductory psychology textbooks—whereas American undergraduates emerge as an outlier, exhibiting this illusion to a far greater extent than people from other cultures. Because the vast majority of psychological research is conducted by studying what Henrich et al. (2010a) term “WEIRD” (Western, Educated, Industrialized, Rich, Democratic) people, the current literature provides a profoundly unrepresentative portrait of human psychology (see also Henrich, Heine, & Norenzayan 2010b).

To examine whether this major limitation applies to the literature on generosity and happiness, we first reviewed the fourteen published studies we are aware of that have used
experimental methodology to document the causal effect of generosity on happiness. Of the five studies that clearly identified the geographic origins of their samples, all reported drawing participants from North America (Dunn, et al., 2008; Harbaugh et al., 2007; Harris, 1977; Yuen, Huang, Burik & Smith, 2008), with one additional study conducted with high school boys in Israel (Yinon & Landau, 1987; personal communication). In eight other studies, the geographic origins of the samples were not reported, though the researchers were based at North American institutions (Field, Hernandez-Reif, Quintino, Schanberg, & Kuhn, 1998; Lyubomirsky, Sheldon & Schkade, 2005; Weinstein & Ryan, 2010; Williamson & Clark, 1989); the absence of information regarding geographical origins presumably reflects the common assumption that similar results would emerge across different populations. Thus, like most work in social psychology, our review suggests that experimental research on generosity and happiness has disproportionately examined North Americans.

While relatively few studies have used experimental methodology to examine the causal effect of generosity on happiness, many more have examined the association between these variables using other methods. We identified sixty-one studies in this category (see Table 5 for a summary). One notable study used a worldwide survey to examine the correlation between happiness and volunteer work (Oishi, Diener, & Lucas, 2007). In addition, a handful of studies used samples drawn from unspecified populations or countries such as Israel, China, and Taiwan. Yet, the overwhelming majority – approximately eighty percent of the studies – focused exclusively upon samples drawn from North America and Europe. Thus, if scholars wish to draw conclusions about the role of generosity in human nature, it is essential to sample far more widely than standard WEIRD samples; by moving
beyond such samples, the present research offers a major advance in demonstrating that the emotional benefits of helping others extend to diverse regions of the world.

While the relationship between prosocial spending and SWB was positive in economically and culturally diverse areas of the world, it also varied in strength in different cultural contexts, consistent with our hypothesis that this relationship represents a functional (as opposed to an accessibility) universal. Indeed, while we did not find statistically significant difference in the prosocial spending-happiness link between Canada and Uganda (Studies 8a), a close examination of the effect sizes suggest that the relationship between prosocial spending and SWB is not perfectly uniform; the effect appears smaller in Uganda than in Canada. This cultural variability is also visible in Study 7; although the relationship between prosocial spending and SWB was significant in all seven of the world’s major regions and emerged in both poor and rich countries, this relationship varied in strength across our sample and failed to reach significance in a non-trivial number of countries.

This complexity highlights a fundamental tension in identifying cultural universals, in that even robust patterns may vary substantially in form or degree of expression across cultures. For example, although recognition of basic emotions is generally considered to be a cultural universal, Ekman and colleagues (1987) reported substantial cross-cultural variation in the extent to which people could accurately identify basic emotional expressions (e.g., fear was recognized with 91 percent accuracy in Estonia but with only 65 percent accuracy in Japan); furthermore, in some samples, a subset of universal emotions was not recognized at statistically significant levels (Ekman, Sorensen & Friesen, 1969). Thus, even universal phenomena show a range of strength across cultures and may not be detected in every sample.
Table 5. Non-experimental examinations of the association between generosity and happiness.

<table>
<thead>
<tr>
<th>Sample</th>
<th>Publication</th>
</tr>
</thead>
<tbody>
<tr>
<td>International</td>
<td>Oishi, Diener &amp; Lucas, 2007</td>
</tr>
<tr>
<td>Unspecified</td>
<td>Konow &amp; Early, 2008; McCullough, Emmons, Tsang, 2002; Melia, 2000; Tang, Choi, &amp; Morrow-Howell, 2010</td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>Law, Shek, &amp; Ma, 2011; Wu, Tang, &amp; Yan, 2005</td>
</tr>
<tr>
<td>Israel</td>
<td>Magen, 1996; Magen &amp; Aharoni, 1991; Osterweil &amp; Feingold, 1981</td>
</tr>
<tr>
<td>Taiwan</td>
<td>Kao, 2009</td>
</tr>
<tr>
<td>North America</td>
<td>Borgonovi, 2008; Brown, Brown, House &amp; Smith, 2008; Brown, Gary,</td>
</tr>
<tr>
<td>and Europe</td>
<td>Green &amp; Milburn, 1992; Calabrese &amp; Schumer, 1986; Cutler, 1976; Dulin</td>
</tr>
</tbody>
</table>
Whereas anthropologists have traditionally emphasized “exceptions to the rule” by studying cultures that differ from most others, we echo recent psychological perspectives by emphasizing the value of identifying regularities that emerge across widely divergent cultural contexts, rather than focusing on isolated exceptions (e.g., Norenzayan & Heine, 2005). That said, it is certainly important to investigate whether the “exceptions to the rule” we observe can be explained by identifying the cultural conditions that might undermine the widespread relationship between financial generosity and well-being. We hope that the data reported here will facilitate such investigations.

Finally, while we investigated the emotional consequences of spending money on others, prosocial spending represents only one form of generous behaviour (Liu & Aaker, 2008). It is therefore possible that other kinds of helpful behaviours – such as volunteering within one’s community, caring for the ill, or performing random acts of kindness (e.g., Lyubomirsky et al., 2005; Piliavin & Siegl, 2007; Thoits & Hewitt, 2001) – may also promote well-being around the world. This possibility is supported by the research reviewed earlier demonstrating that the rewarding properties of generosity can be detected at a neural
level, and that even infants often assist others in need. Because neuroimaging data and studies with infants provide suggestive—but inconclusive—evidence for establishing psychological universals (Norenzayan & Heine, 2005), the time is ripe for directly examining whether human beings around the world experience increased happiness after committing a wide range of kind deeds.

