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## **Abstract**

Existing research demonstrates that prosocial behavior can lead to long lasting well-being, happiness, and health. Prosocial behavior also has meaningful organizational impact in terms of employee satisfaction, productivity, and retention. However, theories of reciprocity styles suggest that individuals may experience differing benefits associated with prosocial behavior. For example, certain people termed "takers" who think about relationships as an exchange rather than a communal relationship may not receive these happiness effects. Given the potentially harmful ripple effects that takers can have on organizations, it's important to understand if they too feel happiness after giving and, if so, how organizational interventions can be designed to encourage these "takers" to give more. In this study, we propose that the happiness effects associated with prosocial giving are moderated by individuals' dispositional prosocial motivations – that is, whether they are a giver, matcher, or taker. We find that, contrary to previous findings, both givers and takers are made less happy by giving than personal spending, but the effect is less pronounced for takers. We suggest a "crowding out" effect of intrinsic motivation for givers. This result has important implications for organizations since it suggests that it may be possible to encourage giving prosocial behaviors even among notoriously selfish "takers" and also that ways to promote generosity may require tailoring to individual motivations.

## **Keywords**

giving, taking, prosocial, motivation, happiness, well-being, takers, givers

## **Disciplines**

Business

**Giving, Takers, and Happiness:  
How Prosocial Motivation Relates to the Happiness Effects of Giving**

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Abstract

Existing research demonstrates that prosocial behavior can lead to long lasting well-being, happiness, and health. Prosocial behavior also has meaningful organizational impact in terms of employee satisfaction, productivity, and retention. However, theories of reciprocity styles suggest that individuals may experience differing benefits associated with prosocial behavior. For example, certain people termed “takers” who think about relationships as an exchange rather than a communal relationship may not receive these happiness effects. Given the potentially harmful ripple effects that takers can have on organizations, it’s important to understand if they too feel happiness after giving and, if so, how organizational interventions can be designed to encourage these “takers” to give more. In this study, we propose that the happiness effects associated with prosocial giving are moderated by individuals’ dispositional prosocial motivations – that is, whether they are a giver, matcher, or taker. We find that, contrary to previous findings, both givers and takers are made less happy by giving than personal spending, but the effect is less pronounced for takers. We suggest a “crowding out” effect of intrinsic motivation for givers. This result has important implications for organizations since it suggests that it may be possible to encourage giving prosocial behaviors even among notoriously selfish “takers” and also that ways to promote generosity may require tailoring to individual motivations.

Keywords: giving, taking, prosocial, motivation, happiness, well-being, takers, givers

*“I recognize that I have the ability to be selfish, but I also recognize that you can't be happy if you only care about yourself at the expense of other people.”*

- Russell Brand

Prosocial behavior has clearly been shown to be beneficial for people's happiness (Aknin, L.B., Norton, M.I., & Dunn, E.W. 2008; Andreoni, 1989, 1990; Anik, Aknin, Norton, & Dunn, 2009; Lyubomirsky, S., Sheldon, K.M., & Schkade, D. 2005; Kurtz, J.L., Lyubomirsky, S. 2008; McGowen, K. 2006; Post, 2005; Rucker, DuBois, & Galinsky, 2011). However, individuals differ in many ways that may moderate the impact that prosocial giving has on their happiness and well-being. One way that individuals differ is in their reciprocity styles, which fall into three categories: 1) Givers, or generous individuals who give with no expectation of returns; 2) Matchers, individuals who give either expecting a favor in the future or to pay off one from the past; and 3) Takers, or selfish individuals who take at the expense of others (Clark, M. S., & Mils, J. 1979; Fiske, A. P. 1992; Grant, A. 2013; Grant, A. 2009; Miles, E. W., Hatfield, J.D., & Huseman, R.C. 1989). While there is clear evidence that givers (and matchers too?) experience individual benefits from prosocial behaviors, evidence is more equivocal regarding the benefits that takers, specifically, receive from prosocial behaviors. One study provides evidence that takers, or those who act selfishly and see relationships as only an exchange, do not receive the same happiness benefits from giving as do those with other reciprocity styles (Clark, M.S., & Mils, J. 1993). However, research showing that even givers have some self-serving tendencies (Frimer, J. A., Walker, L. J., Dunlop, W. L., Lee, B. H., & Riches, A. 2011) suggests that takers may also have similar contradictory tendencies; that is, a natural evolutionary tendency to enjoy the experience of giving (Trivers, R. 1971). Given the potential harmful effects that takers can have on organizations (Sutton, R.I. 2007), better understanding the

potential benefits that givers receive from behaving prosocially can be very useful because, if they are indeed made happier by giving, then organizations can create interventions to encourage them to give more, thereby creating beneficial ripple effects for the entire organization (Aknin, L. B., Sandstrom, G. M., Dunn, E. W., & Norton, M. I. 2011). In this paper, we seek to demonstrate that selfish individuals do in fact receive happiness effects from giving.

