Can Third-Party Observers Detect the Emotional Rewards of Generous Spending?

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Abstract

Can others detect the emotional consequences of our personal choices? Here we investigate whether third-party observers can detect the emotional benefits of two factors shown to influence self-reported happiness: the speed with which people make decisions, and the generosity of spending choices. Participants were randomly assigned to purchase a goody bag either for themselves or for a sick child, and to choose the contents of this goody bag either as quickly as possible, or by taking as much time as needed. After, participants reported their current emotional state, and were rated for happiness by a research assistant blind to their spending condition. Analyses revealed that purchasing a gift for someone else not only improved participants' self-reported mood, but that observers could detect these affective differences as well. Observers also rated participants who made their spending decision more quickly as happier, although participants did not report these emotional differences.

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Happiness is an important goal for many people (Diener, Suh, Smith, & Shao, 1995). As such, researchers from various fields have synthesized information to explore what factors influence an individual's happiness level. One dominant model indicates that happiness is determined by three individual variables: genetics, life circumstances (e.g., relationship status, income) and volitional behavior (Lyubomirsky, Sheldon & Schkade, 2005). Interestingly, however, new research suggests that an individual's happiness may also be shaped by the well-being of others in their environment. Indeed, recent research by Fowler and Christakis (2008) demonstrates that happiness spreads through social networks and may reach as far as three degrees of separation. While happiness may transfer between individuals when they interact – through a process called "emotional contagion" (Hatfield, Cacioppo & Rapson, 1993) – it is unclear whether other people can detect the emotional consequences of some of our most basic daily decisions, such as how we spend small amounts of money? Here we explore whether a third-party observer can detect the emotional consequences of generous spending choices.

The present examination builds upon earlier work demonstrating that everyday spending decisions can have a measurable impact on an individual's happiness (Dunn, Aknin & Norton, 2008; Dunn & Norton, 2013; Frank, 2004; Van Boven & Gilovich, 2003). Somewhat paradoxically, although people often predict that they will be happier after spending money on themselves (Dunn et al., 2008), spending money on others – known as *prosocial spending* – has been consistently shown to increase self-reported happiness more than spending on oneself. Indeed, the emotional benefits of generous spending have been documented in toddlers (Aknin, Hamlin & Dunn, 2012) as well as adults across cultures (Aknin et al., 2013; Dunn et al., 2008).

Because much of the aforementioned research relies on self-reported ratings of happiness, however, little is known about whether the emotional benefits of engaging in prosocial spending are discernible to nearby observers. Recent research investigating sharing behavior in toddlers provides some preliminary evidence that third-party observers are capable of detecting the emotional benefits of generosity in others' facial expressions (Aknin et al., 2012). Coders examining toddlers' facial expressions consistently rated infants as happier when they shared a treat with a puppet than when the same infants received treats for themselves. However, because children at this age are unable to verbally communicate their own emotions, these third-party ratings could not be validated with self-reports and hence their validity remains uncertain.

While the recipient of one's spending decisions may influence happiness, so too does the speed with which people process, think about, and make decisions about the world around them (Pronin & Jacobs, 2008; Pronin & Wegner, 2006). For example, when asked to judge of the worth of two companies, participants who made decisions quickly reported greater positive affect than those who made the same judgments more slowly (Pronin & Jacobs, 2008). Pronin and Jacobs (2008) have identified a number of possible mechanisms that may underlie these affective changes. Specifically, they postulate that speed may increase happiness directly at a biological-level, or indirectly, by means of conscious reflection about one's mental state. Again, however, because this has research relied exclusively on self-reported measures of happiness, nothing is known about whether others can also detect these emotional benefits, and if so, how accurately.

If observers are able to detect the emotional consequences of everyday spending choices, this may offer valuable information for individuals and groups alike. For instance, being able to accurately identify another person's reaction to a specific spending choice can guide one's own

decisions, perhaps facilitating more effective or rewarding choices. Furthermore, this process might coordinate information sharing and help to explain larger phenomenon, such as the spreading of happiness through social networks.

The present study was designed to replicate the emotional rewards of both prosocial spending and rapid decision making as well as examine whether these emotional rewards can be detected by others. We examined these questions by conducting a lab experiment in which participants were randomly assigned to purchase a "goody bag" (a bag filled with edible treats) for either themselves or a sick child at a local hospital and then reported their current affect. Participants were asked to choose the contents of this goody bag quickly, within ten seconds or less, or slowly, waiting at least ten seconds before making their purchase. In addition, we asked a research assistant – blind to condition assignment – to provide a third-party rating of each participant's happiness. This design allowed us to examine and compare the immediate causal impact of fast vs. slow generous spending on self and third-party ratings of well-being.