From an evolutionary perspective, the emotional rewards that people experience when they help others may serve as a proximate mechanism that evolved to facilitate prosocial behaviour, which may have carried short-term costs but long-term benefits for survival over human evolutionary history. The robustness of this mechanism is supported by our finding that people experience emotional benefits from sharing their financial resources with others not only in countries where such resources are plentiful, but also in impoverished countries where scarcity might seem to limit the possibilities to reap the gains from giving to others. Following Norenzayan and Heine’s (2005) recommendations for establishing psychological universals, we used a strategy of converging evidence, conducting correlational analyses across a vast array of the world’s countries and using experimental methodology within three countries that differ along our key dimension of income. Of course, firmly establishing the universality of a complex psychological phenomenon requires extensive research, ideally conducted by a variety of researchers using diverse methodologies. The studies presented here provide a critical first step. In highlighting the potential universality of emotional benefits stemming from prosocial spending, the present work adds to the chorus of recent interdisciplinary research on the importance of generosity for human well-being.
Cooperative systems depend on altruistic acts that require individuals to incur personal costs for the benefit of others. Whereas cooperation is beneficial once established at a population level, what inspires and sustains such costly tendencies in single individuals? One possible proximate mechanism supporting cooperation could be that humans evolved to find prosocial behavior “self-rewarding.” Research with adults demonstrates that giving money to charity activates neural regions related to processing rewards (Harbaugh, Mayr, & Burghart, 2007; Moll et al., 2006), and spending money on others leads to greater happiness than spending money on oneself (Dunn, Aknin, & Norton, 2008). Supporting the universality of this effect, the emotional benefits of financial generosity have been documented cross-culturally (Aknin, et al., 2011). Together, this research points to the possibility that the hedonic rewards associated with giving may represent an evolved adaptation, encouraging acts of prosocial behavior. If this is the case, then we should see evidence for the emotional benefits of generosity even in young children.

Prosocial behaviors begin early – toddlers in the second year of life attempt to comfort individuals in distress (Zahn-Waxler, Radke-Yarrow, Wagner, & Chapman, 1992) and assist others in achieving their goals, even at a cost to themselves (Warneken & Tomasello, 2006; 2008). Providing extrinsic rewards for early helpful behaviors can actually reduce helping, suggesting that these behaviors are intrinsically rewarding (Warneken & Tomasello, 2008).

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19 A version of this chapter will be submitted for publication. Aknin, L. B., Hamlin, J. K., & Dunn, E. W. (in prep). Giving leads to happiness in young children.
Although these findings are consistent with the hypothesis that giving to others is inherently rewarding for young children, no research has directly tested this central premise.

Preliminary Study

Examining past studies from our lab, we found that toddlers exhibited more happiness when giving than when playing a social game without giving. Specifically, twenty-three toddlers either (1) shared a toy with a puppet (n = 11; 5 boys; mean age = 22;1) or (2) activated an appealing animal-sound toy that a puppet had taught them to use (n = 12; 6 boys; mean age = 18;17). Emotional expressions during “giving” and “activating” behaviors were videotaped and coded by two undergraduates (blind to hypotheses) for happiness on a seven-point scale (1-not at all happy; 7–very happy, α = .92). Consistent with the hypothesis that giving is emotionally rewarding in young children, toddlers who shared a toy with a puppet displayed greater happiness than toddlers who activated a toy with a puppet $F(1,21) = 6.13, p = 0.022, d = 1.02$ (Figure 11). Although these studies were not designed to compare giving and other positive social interactions, these studies provide suggestive evidence for the emotional benefits of giving in toddlerhood, and impetus for a controlled experiment. Below, we conduct a controlled experiment to investigate whether generous behavior is self-rewarding in toddlers.

Study 9: Sharing Experiment with Toddlers

Method

Twenty toddlers (11 boys, mean age = 22;26) participated in this study. Eleven additional children were excluded for failing to complete the warm-up period (4),
procedural/technical errors (4), or fussiness (3). Children sat on their parents’ lap across a table from the researcher. Parents were told not to direct infants unless requested.

Warm-up phase

The warm-up acclimated children to the experimental situation. Each child was introduced to three puppets; interactions with puppets are commonly used to provide a controlled but engaging situation in which to study young children’s moral behavior (Vaish, Missana, & Tomasello, 2011). Children were told they could touch the puppets and that the puppets liked treats. Next, the experimenter gave the child and each puppet an empty bowl. The experimenter then gave a treat (either Goldfish or Teddy Graham) to each puppet and then the child. Puppets “ate” their treat after it was placed in their bowl; the researcher picked up the puppet, made “mmm!” noises, and pushed the treat through the false bottom of the bowl. Children were allowed to eat their treat.

The experimenter then presented a bowl with four additional treats and placed it next to the child’s bowl. Children were asked to give one treat to each puppet. As before, each puppet “ate” their treat. The final treat was given to the child. Children were allowed to eat their treat.

Testing phase

After the warm-up, participants moved to the testing phase. Children were (a) introduced to a new puppet (monkey), encouraged to touch it, and told it liked treats. The experimenter said, “both you and monkey have no treats right now.” The experimenter then (b) found eight treats and said “Oh! Look what I found – more treats! I’m going to give all these treats to you” and put the treats in the child’s bowl. Next, in counterbalanced order, (c)
the child watched the experimenter give a treat she had “found” to the puppet (“Look! I found another treat! I’m going to give this treat to monkey”), (d) the child gave the puppet a “found” treat (“Look! I found another treat! Will you give this treat to monkey?”), and (e) the child gave the puppet a treat from his/her own bowl (“I don’t see any more treats. Will you give one of your treats to monkey?”). Importantly, study phases “d” and “e” were designed to ensure that toddlers engaged in identical acts of giving and experienced equal levels of interaction with the puppet; the only difference between these two phases was that children gave from their own personal resources in phase “e”, representing a personally costly prosocial act. Toddlers were videotaped in phases a-e; emotional expressions were coded for happiness on the same happiness scale by two undergraduate coders blind to hypotheses (average $\alpha = .84$).

**Results**

Toddlers were happier after giving treats to the puppet than when receiving treats themselves. This held true both when they gave their own treat, $t(20) = 3.98$, $p = .001$, $d = 1.35$, and when they gave the experimenter’s “found” treat, $t(20) = 2.36$, $p = .03$, $d = 0.88$ (Figure 11). Critically, toddlers were also happier giving their own treats than giving the found treat, $t(19) = 2.13$, $p = .048$, $d = 0.46$. $^{20}$ This comparison acknowledges the personal sacrifice often involved in prosocial behavior, which may actually decrease personal resources. There were no significant order effects ($p$’s > .095).

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$^{20}$ One child failed to complete phase-d, instead spontaneously giving his own treats, resulting in a missing data point.
Figure 11. Happiness, as rated by coders, for children in each condition in Study 9. Error bars represent standard error of the mean.