This paper will be organized as follows. In the first section, I will discuss the benefits of prosocial behavior. In the following section, I will demonstrate how these benefits extend to organizations. In the third section, I will discuss how giving has an evolutionary basis and how this seems to contradict the idea that selfish individuals do not receive the happiness benefits of prosocial behavior. In the third section, I will demonstrate the methods and procedures used to test this contradiction. In the fifth section, I will present the results and discuss implications. Finally, I will discuss possible limitations to the study and areas for future research.

### **Benefits of Prosocial Behavior**

Research has linked the act of giving to numerous emotional and mental health benefits. Committing acts of kindness boosts both temporary mood and long-lasting well-being (Lyubomirsky, S., Sheldon, K. M., & Schkade, D. 2005; Kurtz, J. L., Lyubomirsky, S. 2008; McGowen, K. 2006). Moreover, giving in interpersonal relationships has been linked to positive health behaviors, relational outcomes (Helgeson, V. S. 1994) and reduced mortality (Brown, S. L. et al. 2003). Showing care, building happiness, pride, and belonging (companionship) is associated with fewer depressive symptoms, whereas assisting with distress, anger, fear, and conflict (help) is associated with more depressive symptoms including stress (Strazdins, L., & Broom, D. H. 2007). Giving has also been shown to counteract some of the negative effects of stress. Recent research revealed that helping others even predicted reduced mortality due to

stress (Poulin, M. J. et al. 2013). Volunteer work – a prototypical form of prosocial behavior, and one that is particularly salient for organizations – enhances happiness, life satisfaction, self-esteem, sense of control over life, physical health, mitigates depression (Thoits, P. A., & Hewitt, L. N. 2001), and significantly enhances long term well-being (Piliavin, J. A., & Siegl, E. 2007). Although researchers have extensively documented the many benefits of giving, not all giving is created equal and both context and personality can affect giving.

Prosocial behavior can take many forms, most of which are categorized by volunteering time or spending charitably. People associate volunteering and prosocial spending with greater happiness (Liu, W., & Aaker, J. 2008). Although giving may be understood as simple charity, giving behaviors often can and do come in the form of time and favors, especially when one's moral identity is activated (Reed, A. I., Auino, K. & Levy E. 2007). Prosocial spending promotes happiness, which in turn leads to more prosocial spending in a positive feedback loop, but promoting giving as a means of becoming happier may crowd out intrinsic motivation and decrease giving (Anik, L., Aknin, L.B., Norton, M.I., & Dunn, E.W. 2009). Even recalling past prosocial spending promotes happiness (Dunn, E. W., Ashton-James, C. E., Hanson, M. D., & Aknin, L. B. 2010); indeed, research has shown that spending money on others promotes happiness more than spending money on oneself. Giving money to charity, in fact, activates regions of the brain associated with processing reward (Harbaugh, W. T., Mayr, U., & Burghart, D. R. 2007). These benefits of giving form a positive feedback cycle in that higher levels of happiness from prosocial spending encourage future willingness to spend prosocially and expand an individual's mindset to incorporate others (Dunn, E. W., Aknin, L. B., & Norton, M. I. 2008). Happier people are more likely to act generously (Isen, A.M. 1970; Isen, A.M., & Levin, P.F.

1972) and they experience higher levels of happiness by doing so (Piliavin, J. A. 2003; Thoits, P. A., & Hewitt, L. N. 2001), creating a virtuous cycle of positive affect and prosocial behavior.

### **Organizational Impacts of Prosocial Behavior**

The benefits of giving do not stop at the individual, though; they have been shown to extend to organizational settings as well. Research has shown that giving in the workplace has numerous positive effects. A global sense of reciprocity in organizations is associated with greater mental health and well-being across professional, marital, and other social relationships (Buunk, B. P., & Schaufeli, W. B. 1999). Giving behaviors create ripple effects in organizations, increase job satisfaction, and make teams more successful (Aknin, L. B., Sandstrom, G. M., Dunn, E. W., & Norton, M. I. 2011). Cooperative behavior cascades in human social networks up to three degrees of separation (Fowler, J. H., & Christakis, N. A. 2010). This implies that giving to one person may carry over to future giving up to three times, creating a ripple effect. Social benefits of giving include greater social approval by others, appreciation, gratitude, and prosocial reciprocity (Trivers, R. 1971). Higher rates of prosocial behavior in organizations predict higher profitability, productivity, efficiency, customer satisfaction, along with lower costs and lower turnover rates according to a meta-analysis of 3,500 businesses (Podsakoff, N.P., Whiting, S.W., Podsakoff, P.M., & Blume, B.D. 2009). All in all, research has shown that giving can produce significant positive outcomes not just for individuals, but also for the organizations where they work.