It is unlikely that simply interacting with the puppet was responsible for the emotional benefits of giving for at least two reasons. First, children interacted with the puppet equally when giving their own treat and the found treat to the puppet. Despite the equivalent levels of social interaction, children expressed higher levels of happiness after sharing their own treat with the puppet than when engaging in the same behavior (giving the same treat to the same target in a similar fashion) but the action was not personally costly. Second, when two undergraduate coders (blind to hypotheses) rated the extent to which children interacted with the puppet when (a) first meeting the puppet, (b) giving the found treat to the puppet, and (c) giving their own treat to the puppet on a 7-point scale, ratings revealed that children interacted with the puppet significantly more when being introduced to Monkey than when
giving the puppet a treat, $t > 6.90, p < .001$. Thus, if interaction levels were responsible for the emotional benefits of giving, we would have observed the highest levels of happiness when children met the puppet, not when giving one’s own or the found treat to the puppet.

Discussion

These results suggest that costly prosocial behavior is emotionally rewarding in toddlerhood. While previous research has demonstrated spontaneous helping in toddlers in the absence of explicit or implicit social demands (Warneken & Tomasello, 2008), the present study provides the first evidence that giving to others makes young children happy.

One potential limitation of this study is that children were always given eight treats in the second testing phase; this timing allowed children to give one of their own treats to the puppet when asked (i.e. children were able to engage in a personally costly prosocial behavior). It is unlikely that the low happiness levels displayed during this study phase were a result of condition order effects because participants did not show a significant increase in happiness in the three remaining counterbalanced phases. Furthermore, if children were simply getting happier as the study progressed, children would not have displayed higher levels of happiness when meeting and interacting with the puppet immediately before receiving treats.

Although children may be socialized to engage in helping behavior from a young age, it is difficult to explain, from a socialization perspective, why children derived greater happiness from giving their own resources (thereby incurring personal cost) than when giving a resource provided by someone else. Thus, by documenting the emotionally rewarding properties of costly altruistic behavior among children in the second year of life,
this research provides foundational support for the claim that experiencing positive emotions when giving to others is a proximate mechanism for human cooperation and prosociality.
CHAPTER 7 GENERAL DISCUSSION

This dissertation set out to investigate a series of five core questions that unpack and extend upon the original examination of the mood benefits of prosocial spending (Dunn et al., 2008). These five research questions were raised in the introduction of this dissertation. Below I review how the data presented in this dissertation address these questions.

Summary of Results

*Is There a Positive Feedback Loop Between Prosocial Spending and Happiness?*

This dissertation began by examining whether a feedback loop exists between prosocial spending and happiness. While past research has shown that spending money on others leads to an increases happiness (Dunn et al., 2008), classic research conducted by Isen and colleagues (Isen, 1970; Isen & Levin, 1972) has shown that being in a good mood leads to prosocial behaviour, which suggests that the relationship between happiness and kind deeds may be bi-directional. Indeed, work by Thoits and Hewitt (2001) has demonstrated that the relationship between well-being and prosocial behaviour is bi-directional within the realm of volunteer work; happier people are more likely to volunteer and volunteering leads to an increase in happiness. Therefore, I tested whether a positive feedback loop exists between generous spending and happiness by asking people to vividly recall a previous personal or prosocial spending experience, report their happiness, and then decide whether to spend a small windfall on themselves or someone else. Participants randomly assigned to recall an instance of prosocial spending reported significantly higher levels of happiness than participants who recalled spending on themselves. In turn, people who felt happier after thinking about a past spending experience were more likely to choose to spend a windfall on
someone else. Importantly, there was no direct relationship between recalling an act of prosocial spending and choosing to engage in a prosocial act in the future. Recollections of prosocial spending only predicted future prosocial spending to the extent that happiness was increased by reflecting upon previous spending memories. Thus, Study 1 provides support for a positive feedback loop between prosocial spending and happiness. This research also suggests that the benefits of prosocial spending can be extended beyond momentary gains and that the well-being benefits experienced after a happiness intervention can shape future behaviour in a reinforcing manner, providing a potential pathway to sustainable happiness.

Does Positive Social Connection with the Recipient Moderate the Happiness Benefits of Prosocial Spending?

Chapter 3 examined whether reaping the emotional benefits of prosocial spending requires spenders to experience positive social contact with a beneficiary. This question took guidance from previous research presenting mixed findings for the emotional rewards of prosocial behaviour. As a brief review of the literature revealed, prosocial behaviour most frequently produces hedonic gains when actions are enacted in ways that allow for increased social connection. Therefore, I presented three field studies designed to examine whether spending money on others leads to the highest levels of happiness when one has the opportunity for social connection with the recipient.

Study 2 examined this hypothesis within the realm of charitable giving. Participants were given the opportunity to donate money to a specific charity and then report their happiness. Importantly, participants were asked for a charitable donation by either a research assistant personally connected with the cause or a research assistant who mentioned no personal tie to the charity. Given that offering a donation to someone affiliated with the cause
provides an opportunity for social connection, I hypothesized that emotional benefits of prosocial spending would be amplified when people gave a donation to someone who was personally involved with the charity, such that larger donations would lead to higher happiness. Analyses supported this prediction; larger donations given to charity led to higher levels of post-donation well-being when donations were solicited by a research assistant personally connected with the cause. Larger donations given to an unaffiliated third party did not predict well-being. Thus, giving only led to hedonic rewards when helpers experienced a sense of social connection with the recipient.

Study 3 was designed to generalize the importance of social connection for the emotional benefits of prosocial spending to interpersonal contexts. Participants were given the opportunity to split a monetary sum with a peer and then asked to report their happiness. Importantly, participants were randomly assigned to one of two conditions in which they either delivered their donation to the recipient themselves or had their donation delivered by an intermediary. If social connection is critical for experiencing the emotional rewards of generous financial behaviour, offering a larger monetary sum to a peer should only lead to higher happiness if the donor is able to interact with the recipient. Supporting this hypothesis and replicating the results of Study 2, larger donations only predicted higher levels of happiness when participants delivered their donation to the recipient themselves. Again, these findings suggest that social connection may be critical for unleashing the emotional benefits of generous spending.

Study 4 examined the importance of social connection for the emotional rewards of prosocial spending with another field study. Participants were randomly assigned to spend a gift card on either themselves or someone else in way that either maximized or minimized
social contact with the recipient and then asked to report their happiness at the end of the day. Given the importance of social connection, I predicted that participants would experience the highest levels of happiness when they spent the gift card on someone else in a way that maximized social contact with the recipient. As predicted, participants who spent the gift card on someone else, and spent time with that person while doing so, were happiest at the end of the day, again suggesting that prosocial spending that allows for positive social connection leads to higher levels of happiness.

Taken together, these three studies offer support for the hypothesis that social connection acts as a catalyst in turning good deeds into good feelings. This research also helps clarify the mixed support for the claim that prosocial behaviour leads to an increase in well-being by suggesting that how prosocial deeds are enacted matters for whether happiness is experienced.

*What Variables Mediate the Emotional Benefits of Prosocial Spending and Do Feelings of Positive Impact Also Moderate the Effect?*

Chapter 4 of this dissertation was designed to explore several potential mediators for the emotional benefits of prosocial spending, and investigate whether perceived prosocial impact represents another critical moderator for this effect. Building upon the results of Studies 2-4, which suggest that social connection is critical for experiencing the hedonic boosts of prosocial spending, Studies 5 and 6 explored whether feeling that one has made a positive difference to someone else is essential for experiencing the emotional rewards of giving.

Study 5 used a recollection paradigm in which participants were randomly assigned
to one of four conditions where they vividly recalled the last time they spent approximately twenty dollars on either: themselves, someone else, someone else in a way that had a meaningful impact on that person, or someone else but the purchase did not have an impact on that person. Afterward, participants reported their happiness and completed measures of several potential mediators. Analyses supported the possibility that perceived prosocial impact may moderate the emotional benefits of prosocial spending; participants who recalled a time they spent money on others in way that had positive impact reported higher levels of positive affect than participants who recalled a time they spent on someone else but it did not have an impact on the recipient. Additional analyses also demonstrated that self-reports of perceived prosocial impact, prosocial worth, prosocial identity, distraction, and downward social comparison mediated the relationship between high-impact (vs. low-impact) prosocial spending and happiness.

Study 6 also explored the moderating role of perceived prosocial impact and several possible mediators by looking at immediate emotional responses to charitable giving. Using a study design similar to Study 2, participants were given the opportunity to donate to charity and then asked to report their happiness. Importantly, participants were randomly assigned to one of two conditions in which they were told that their charitable donation would be given to a specific cause or a large umbrella organization, thereby manipulating levels of perceived prosocial impact. If perceived prosocial impact is important for experiencing the emotional benefits of giving, we would expect that larger donations given to a high impact cause would be associated with higher levels of happiness while larger donations given to a low impact cause would not. Supporting this prediction, results revealed that larger donations given to a specific charitable cause were associated with higher levels of well-being but larger
donations given to an umbrella organization were not. Importantly, the emotional benefits of prosocial spending were not mediated by self-reports of perceived prosocial impact, social worth, or prosocial identity. Thus, the results of Studies 5 and 6 provide converging support for the moderating role of perceived prosocial impact – spenders must feel that their gifts have made a positive influence on others to experience the emotional rewards of giving. Mediational analyses did not reveal a consistent psychological mechanism, therefore future research is needed to explore what (if any) mediators are responsible for the emotional benefits of prosocial spending.

**Do the Mood Benefits of Generous Spending Exist Outside North America?**

The next chapter of this dissertation examined whether the hedonic rewards associated with prosocial spending represent a psychological universal. This question was a critical extension of Dunn and colleagues (2008) because initial work demonstrating the happiness benefits of prosocial spending was conducted in Canada and the United States—two countries in the top ten percent of international Gross Domestic Product rankings ([http://siteresources.worldbank.org/DATASTATISTICS/Resources/GDP.pdf](http://siteresources.worldbank.org/DATASTATISTICS/Resources/GDP.pdf)). Given past research demonstrating that the relationship between personal income and well-being varies with national wealth (Deaton, 2008; Diener & Biswas-Diener, 2002), this chapter explored whether the emotional consequences of generous spending were positive around the world, in rich and poor countries alike. Applying Norenzayan and Heine’s (2005) gold standard for studying psychological universals, I presented a series of studies (Studies 7, 8a and 8b) to suggest that mood benefits of prosocial spending can be detected around the world.
Study 7 supported this claim by examining data from over 200,000 respondents surveyed in 136 countries as part of the Gallup World Poll. Respondents were asked to report their overall life satisfaction and indicate whether they had donated money to charity in the last month. If the hedonic rewards of prosocial spending represent a psychological universal, then giving money to charity should be associated with higher levels of well-being around the world. Examining data within and across nations, analyses revealed that the hedonic benefits of prosocial spending could be detected around the world. First, within country analyses revealed that donating money to charity in the last month was associated with well-being in a large number of countries, even while controlling for wealth and a number of demographic variables. Second, looking across nations and within seven geographic/cultural regions of the world, the relationship between prosocial spending and well-being was consistently positive. Finally, in a pooled global estimate that allowed for country level income to influence well-being, prosocial spending had a strong positive relationship with life satisfaction. Thus, within a large international dataset providing representative data for most of planet earth, generous financial behaviour was consistently linked with higher levels of life satisfaction.

While Study 7 provides compelling evidence for a positive relationship between financial generosity and well-being, the correlational nature of this investigation leaves open questions of causality. Therefore, Studies 8a and 8b were designed to extend upon Study 7 with experimental design. Following Norenzayan and Heine’s (2005) recommendations for documenting psychological universals, experiments were conducted in three countries that differed greatly along the dimension of interest- income- so that we could investigate whether prosocial spending leads to higher levels of happiness in wealthy and poor countries.
alike. In Study 8a, participants in both Canada and Uganda were randomly assigned to recall and describe either a time they spent money on themselves or someone else and then report their happiness. In both Canada and Uganda, reflecting upon a previous experience of prosocial spending led to higher levels of happiness than reflecting upon a previous experience of personal spending. Indeed, while coder ratings of spending memories revealed fascinating differences in purchase motivation, context, and content between Canadians and Ugandans spenders, the emotional benefits of prosocial spending remained even while controlling for these factors. Therefore, prosocial spending takes various forms but leads to consistent emotional benefits in rich and poor cultural contexts.

Study 8b was designed as a replication of Study 8a, but included two important extensions. First, Study 8b was conducted in another relatively poor nation, India, which provided another cross-cultural test for the hedonic rewards of generous spending. Second, Study 8b included a control condition, which allowed us to decipher whether prosocial spending led to emotional gains. Participants were assigned to one of three conditions: those in the control condition reported their current happiness, while participants in the remaining two conditions recalled a previous personal or prosocial spending experience and then reported their happiness. Analyses replicated the results of Study 8a by demonstrating that participants assigned to recall a previous prosocial spending experience reported higher levels of happiness than participants in the personal spending condition. Importantly, analyses also revealed that participants in the prosocial spending condition were happier than participants in the no-recall control group, suggesting that prosocial spending does increase happiness while personal spending does not have a beneficial (or harmful) impact on
happiness. Thus, Study 8b offers further evidence to support the hypothesis that prosocial spending leads to happiness around the world.

Taken together, Studies 7, 8a, and 8b demonstrate that the emotional benefits of prosocial spending might represent a psychological universal. Furthermore, these findings offer initial evidence to suggest that humans from diverse cultural and economic contexts experience rewards from helping others.