### **Evolutionary Basis for Prosocial Behavior and Theories of Selfish Individuals**

It is clear that giving behaviors improve affect, productivity, and health, and one should seek to promote such behaviors. In doing so, it is important to understand where giving stems from and why people give. Evolution and natural selection outline a system in which all people



are seen as possessing opposing tendencies to be both altruistic and selfish (Trivers, R. 1971). Reciprocal altruism is a basic psychological mechanism that is rooted in evolution, causing individuals to expect reciprocity in interpersonal relationships (Buunk, B. P., & Schaufeli, W. B. 1999). Evidence that infants experience positive emotions when giving to others suggests that the effect is a proximal mechanism for human cooperation (Aknin, L. B., Hamlin, J. K., & Dunn, E. W. 2012). Research on marketing for charitable support shows that people give more when there is more public accountability and less self-benefit (White, K., Peloza, J., 2013). For example, one is more likely to give when their friends are watching than they are while surfing the web, and they are more likely to give if there is no reward for their giving, which may potentially signal that they are giving selfishly. This suggests that many give to appeal to their public self-image. All these effects provide evidence that giving has a deep, evolutionary base in human character, implying that even selfish individuals should be made happy by giving.

However, it is not clear that prosocial behavior always leads to happiness as predicted by evolutionary theories. Indeed, individual differences in reciprocity styles may moderate the impacts of prosocial behavior on individual and organizational benefits. Research shows that when people are thinking about a relationship as an exchange rather than as communal, they do not receive the happiness benefits typically associated with giving (Clark, M. S., & Mills, J. 1993). In terms of reciprocity styles, individuals with exchange mindsets are those with selfish reciprocity styles, or takers (Clark, M. S., & Mills, J. 1979; Fiske, A. P. 1992; Grant, A. 2013; Grant, A. 2009; Miles, E. W., Hatfield, J.D., & Huseman, R.C. 1989). Two other types of communal mindsets, which are also associated with reciprocity styles exist: one in which people give with the expectation of reciprocity – matchers – and the other in which people give in response to others' needs with no expectation of repayment – givers (Clark, M. S., & Mills, J.

1979; Fiske, A. P. 1992; Grant, A. 2013; Grant, A. 2009; Miles, E. W., Hatfield, J.D., & Huseman, R.C. 1989). These three groups have been analogously labeled as benevolents (givers), equity sensitives (matchers), and entitleds (takers). Benevolents are those who contribute the most in a workplace for the least amount of reward or pay (Miles et al. 1989). The finding that these reciprocity styles exist in organizations in conjunction with the finding that takers see relationships as an exchange suggest that takers do not receive happiness benefits from giving. However, people do not always fit neatly into one of the three categories of taker, giver, or matcher. Research instead suggests that moral exemplars (givers) - those that exhibit extraordinary volunteerism - exhibit both self-serving and other-serving motivations (Frimer, J. A., Walker, L. J., Dunlop, W. L., Lee, B. H., & Riches, A. 2011). This provides evidence that rather than being purely selfless, givers balance their own interests with those of others in a healthy and productive way. I hypothesize that takers are also not purely selfish, but instead that they also receive happiness benefits from giving, just less so than givers.

Existing research on giving and happiness does not address how these three reciprocity styles of people are differentially impacted by giving – specifically, if selfish people are also made happier by giving. It is particularly important to understand how takers are impacted by giving due to the potentially outsized impact that their negative behaviors can have on other employees and the organization as a whole. Their behavior emotionally exhausts coworkers, hinders productivity, and increases turnover (Sutton, R.I. 2007). The selfish actions of takers can cause an infectious breeding of selfishness and insensitivity (Sutton, R.I. 2007). By improving researchers' and organizations' understanding of whether takers become happier when they give, this study demonstrates how the positive effects of giving need not be limited just to employees with a generous disposition, but they can be extended to also benefit even the most selfish

employees. In this way, our study proves that organizations need not be brought down by the few bad apples that are ever-present; these employees can also benefit from prosocial giving and be a contributor to, rather than a detractor from, the positive feedback loop associated with giving in organizations. In this study, we specifically investigate whether more selfishly-oriented “takers” experience similar net effects on well-being after giving to others rather than spending selfishly.

### **Methods**

250 were recruited through the behavioral lab system to participate in the study. All participants were college age. 44 students were removed from the sample due to not completing all surveys or for evidence of false reporting (e.g. answering “5” for every survey question).

Students were contacted to come to the lab and to complete a prosocial motivation survey and a well-being/happiness survey on a computer through the Qualtrics website. The prosocial motivation survey was comprised of the 16-item Equity Performance Questionnaire (EPQ), a prosocial and intrinsic motivation survey, the Prosocial Personality Battery (PSB), the Portrait Values Questionnaire (PVQ), the Schwartz’s Value Survey (SVS), a self- vs other-orientation survey, the Self- vs Other-Interest Inventory (SOII), and the Communal Orientation Scale. All of these tools have been used to indicate giving and taking behaviors in the past, are widely accepted for survey use (Sauley, K. S., & Bedeian, A. G. 2000; Grant, A. M. 2008; Penner, L. A., Fritzsche, B. A., Craiger, J. P., & Freifeld, T. R. 1995; Schwartz, S. H., Melech, G., Lehmann, A., Burgess, S., Harris, M., & Owens, V. 2001; De Dreu, C. K., & Nauta, A. 2009; Gerbasi, M. E., & Prentice, D. A. 2013; Clark, M. S., Oullette, R., Powell, M. C., & Milberg, S. 1987), and were coded using the recommended methods (Schwartz, Shalom H. 2009; Penner, L.A. 2002; De Dreu, C. K., & Nauta, A. 2009; Gerbasi, M.E., & Prentice, D.A. 2013).