*Are the Mood Benefits of Generous Behavior Detectable in Toddlers?*

Finally, this dissertation examined whether the emotional benefits of prosocial behavior were evident in young children between the ages of 22-24 months. Previous research has demonstrated that prosocial behaviours emerge early in life and that people around the world find prosocial behavior rewarding. Taken together, these results suggest that humans may have evolved to find prosocial behavior rewarding, such that sharing one’s resources with others produces pleasurable feelings.

Study 9 was designed to investigate the self-rewarding capacity of generous behavior in young children. Toddlers were introduced to a puppet, presented with treats, and then given the opportunity to share treats (their own or others’) with this puppet. Each child’s emotional reactions were videotaped during these experiences. Coding emotional expressions for happiness, results reveal that children were happier after giving treats away than when receiving treats themselves. Importantly, children expressed higher happiness when giving was personally costly. Thus, these findings suggest that young children find giving to others rewarding, and inform longstanding questions of human prosociality and cooperation.
Integration

While the results of each study and chapter are informative in isolation, integrating across studies provides a greater understanding of several important issues. First, Studies 7, 8a, 8b, and 9 provide converging evidence for the possibility that the emotional benefits of prosocial acts may be deeply ingrained in human nature. Study 7 demonstrates that the relationship between generous spending and well-being is positive in most countries around the globe. Studies 8a and 8b show that recollections of generous spending lead to higher levels of happiness in relatively rich (Canada) and poor (India and Uganda) countries alike. Finally, Study 9 illustrates that the emotional benefits of costly prosocial behavior can be detected early in life, before substantial socialization and social learning occurs. Together, this evidence of cross cultural universality and early emergence points to the possibility that humans have evolved to find prosocial behavior rewarding. These findings also dovetail with earlier evidence documenting activation in neural pleasure centres while offering resources to others and charity (Harbaugh, et al., 2007; Moll et al., 2006; Tankersley, et al., 2007). Of course, any individual investigation may be limited in offering conclusive evidence for a psychological universal. However, the four studies presented here add to the growing body of research documenting the emotional rewards of prosocial acts and suggest that the warm glow of giving may act as a proximate mechanism that evolved to encourage human prosociality.

Identifying a possible psychological universal does not necessarily mean that prosocial spending always produces emotional benefits. Indeed, the findings of Studies 2-6 indicate that prosocial behavior does not always beget emotional rewards. Specifically, the results of Chapter 3 highlight the importance of social connection for reaping the emotional
rewards of kind deeds, and the results of Chapter 4 demonstrate that givers must feel that their actions have had a positive impact on others to feel good about giving. Identifying these two moderators – social connection and feelings of perceived prosocial impact – helps clarify the mixed evidence for the emotional rewards of prosocial behavior. Indeed, while past research has shown that prosocial acts sometimes increase happiness, the findings of Studies 2-6 point to the importance of the social situation in experiencing these emotional rewards. Interestingly, these moderators align with the hypothesis that emotional rewards represent a proximate mechanism to encourage prosocial behavior; emotional rewards are greatest when giving fosters social connection or has a meaningful impact on recipients, both factors that presumably strengthen social relationships and increase the likelihood that kind acts will be reciprocated. These moderators may also influence future behavior; given that happiness encourages future acts of generosity (see Study 1), repeated acts of prosocial behavior should be more likely after an initial act of socially connected or high impact giving.

Finally, several studies suggest that there may be many pathways through which generous actions increase happiness. For instance, Study 5 indicates that self report measures of various psychological constructs (e.g., distraction, perceived prosocial impact, prosocial identity) mediate the relationship between generous spending and happiness. While these findings suggest that positive self views, such as seeing oneself as a kind, generous, and caring person might explain how kind acts increase well-being, the results of Study 9 raise important questions about whether self reflective processes, such as those proposed by self-perception theory (Bem, 1972), can exclusively explain the emotional benefits of prosocial behavior. Indeed, while some scholars have argued that people are motivated to engage in prosocial behavior to draw positive conclusions about themselves (Benabou & Tirole, 2006),
it is unlikely young toddlers are engaging in kind deeds for these reasons. Thus, while positive self views may be one way through which generosity brings emotional rewards, it appears that these motivations may not be necessary.

Implications

This dissertation has a number of implications. First, the results presented herein support and extend models of positive emotions and happiness. Specifically, the results of Study 1 align with Fredrickson’s (2001) Broaden and Build theory of positive emotions, which posits that positive emotions broaden one’s mindset and serve to build personal resources – both social and psychological – for the future. Supporting this theory, Study 1 found that participants who reported feeling higher levels of positive affect after recalling a previous spending experience were more likely to spend money on others in the near future. Indeed, prosocial spending preferences remained despite explicit monetary reminders, which have been shown to foster self-sufficient orientations and decrease assistance offered to others (Vohs, Meade, & Goode, 2006). Thus, positive emotions may help serve to broaden one’s mindset beyond self-sufficient concerns and foster relationships with others, thereby cultivating resources that promote future well-being.

Results are also consistent with Lyubomirsky et al.’s (2005) model of happiness, which proposes that an individual’s chronic happiness level is determined by three key factors: one’s genetic set point, life circumstances, and intentional activities. While genetics and life circumstances are assumed to be stable, the results of Studies 1-9 support Lyubomirsky and colleagues (2005) model of happiness by demonstrating that prosocial spending and prosocial behavior – two types of intentional activity – can increase happiness. Indeed, to the extent that prosocial spending represents a volitional activity, the results of
Studies 7, 8a, and 8b support the happiness benefits of volitional activity for well-being around the world. Further, Study 9 shows that volitional prosocial acts increase happiness in the early years of life.

While Studies 2-6 of the present dissertation were designed to examine when and how engaging in prosocial spending increases happiness, the results offer insight into the nature of generous behaviour more broadly. Specifically, Studies 2-4 revealed that the hedonic rewards associated with prosocial spending are greatest when such spending allows for social connection. Building upon these findings, Studies 5 and 6 found that prosocial spending leads to emotional benefits when helpers feel that their spending has had a positive impact on the recipient. Taken together, these findings suggest that prosocial behaviour offers greater happiness when actors interact with someone and believe that their actions have made a positive impact on others. These findings are consistent with work by Musick and Wilson (2003) which demonstrates that increasing positive interaction with others, broadening one’s social network and reducing isolation may mediate the emotional benefits of volunteering. Thus, these findings offer theoretical insight into when and how prosocial behaviour – not just prosocial spending – might translate into happiness rewards, providing direction to both individuals and organizations looking to improve well-being.

Along similar lines, this dissertation provides insight into how people can experience the largest emotional rewards from everyday spending choices. While previous research on money and happiness has focused on whether higher levels of income are associated with greater well-being, research on prosocial spending suggests that how one spends their disposable income can have meaningful consequences for their happiness. This dissertation extends upon the original research documenting the mood benefits of generous spending by
identifying when and where such daily spending experiences may translate into emotional rewards. As the findings reported herein reveal, generous spending has the largest positive impact on one’s happiness when spending on others allows for positive social connection with others and feeling that one has made a positive impact. Thus, when engaging in prosocial spending, people should look for opportunities to interact with the recipient of their spending so that they can observe the positive impact their gift has made.

The research presented herein may also inform the larger debate on the existence of pure altruism. Several scholars have argued that if actors engage in kind deeds to experience emotional rewards or repair a negative state, pure altruism – self-sacrifice motivated by a genuine concern for others – does not exist (e.g., Cialdini & Kenrick, 1976; Cialdini, et al., 1987). While the findings presented here show that generous acts can have emotional rewards, the present work focuses on the emotional outcomes associated with generosity, not the motivations of these acts. Indeed, as noted in Chapter 5, prosocial spending and prosocial behavior are defined as acts performed to benefit others with little scrutiny of intention or motivation (Penner, et al., 2005), while altruism is defined as a motivational state that promotes actions to benefit another’s welfare (Batson & Shaw, 1991). That said, the results of Study 9 cast doubt on the argument that selfish and egoistic motivations exclusively encourage prosocial behaviour; it is unlikely that young toddlers were motivated to share treats with a puppet to reap emotional rewards or repair a negative state. That is, the various hurdles to affective forecasting (Wilson & Gilbert, 2005) suggest that it is unlikely young toddlers are engaging in kind deeds for these reasons. Of course, these findings do not rule the possibility that self-interest and motivation for positive emotional rewards might inform acts of generosity as well.
Finally, this dissertation offers several useful methodologies to researchers interested in examining the relationship between money and happiness. As noted in Chapter 1, initial investigations of the association between wealth and well-being were largely restricted to correlational designs that assessed the degree to which greater wealth was linked with well-being. While informative, these correlational designs did not allow researchers to assess the causal impact of a particular spending behaviour. To examine causal questions, a number of studies in this dissertation adapted previous methods, such as Van Boven and Gilovich’s (2003) spending recollection paradigm, to examine the emotional consequences of previous spending experiences. In addition, Study 4 adapted a novel design from Dunn et al (2008), in which participants were contacted in the morning hours and randomly assigned to engage in one of four types of spending behaviour by the end of the day. This design captured the happiness experienced shortly after engaging in various forms of real life spending. Thus, researchers interested in studying the emotional consequences of certain spending decisions need not rely solely on correlational methods; this dissertation provides several useful research designs for researchers who wish to explore causal pathways.

Limitations

This dissertation has shed light on the complex relationship between generous spending and happiness, but it is not without limitations. First, a number of studies were conducted with undergraduate student samples. As several insightful reviews have warned (Sears, 1986; Henrich, Heine, & Norenzayan, 2010), restricted samples such as these offer a narrow and an unrepresentative view of human behaviour. Therefore, researchers should be cautious in generalizing their findings and, whenever possible, make efforts to replicate findings in diverse cultural samples. Taking these lessons to heart, Chapter 5 was designed to
examine whether the hedonic rewards of prosocial spending - previously documented in North America – could be detected around the world. To do so, I presented correlational data from an international survey (the Gallup Word Poll) and experimental results from two infrequently studied nations (India and Uganda) to suggest that the emotional benefits of generous spending represent a psychological universal, such that people around the world experience emotional rewards from spending money on others. That being said, the remaining studies were conducted with university students and findings should be generalized with caution.

Second, the term *prosocial spending* was used to capture multiple forms of generous spending, including donations to charity and money spent on friends and family. Classifying such varied forms of prosocial spending as one category may be problematic because these two forms of other-oriented spending differ from each other in many ways (e.g., possibility of reciprocation). Furthermore, some may believe that any form of generous spending which could be returned or reciprocated may be disingenuous and should not be considered generous spending at all. Despite these concerns, using the term prosocial spending to refer to both interpersonal and charitable behaviour had several advantages. First, broadening the concept of prosocial behaviour allows for a more externally valid representation of generous spending. As Study 8a revealed, spending money on others often involves making purchases for friends and family, therefore ignoring such spending would fail to capture frequent experiences of generous spending. Second, widening the definition of prosocial spending demonstrated that interpersonal spending and charitable donations both require social contact (Studies 2-4) and perceived prosocial impact (Studies 5 and 6) to reap the emotional rewards of giving. Therefore, finding that both forms of generous spending yield hedonic rewards and
are moderated by the same constructs validates the classification of these two behaviours as forms of prosocial spending.

Third, happiness was assessed in numerous ways throughout this dissertation. Across ten studies, well-being was captured with self-report measures of state, trait, and overall well-being measures, as well as coder ratings of facial expressions. Using multiple measures across studies may be seen as a limitation because a varied approach lacks focus, does not isolate the specific emotional rewards of prosocial spending, and could be selectively used to support hypotheses (see Simmons, et al., 2011). That said, this multi-faceted approach provides valuable insight into the full range of benefits that generous spending engenders. As noted in Chapter 5, well-being is commonly defined as including affective (e.g., high positive affect) and cognitive (e.g., life satisfaction) components. Following the advice of a recent review on the measurement and conceptualization of well-being (Busseri & Sadava, 2011), I assessed the various facets of subjective well-being with multiple scales across studies. Doing so has proven valuable; findings reveal that prosocial spending has similar positive consequences on all components of subjective well-being and can be detected by objective coder ratings. As such, using multiple measures reveals that prosocial spending has an impact on various forms of subjective well-being and therefore offers a more complete picture of the relationship between generous spending and well-being. Of course, collecting multiple measures requires researchers to transparently report all findings, a strategy I have employed in this dissertation (see Appendix 1).

Including a wide array of happiness and well-being measures reveals that the effect of prosocial spending was often best detected on trait measures of happiness. Given that state measures should be more sensitive to detecting happiness changes and intervention
outcomes, these findings suggest that the Positive and Negative Affect Scale (Watson, et al., 1988) may have been a poor choice for detecting the warm glow of giving (Andreoni, 1989). Indeed, while the PANAS was included in several studies because it is one of the most widely cited state measures (Dasborough, Sinclair, Russell-Bennett, & Tombs, 2008) and enables comparison with other research, the scale captures only high activation states by asking participants to rate the extent to which they currently feel “enthusiastic”, “alert”, and “active”. It is likely that a focus on high arousal failed to illustrate the complexity of this positive state; prosocial spending may influence positive low activation states as well, such as calmness and security. Further, it is possible that the emotional benefits of prosocial spending may be more clearly captured on scales that solely measure the concept of happiness, such as the Subjective Happiness Scale (Lyubomirsky & Lepper, 1999), rather than scales that assess a wider array of emotions. Therefore future researchers should consider including additional state measures of happiness and well-being to examine what feelings best capture the warm glow giving.