Furthermore, research has shown that a large driver of giving is one's identity and how one views oneself (Aaker, J. L., & Akutsu, S. 2009). The well-being/happiness survey was comprised of the Positive and Negative Affect Scale (PANAS), the Satisfaction with Life Scale (SWLS), the Subjective Happiness Scale (SHS), and the Psychological Well-being Scale (PWS). All of these tools have been used in the past to measure happiness and well-being (Watson, D., Clark, L. A., & Tellegen, A. 1988; Diener, E. D., Emmons, R. A., Larsen, R. J., & Griffin, S. 1985; Lyubomirsky, S., & Lepper, H. S. 1999; Ryff, C.D. 1989) and were coded using the recommended methods (Watson, D. Clark, L.A., & Tellegen, A. 1988; Diener et al. 1985; Lyubomirsky, S., & Lepper, H.S. 1999; Ryff, C.D. 1989). The Institutional Review Board (IRB) approved the data collection methods and surveys. Students were compensated for their time.

### **Procedures**

Students at a large University in the northeastern United States were solicited to participate in a research study at the University's Behavioral Lab in exchange for \$10. Those who chose to participate in the study were randomly assigned to two experimental groups: half to a prosocial spending condition and half to a selfish spending, control condition. The only difference between conditions was that after they took the survey, the participants in the prosocial spending condition were given a message at the end of the survey that stated the following: "You will be given \$5 while leaving the lab. Please spend this on an item for someone else by the end of the day". In the selfish-spending, control condition, participants instead read the following message: "You will be given \$5 while leaving the lab. Please spend this on an item for yourself by the end of the day". This study used prosocial spending, rather than other forms of giving, because human beings have shown to derive emotional benefits from prosocial spending and because individuals buying items for charity (vs. for themselves) displayed greater

positive affect even when there was no opportunity to build or strengthen social ties (Aknin et al. 2013). Students in both conditions were instructed to type a confirmation at the end of the prosocial motivation survey to show that they understood the task. As they left the lab, all students received \$5 cash (in addition to the \$10 compensation) to spend either on others or themselves.

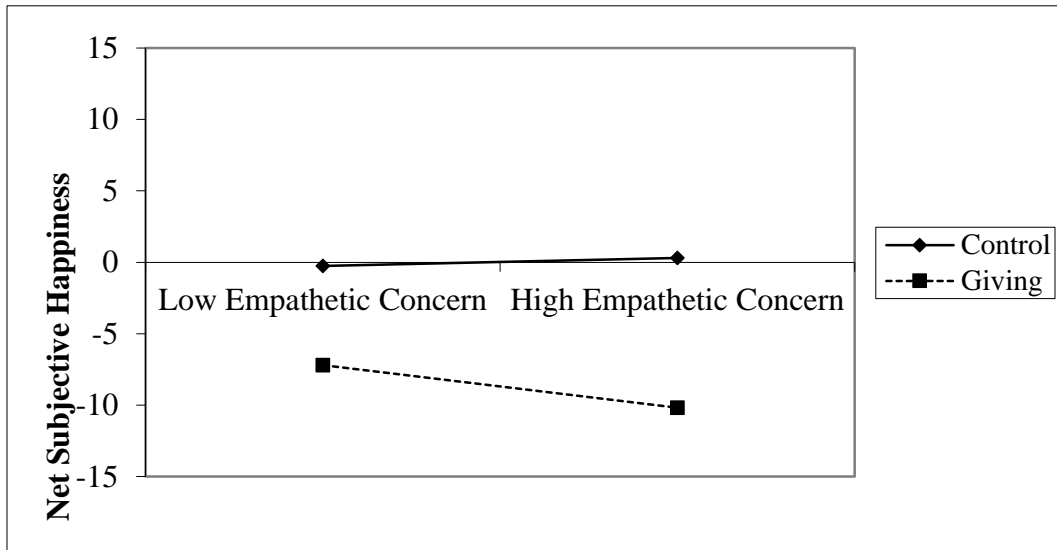
A day passed after the initial surveys were completed to avoid priming effects. Then, each student was sent an email with a follow-up happiness survey asking them to report on whom they spent the \$5 on and how it was spent. The purpose was to measure the effect of giving or spending selfishly (control) on subsequent self-reported happiness.

## **Results**

Two-sided t-tests for differences of means indicated no difference between the giving and control conditions in net positive affect ( $t = .57$ ,  $p = .569$ ), net negative affect ( $t = .50$ ,  $p = .62$ ), net satisfaction ( $t = -1.05$ ,  $p = .29$ ), net subjective happiness ( $t = -0.42$ ,  $p = .67$ ), or net autonomy ( $t = 1.85$ ,  $p = .07$ ). This finding is contrary to the Aknin et al. studies, which display significant differences in net happiness between control and giving groups (Aknin et al. 2008). All net happiness measures showed correlation with each other (.28 to .57) with the exception of net autonomy (.01 to .13). Prosocial measures were more diverse, but correlated strongly within each survey instrument.