Finally, trying to investigate prosocial spending in realistic ways meant that several variables could not be controlled in each investigation. In particular, Studies 2-4, which examined the importance of social connection for the emotional benefits of prosocial spending, were designed to mimic everyday instances of generous spending. As such, social connection was manipulated in a broad ways to parallel real life giving opportunities. While this strategy fails to isolate the specific mechanism responsible for the emotional benefits of generous spending, it does provide valuable insight into the broad conditions that moderate this effect. Designing manipulations to mimic real world instances of giving therefore demonstrates the applicability of this research to everyday life and offers clear direction to
future work hoping to illuminate the detailed process through which prosocial spending increases happiness. Of course not all studies took an applied approach. Thus, by pairing field and lab investigations with high external and internal validity, respectively, this dissertation offered insight into how, when and why generous spending increase well-being.

Future Directions

This dissertation also lays the groundwork for future investigations. One way to extend upon the current research is to examine how long the mood benefits of prosocial spending last. Many researchers have recently voiced an interest in not only increasing happiness levels, but also finding strategies that can lead to sustainable increases in well-being (Lyubomirsky, et al., 2005). While a number of studies contained herein examine the immediate emotional impact of generous spending, Study 4 was designed to examine whether the happiness benefits of prosocial spending might last until the end of the day. In addition, several studies (Studies 1, 5, 8a, and 8b) used a recollection paradigm to explore whether the emotional rewards of generous spending would reoccur when reflecting upon a previous prosocial spending experience. While these investigations demonstrate that prosocial spending leads to happiness immediately after spending, at the end of the day, and upon reflection, research has yet to determine how long the emotional benefits of any one prosocial spending intervention may last and whether certain strategies can extend these emotional gains.

Another important future direction lies in investigating how far the benefits of prosocial spending extend. For instance, do the positive consequences of generous spending trickle outwards to recipients and others nearby, producing beneficial behavioural changes in teams? Initial work conducted in two different contexts – pharmaceutical sales teams in
Belgium and dodge ball teams in North America – has revealed promising results (Anik, Aknin, Norton, Dunn, & Quoidbach, under review). These investigations randomly assigned work or sales teams to engage in either personal or prosocial spending. On personal spending teams, several team members were given $20 Canadian or 15 Euros to spend on themselves, and on the prosocial spending teams, several team members were given $20 Canadian or 15 Euros to spend on a randomly selected teammate. Performance for both sales and dodge ball teams was measured before and after the spending intervention. In both contexts, prosocial spending teams were more successful than personal spending teams after the spending intervention; sales teams sold more product and dodge ball teams won a higher percentage of their games (Anik, Aknin, Norton, Dunn, & Quoidbach, under review). Therefore, these results suggest that the benefits of prosocial spending might extend beyond the spender to influence the performance of others nearby.

Finally, this dissertation offers interesting and testable ties with other fields of psychology. For instance, research in cognitive psychology has shown that people recall past experiences from one of two different perspectives: from the field (1st person) or as an outside observer (3rd person). In comparison to memories recalled from an observer perspective, field memories tend to be more emotional and provide less contextual information (McIsaac & Eich, 2002; 2004). Interestingly, however, most experiences are recalled from an observer perspective after approximately 24 hours. Thus, given that most spending memories in the recall studies were reported to have taken place several days or weeks prior, findings may have actually underrepresented the emotional benefits of prosocial spending. Of course, this interesting area of overlap poses several questions ripe for future investigation. For instance, are prosocial spending events more likely to be recalled from one
perspective (field or observer) than the other? Does recollection perspective moderate the emotional benefits of prosocial spending? Given that brain regions typically associated with memory recall also appear to be critical for imagining or predicting the future (e.g., Schachter, Addis, & Buckber, 2007), what characteristics of recalled memories are most likely to inspire future instances of generous spending? Exploring these research questions will provide greater insight into the social and cognitive influences that shape generous spending behaviour and, in turn, foster a deeper understanding of the emotional benefits of prosocial spending.

Final Conclusion

While hundreds of papers have explored whether higher levels of income are associated with well-being, recent research has shown that how one spends their money can have a causal impact on happiness. Specifically, Dunn and colleagues (2008) have demonstrated that spending money on others leads to higher levels of happiness than spending on oneself. This dissertation was designed to extend upon the work of Dunn and colleagues (2008) by addressing five core questions. Broadly speaking, the findings presented here suggest that the emotional rewards that follow generous acts are detectable around the world and in early years of life. Further, the emotional benefits of giving appear to be greatest when prosocial acts allow the helper to experience a sense of social connection with the recipient and feel that their gift has made a meaningful impact. Taken together, these findings provide greater insight into the complex relationship between financial generosity and well-being.
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Prosocial spending increases job satisfaction and organizational commitment.

Manuscript submitted for publication.


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*Journal of Personality and Social Psychology, 98*, 222-244.


*Current Directions in Psychological Science, 14*, 131-134.


APPENDIX 1 ADDITIONAL ANALYSES

Study 1

Table 6. Happiness after recalled acts of prosocial spending (Path A) in Study 1 on individual measures of well-being.

<table>
<thead>
<tr>
<th>Measure</th>
<th>F- statistic</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHS</td>
<td>$F(1,47) = 4.66$</td>
<td>$p &lt; .04$</td>
</tr>
<tr>
<td>1-item happiness</td>
<td>$F(1, 47) = 2.22$</td>
<td>$p = .14$</td>
</tr>
<tr>
<td>PA</td>
<td>$F(1,47) = 2.20$</td>
<td>$p = .15$</td>
</tr>
</tbody>
</table>

Table 7. Happiness predicting prosocial spending (Path B) in Study 1 on individual measures of well-being.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Unstandardized B</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHS</td>
<td>B = .95</td>
<td>$p &lt; .02$</td>
</tr>
<tr>
<td>1-item happiness</td>
<td>B = .42</td>
<td>$p = .15$</td>
</tr>
<tr>
<td>PA</td>
<td>B = .17</td>
<td>$p = .65$</td>
</tr>
</tbody>
</table>

Table 8. Indirect mediation model in Study 1 on individual measures of well-being.

<table>
<thead>
<tr>
<th>Measure</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lower limit</td>
</tr>
<tr>
<td>SHS</td>
<td>.02</td>
</tr>
<tr>
<td>1-item happiness</td>
<td>-.03</td>
</tr>
<tr>
<td>PA</td>
<td>-.07</td>
</tr>
</tbody>
</table>
Study 2

Table 9. Results on individual measures of well-being in Study 2.

<table>
<thead>
<tr>
<th></th>
<th>Donation X Condition Interaction</th>
<th>Simple Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Low Social connection</td>
</tr>
<tr>
<td>Baseline measure: 1-item General Happiness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-donation measure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SWLS</td>
<td>$\beta = .31, p &lt; .02$</td>
<td>$\beta = -.22, p = .25$</td>
</tr>
<tr>
<td>PA</td>
<td>$\beta = .21, p = .13$</td>
<td>$\beta = -.25, p = .26$</td>
</tr>
<tr>
<td>1-item Happiness</td>
<td>$\beta = .33, p &lt; .02$</td>
<td>$\beta = -.34, p = .11$</td>
</tr>
<tr>
<td>Baseline measure: 2-item Subjective Happiness Scale</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-donation measure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SWLS</td>
<td>$\beta = .23, p &lt; .05$</td>
<td>$\beta = -.29, p = .11$</td>
</tr>
<tr>
<td>PA</td>
<td>$\beta = .21, p = .15$</td>
<td>$\beta = -.22, p = .28$</td>
</tr>
<tr>
<td>1-item Happiness</td>
<td>$\beta = .35, p &lt; .02$</td>
<td>$\beta = -.38, p = .07$</td>
</tr>
</tbody>
</table>
Study 3

*Table 10.* Results on individual measures of well-being in Study 3.

<table>
<thead>
<tr>
<th>Baseline measure: 1-item General Happiness</th>
<th>Interaction</th>
<th>Simple Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Low Social connection</td>
</tr>
<tr>
<td>PA</td>
<td>$\beta = .43, p &lt; .04$</td>
<td>$\beta = -.52, p = .13$</td>
</tr>
<tr>
<td>1-item Happiness</td>
<td>$\beta = .32, p = .06$</td>
<td>$\beta = -.42, p = .07$</td>
</tr>
</tbody>
</table>
Study 4

Table 11. Results on individual measures of well-being in Study 4.

<table>
<thead>
<tr>
<th>Target: Self</th>
<th>Target: Self</th>
<th>Target: Other</th>
<th>Target: Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHS</td>
<td>4.84 (.84)</td>
<td>4.88 (.66)</td>
<td>5.34 (1.02)</td>
</tr>
<tr>
<td>SWLS</td>
<td>4.79 (1.33)</td>
<td>4.70 (1.09)</td>
<td>5.45 (.90)</td>
</tr>
<tr>
<td>PA</td>
<td>2.81 (.67)</td>
<td>2.70 (.44)</td>
<td>2.83 (.51)</td>
</tr>
</tbody>
</table>
Study 5

Figure 12. Test for distraction as a psychological mediator between recalled spending memory (prosocial boost vs. prosocial blocked) and positive affect.

![Diagram showing the relationship between Distraction, Recalled Condition, and Positive Affect with beta values and Sobel test statistic.]

\[ \beta = .35^{**}, \beta = .28^{**}, \beta = .20^{**}, \beta = .11 \]

Sobel = 3.17^{**}
\[ ** p < .001, * p < .05 \]

Figure 13. Test for prosocial identity as a psychological mediator between recalled spending memory (prosocial boost vs. prosocial blocked) and positive affect.

![Diagram showing the relationship between Prosocial Identity, Recalled Condition, and Positive Affect with beta values and Sobel test statistic.]

\[ \beta = .28^{**}, \beta = .37^{**}, \beta = .20^{**}, \beta = .08 \]

Sobel = 4.11^{**}
\[ ** p < .001, * p < .05 \]
Figure 14. Test for downward social comparison as a psychological mediator between recalled spending memory (prosocial boost vs. prosocial blocked) and positive affect.

![Diagram showing downward social comparison as a mediator]

\[ \beta = .30^{**} \]
\[ \beta = .40^{**} \]
\[ \beta = .20^{**} \]
\[ \beta = .08 \]

Sobel = 4.44^{**}

** \( p < .001 \), * \( p < .05 \)

Figure 15. Test for perceived social worth as a psychological mediator between recalled spending memory (prosocial boost vs. prosocial blocked) and positive affect.

![Diagram showing perceived social worth as a mediator]

\[ \beta = .49^{**} \]
\[ \beta = .48^{**} \]
\[ \beta = .20^{**} \]
\[ \beta = -.06 \]

Sobel = 6.95^{**}

** \( p < .001 \), * \( p < .05 \)
Table 12. Study 6 results on individual measures of well-being.

<table>
<thead>
<tr>
<th>Interaction</th>
<th>Simple Effects</th>
<th>UNICEF (Low PPI)</th>
<th>Spread the Net (High PPI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline measure: 1-item General Happiness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-donation measure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SWLS</td>
<td>$\beta = .12, p = .15$</td>
<td>$\beta = -.01, p = .91$</td>
<td>$\beta = .25, p &lt; .04$</td>
</tr>
<tr>
<td>PA</td>
<td>$\beta = .14, p = .10$</td>
<td>$\beta = -.01, p = .93$</td>
<td>$\beta = .28, p &lt; .03$</td>
</tr>
<tr>
<td>Baseline measure: 2-item Subjective Happiness Scale</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-donation measure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SWLS</td>
<td>$\beta = .10, p = .21$</td>
<td>$\beta = .04, p = .67$</td>
<td>$\beta = .26, p &lt; .03$</td>
</tr>
<tr>
<td>PA</td>
<td>$\beta = .12, p = .16$</td>
<td>$\beta = .03, p = .80$</td>
<td>$\beta = .27, p &lt; .02$</td>
</tr>
</tbody>
</table>
Figure 16. Test for perceived prosocial impact as a psychological mediator in high impact (Spread the Net) condition.

```
β = .59**
β = .27*
β = .29**
β = .27*
```

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

Figure 17. Test for perceived social worth as a psychological mediator in high impact (Spread the Net) condition.

```
β = .13
β = .29**
β = .25*
β = .67**
```

** p < .001, * p < .05
Figure 18. Test for perceived social worth as a psychological mediator in high impact (Spread the Net) condition

** $p < .001$, * $p < .05$
APPENDIX 2 SPENDING RECALL PROMPTS

Spending recollection prompts used in Study 5.

I) Please think back to and describe as vividly and in as much detail as possible the last time you spent approximately twenty dollars ($20) on yourself. **(PERSONAL)**

II) Please think back to and describe as vividly and in as much detail as possible the last time you spent approximately twenty dollars ($20) on someone else. **(PROSOCIAL)**

III) Please think back to and describe as vividly and in as much detail as possible the last time you spent approximately twenty dollars ($20) on someone else but it didn’t have an impact on the person. **(PROSOCIAL BLOCKED)**

IV) Please think back to and describe as vividly and in as much detail as possible the last time you spent approximately twenty dollars ($20) in a way that had a meaningful impact (on someone else. A meaningful impact is one that is life-changing, lasting, or uniquely memorable. **(PROSOCIAL BOOST)**