Moderated regressions were run using each happiness measure as a dependent variable (net positive affect, net negative affect, net satisfaction, net subjective happiness, and net autonomy) with condition, each prosocial measure, and the interaction between prosociality and condition as dependent variables (See Table 1). 43 of the 115 regressions were found to have significant F-ratios ( $p < .05$ ) and were then graphed to interpret results (See Appendix). The

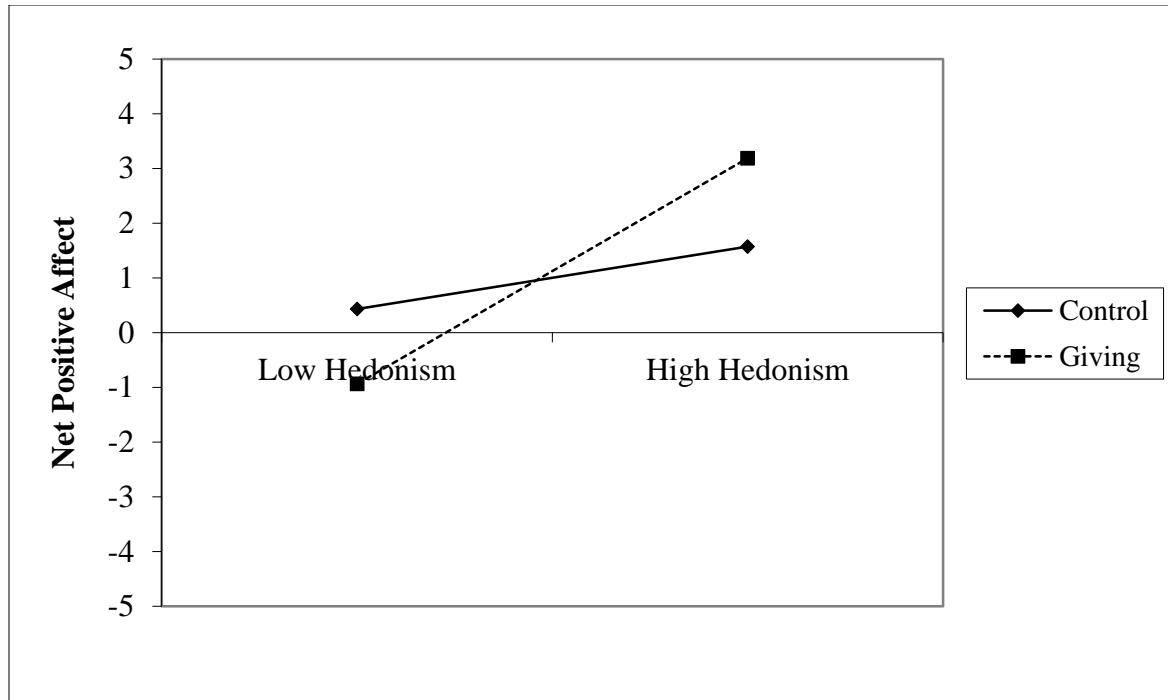
majority (roughly 75%) of the regressions indicated that everyone was made less happy by giving, especially givers (those scoring high in measures such as benevolence and empathetic concern, and low in scores such as hedonism and self-maximizing).



A smaller portion of the regressions (roughly 10%) showed giving making everyone happy, and the effect being much more pronounced for takers (those scoring high in measures such as self-maximizing and achievement, and low in scores such as self-reported altruism and social responsibility).



The remaining regressions displayed a mix of takers/givers being made happier or less happy by giving. This regression (see below) was significant ( $F = 4.05$ ,  $p = .0085$ ) and displays a controversial finding: takers (those high in hedonism) exhibited higher net happiness from giving, whereas givers (those low in hedonism) exhibit lower net happiness from giving.



## Discussion

Past research has demonstrated the potentially harmful effects of selfish employees and bosses on individual productivity, satisfaction, and creativity (Sutton, R.I. 2007). These negative effects are not isolated in their impact, but cascade to impact the entire organization and harm the overall culture (Sutton, R.I. 2007). Past research has not examined whether takers receive the same happiness benefits from giving as others do. The most relevant finding is that people with larger neural happiness payoffs for themselves than for others are more likely to voluntarily give (Harbaugh et al. 2007). However, it is unclear if those with smaller neural payoffs for others are

takers. Uncovering how giving provides different neurological rewards for givers and takers can provide new insight into takers' behavior. If takers are made happy by giving, maybe takers can be trained to become less selfish through small wins and conditioning. If they aren't, perhaps this explains why they are selfish. By demonstrating that these takers receive similar or better effects from giving as more other-oriented employees, this study provides hope for organizations in their quest to minimize the widespread harms that even small numbers of selfish individuals can have on organizations through their taking behaviors.

Although prior research suggests that that more selfish individuals receive happiness from taking rather than from giving, based upon prior research showing that the motivations behind different reciprocity styles may converge (Frimer, J. A., Walker, L. J., Dunlop, W. L., Lee, B. H., & Riches, A. 2011), along with evolutionary theory suggesting that all individuals are wired to benefit from giving (Aknin, L. B., Hamlin, J. K., & Dunn, E. W. 2012), we hypothesized that takers would also show happiness benefits from giving, although these benefits would be less pronounced than those observed for givers.

The first finding of no difference of net happiness between conditions is contrary to a wealth of research showing giving makes people happier (Aknin, L.B., Norton, M.I., & Dunn, E.W. 2008; Andreoni, 1989, 1990; Anik, Aknin, Norton, & Dunn, 2009; Lyubomirsky, S., Sheldon, K.M., & Schkade, D. 2005; Kurtz, J.L., Lyubomirsky, S. 2008; McGowen, K. 2006; Post, 2005; Rucker, DuBois, & Galinsky, 2011). The second finding is counterintuitive - that givers are made even unhappier by giving than takers are, or in some cases that takers are made happier by giving than givers are. It may be the case that givers have hedonically adapted to the happiness effects of giving (Frederick, S. & Loewenstein, G. 1999), whereas takers are newer to



giving and receive a greater happiness effect. This supports the hypothesis that takers are made at least as well off as givers by giving.

Additionally, the act of forced giving may have a large effect on happiness. Participants were forced to give, rather than encouraged to give or choosing to give by their own volition. Although research suggests that even forced giving can improve well-being (Harbaugh, W. T., Mayr, U., & Burghart, D. R. 2007), there is also research supporting a "crowding out" effect of intrinsic motivation (Anik, L., Aknin, L.B., Norton, M.I., & Dunn, E.W. 2009; Grant, A.M., & Berg, J.M. 2011; Grant, A. 2008; Weinstein et al. 2010). If true, the results would suggest that this "crowding out" effect is more pronounced for givers than for takers. Perhaps givers are so intrinsically motivated to give that forced giving makes them significantly less happy, while takers are either unaffected by forced giving (as opposed to giving by one's own volition) or the effect is less strong.

These findings suggest that organizations have opportunities to influence the behaviors of givers and takers. In the case of clearly selfish individuals, it may be best to force them to give or to promote acts of giving, which may in turn make them happier and encourage future generous acts. However, givers may require a different approach. If an individual is already motivated to give, forcing them to do so may make them much less happy. Allowing generous individuals the autonomy to help others and give on their own may be the best course of action. In this way, organizations and bosses can tailor the structure of giving and helping in their organizations to maximize the instances of giving to in turn receive the greatest organizational benefits.

### **Limitations & Areas for Future Research**

As with any other lab study there are inherent limitations to this experiment. These include timing, stealing, separation from reality, and lying. Firstly, participants didn't necessarily

complete the follow-up happiness survey right after they gave. Past studies used phone interviews, rather than internet surveys, which would ensure that participants were answering soon after they gave. The follow-up survey in this study may have made students unhappy due to the additional unexpected work and they may have not been thinking about the giving when filling out the survey. If these factors were true, it may have skewed the results and masked the happiness effects of giving. Further studies may benefit from experience-sampling methodology (Trougakos et al. 2008). Secondly, there is a chance that participants assigned to the giving condition bought gifts for themselves rather than actually giving to their friends. This would distort the results because these subjects would not actually be giving. Thirdly, perhaps being told to buy a gift isn't the same as choosing to give. In fact, research has shown that prosocial behavior, defined differently than altruism or self-interested motivations, is more effective when it is intrinsically motivated, as well as more rewarding in terms of performance, productivity, and persistence (Anik, L., Aknin, L.B., Norton, M.I., & Dunn, E.W. 2009; Grant, A.M., & Berg, J.M. 2011; Grant, A. 2008). In this study, though, participants were extrinsically motivated to give, rather than choosing to give on their own volition. The effects of these two motivations for giving may be quite different because autonomous motivation to help others results in greater benefits for givers due to greater need satisfaction (Weinstein et al. 2010). Although this is a clear limitation, it should be noted that even mandatory, tax-like transfers elicit a neural response similar to rewards, although the response is stronger for voluntary giving (Harbaugh, W. T., Mayr, U., & Burghart, D. R. 2007). In this way, our study can be seen as a conservative test of the impacts of giving on takers. It would be worthwhile for future research to help disentangle the happiness effects of voluntary, autonomous giving versus experimentally-encouraged giving. Last, the prosocial survey issued on the first day of the experiment may have primed students to

think about prosocial behavior, which resulted in them being less happy when buying gifts for themselves. Finally, there is always a possibility that respondents misrepresented themselves on surveys and lied about their true happiness or characteristics. This may occur in part due to demand effects in that some participants may try to understand what the study's hypotheses are and answer the survey questions accordingly. The best way to control for all these problems is to seek replication with future studies.

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**Table 1:** Betas of Moderated Regressions

	<u>Net Positive Affect</u>	<u>Net Negative Affect</u>	<u>Net Satisfaction</u>	<u>Net Subjective Happiness</u>	<u>Net Autonomy</u>
<b>BENEVOLENCE</b>	0.9196725, -0.327833, 0.0149394, -0.382896**	0.626631, - 0.336771, - 0.001286, 0.2218972**	0.2330221, 0.6915417, 0.0242466, - 0.312233***	0.2202012, 0.3265788, - 0.035461, -0.2766***	0.1759174, - 1.174475*, 0.1054441, -0.224221**
<b>UNIVERSALISM</b>	0.9272555, -0.62011, - 0.188721**, -0.050307	0.597444, - 0.188491, -0.05552, 0.2688204***	0.3570859, 0.5790896, - 0.025208, -0.035685	0.0256862, 0.1751948, 0.0039987, -0.126546	0.7591569*, - 1.177989*, 0.0003038, 0.0132862
<b>HEDONISM</b>	0.7861505, -0.439234, 0.2270824, 0.5931255*	0.5575005, - 0.270852, 0.0651577, - 0.57689**	0.3639448, 0.6123067, 0.0033238, 0.464403**	0.2109341, 0.2306807, - 0.196298, 0.7507405***	0.8333513*, - 1.190562*, -0.078078, 0.4244064
<b>ACHIEVEMENT</b>	0.6717367, -0.172426, 0.0601663, -0.172426	0.217567, - 0.453446, 0.0731621, - 0.393439**	-0.175525, 0.899494*, 0.0987688, 0.2550896**	-0.737136, 0.5024356, 0.1385576*, 0.1641171	0.8162974, -1.183532, -0.010423, 0.0207362
<b>POWER</b>	1.7120359**, -0.418615, 0.1094962, 0.2539924*	0.5800714, - 0.280397, - 0.006086, - 0.172566*	0.3917367, 0.6218192, 0.0037995, 0.1506104*	0.3054173, 0.23962, 0.0434008, 0.1743897**	0.3796652, - 1.185834*, -0.058527, 0.0016269
<b>Social responsibility</b>	-1.006278, -0.220208, 0.1391578, -0.592674**	-1.142921, - 0.538456, 0.1221056, 0.2410802	-1.183984, 0.6451636, 0.107463, -0.228814	-4.484581**, 0.2990751, 0.3123708**, - 0.64836***	-2.338964, - 1.241417, 0.2146361, -0.274226
<b>Empathetic concern</b>	0.4572355, -0.403167, 0.0400349, -0.824898**	-0.829017, - 0.292689, 0.1063968, 0.3758617	0.2221411, 0.6310391, 0.010648, -0.443583**	-1.360193, 0.2496615, 0.1016779, -0.658171**	-0.100673, - 1.181409*, 0.0631468, -0.271631
<b>Prospective taking</b>	3.949689, -0.459029, - 0.185329, -0.333593	-0.829017, - 0.292689, 0.1063968, 0.3990058**	0.336738, 0.6070764, 0.0019097, - 0.242764	-1.012657, -1.165518, 0.1114019, 0.1481881	-1.012657, - 1.165518*, 0.1114019, 0.1481881

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<b>Personal distress</b>	2.5079838, -0.419908, - 0.263655, 0.818717*	1.0195693, - 0.279868, - 0.070051, - 0.028945	1.3696027, 0.6213695, - 0.175542, 0.4348956*	-0.541468, 0.2389212, 0.0990335, 0.0397191	0.266932, -1.185477*, 0.0861701, -0.211456
<b>Other oriented reasoning</b>	2.3005122, -0.228431, - 0.134021, -0.893745**	0.8234559, - 0.384845, - 0.021053, 0.6530491**	0.5149804, 0.6850117, - 0.015265, -0.348062	0.9804158, 0.3523745, - 0.098725, -0.495998, - 0.495998**	-0.789997, - 1.23393*, 0.1599126, 0.006972
<b>Mutual moral reasoning</b>	1.8846514, -0.082288, - 0.444611, -0.659391	0.0499668, - 0.265666, 0.0531155, 0.3756804	0.0104685, 0.6125567, 0.0332597, - 0.343702	0.5311693, 0.2218218, - 0.047289, -0.477701. - 0.477701*	-0.405017, - 1.178883*, 0.1085577, 0.0298042
<b>Self-reported altruism</b>	1.1353059, -0.326802, - 0.01028, -0.297371	2.0394923, - 0.401182, - 0.109737, 0.5974383***	0.2037958, 0.6739908, 0.012621, -0.199202	0.7809134, 0.3233179, - 0.058488, -0.182927	0.0298042, - 1.131341*, -0.01709, -0.150521
<b>Other-oriented empathy</b>	2.2481414, -0.265157, - 0.019357, -0.195849**	-1.738854, - 0.402484, 0.0366426, 0.1175342*	-0.700714, 0.6736006, 0.016591, -0.106264**	-3.692397, 0.3093568, 0.0577441, - 0.204846***	-3.673096, - 1.232244, 0.0688632, -0.050374
<b>Reverse personal distress</b>	-2.237813, -0.419908, 0.2636554, -0.818717*	-0.241352, - 0.279868, 0.0700512, 0.0289451	-1.790158, 0.6213695, 0.1755423, - 0.434896*	1.2411342, 0.2389212, - 0.099033, -0.039719	1.8179945, - 1.185477*, -0.08617, 0.2114564
<b>Helpfulness</b>	-0.465533, -0.33792, 0.0581802, -0.375861*	2.2298459, - 0.367589, - 0.063829, 0.4022221**	-0.974044, 0.6624703, 0.0531593, - 0.229475*	1.7409549, 0.3097917, - 0.068051, -0.118442	1.621045, -1.152662*, -0.034167, -0.048428
<b>Self-concern</b>	-0.514732, -0.403461, 0.122722, -0.057607	2.3566424, - 0.322832, - 0.140528, - 0.138104	0.724729, 0.6317512, -0.02893, 0.1452954	-1.855748, 0.2863644, 0.1520732, 0.1592496	5.164777*, - 1.247689*, -0.35641, 0.0700228

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<b>Other-orientation</b>	1.4811291, -0.139024, - 0.045163, -0.793302*	1.0404111, - 0.43764, -0.039698, 0.5579276*	0.6075987, 0.7440448, - 0.022683, -0.341052	1.2928986, 0.4427849, - 0.119671, -0.424487*	3.7313172*, - 1.089257, -0.28034, 0.1897352
<b>Self-comparative relation</b>	1.6995451, -0.3144, - 0.051124, 0.3863541	1.5648427, - 0.357675, - 0.069313, - 0.098149	1.4596809, 0.7051637, - 0.080109, 0.3738919**	-0.424487, 0.3698522, - 0.022276, 0.4057728***	2.561442, -1.304604*, -0.132155, -0.103503
<b>Prosocial subscale</b>	-1.098952, -0.396082, 0.1550249, -0.55746*	-0.405653, - 0.309178, 0.0756348, 0.212123	1.8065839, 0.6428373, - 0.106201, -0.068019	-0.181377, 0.2647687, 0.0151593, -0.332187, - 0.332187*	-1.403061, - 1.187914*, 0.1595148, -0.246262
<b>Self-maximizing subscale</b>	-0.210011, -0.28102, 0.1365277, 0.4178263*	0.6692951, - 0.335061, - 0.005606, - 0.250556	0.8362046, 0.6592011, - 0.052829, 0.2704969*	0.143314, 0.3263862, - 0.013426, 0.4353355***	1.8023466, - 1.211364* -0.117496, 0.0819105
<b>Self-prioritizing relation</b>	-1.456098, -0.319559, 0.1896339, -0.139716	0.4370153, - 0.261494, 0.0140778, 0.0088565	0.659102, 0.6918971, -0.022524, 0.1713267	-0.276944, 0.3441738, 0.0232215, 0.1571845	2.825749*, - 1.41324**, -0.159421, -0.148219
<b>Self-interest</b>	-0.913431, -0.41549, 0.0675111, 0.0143313	0.9618881, - 0.284127, - 0.012065, - 0.090085	2.0029143, 0.6211837, - 0.057647, 0.1060473	-1.568958, 0.2456168, 0.0561401, 0.0751603	3.0992976, - 1.195136*, -0.082472, -0.08652
<b>Other-interest</b>	-3.005289, -0.425942, 0.1360379, -0.350021, - 0.350021**	-0.386251, - 0.272756, 0.034141, 0.0974898	1.7357135, 0.6138466, - 0.046458, -0.087501	0.0681799, 0.2321823, - 0.001496, -0.140298*	0.4205226, - 1.185171*, 0.0114909, -0.017689
<b>Note: (blank) = not significant, * = p &lt; .10, ** = p &lt; .05, *** = p &lt; .01</b>					
<b>Note: Each column displays coefficients for intercept, condition, prosocial measure, and interaction.</b>					

**Table 2:** Most Significant Interactions ( $p < .01$ )

<b>Dependent variable (happiness)</b>	<b>Independent variable (prosociality)</b>	<b>Significance</b>
Net Positive Affect	Power	$F = 7.27, p = .0001$
Net Negative Affect	Self-reported Altruism	$F = 4.89, p = .0029$
Net Negative Affect	Other-oriented Empathy	$F = 4.39, p = .0055$
Net Satisfaction	Benevolence	$F = 9.54, p < .0001$
Net Satisfaction	Hedonism	$F = 4.03, p = .0087$
Net Satisfaction	Achievement	$F = 6.67, p = .0003$
Net Satisfaction	Empathetic Concern	$F = 4.11, p = .0079$
Net Subjective Happiness	Benevolence	$F = 9.92, p < .0001$
Net Subjective Happiness	Hedonism	$F = 5.53, p = .0017$
Net Subjective Happiness	Achievement	$F = 4.62, p = .0041$
Net Subjective Happiness	Power	$F = 6.77, p = .0003$
Net Subjective Happiness	Social Responsibility	$F = 6.12, p = .0006$
Net Subjective Happiness	Empathetic Concern	$F = 5.92, p = .0008$
Net Subjective Happiness	Other-oriented Reasoning	$F = 4.30, p = .0062$
Net Subjective Happiness	Other-oriented Empathy	$F = 7.18, p = .0002$
Net Subjective Happiness	Self-maximizing	$F = 5.41, p = .0015$
Net Autonomy	Self-prioritizing relation	$F = 4.25, p = .0066$

**Appendix:**