Method

Participants

One-hundred and fifty-nine undergraduates at Simon Fraser University participated in this study in exchange for course credit. Upon completing the study, participants were asked to report whether they had believed that their goody bag would eventually go to the stated target. Eighteen participants reported disbelief when questioned, and were thus excluded from analyses. Twenty-one additional participants were excluded for failing to follow directions, such as making their spending decision within the correct timing restrictions or for being unable to recall

their condition at the conclusion of the study, suggesting they possessed only limited awareness of the experimental manipulation. Finally, one participant in the prosocial condition was excluded because she decided to keep the $1 for herself, and hence did not engage in generous spending. This left a final sample of 119 participants (58.8% female, M_{age} = 19.9, SD = 2.97).

Procedure

To investigate the effects of both personal vs. prosocial spending and decision speed, we modified an experimental paradigm used by Aknin et al. (2013; Study 3) in which participants were randomly assigned to purchase a goody bag for a particular spending target: either themselves or a sick child at a local children's hospital. Adapting this procedure, participants completed the study on a computer, rather than paper, so that we could manipulate and monitor the speed with which participants made a spending decision.

When participants came into the laboratory, they were seated at a computer. After providing consent, participants reported their baseline happiness using both a state measure ("Do you feel happy right now?" 1-*Not at all*, 5-*Extremely;* Abdel-Kahlek, 2006) and a trait measure ("In general, I consider myself…" 1-*Not a very happy person*, 7-*A very happy person;* Lyubomirsky & Lepper, 1999). The two measures were significantly correlated, r (116) = 0.21, p = .02, therefore, we created a composite measure of baseline happiness, consistent with previous research (Aknin, Dunn, Sandstrom, & Norton, 2013; Aknin, Dunn, Grant, Whillans, & Norton, 2013).

Afterward, participants received a one dollar voucher, representing an additional payment for participating in the study. Participants signed to acknowledge receipt of the payment, encouraging a sense of ownership over the money, and were then offered the opportunity to

spend the one dollar voucher on a goody bag filled with edible treats. Participants were randomly assigned to one of four conditions in a 2 (spending target: personal vs. prosocial) X 2 (decision speed: fast vs. slow) design. Participants were assigned to purchase a goody bag either for themselves (*personal spending condition*), or for a sick child at a local children's hospital (*prosocial spending condition*), and were told to choose the contents of this goody bag either as quickly as possible (*fast decision condition*), or by taking as much time as they needed (*slow decision condition*). Following Rand and colleagues (2012), we used ten seconds to distinguish fast and slow decision making. Specifically, participants in the fast decision condition were told they would have only ten seconds to decide what contents they wanted in their goody bag, and were urged to follow their gut response. If participants failed to follow instructions and took longer than ten seconds, their responses were excluded from our analyses. Participants in the slow decision condition were told they would have to take ten seconds or longer to make their selection, and were encouraged to carefully deliberate while doing. If participants in the slow condition failed to follow instructions and made a selection in less than ten seconds, their responses were excluded from our analyses.

In each of the four conditions, participants could select the contents of the goody bag from a list of three possibilities or choose to keep the one dollar for themselves. The opportunity to keep the one dollar was presented so that participants in the prosocial spending condition would not feel forced to engage in a generous act; recent research has shown that the emotional benefits of giving are eliminated when people feel forced to give (Weinstein & Ryan, 2010). To subtly discourage participants from selecting the cash value, participants read that the goody bag contents were valued at more than one dollar ($1.50) and were told that they could not collect the

value of their monetary voucher until the end of term.

After making their spending decision, participants informed the sole research assistant of their preferred goody bag contents. The research assistant then packaged the goody bag as indicated (for all participants who did not choose to keep the one dollar), ensuring that participants knew the goody bag was real and contained the items they desired. Participants then returned to the computer-based questionnaire to report their current emotional state on ten positive and ten negative affect items using the Positive and Negative Affect Schedule ($\alpha = .81$; Watson, Clark & Tellegen, 1988). Consistent with previous research (e.g., Schneider et al., 2006), we calculated an affect balance score by subtracting each participant's average negative affect score from their average positive affect score. Finally, participants reported their age and gender.

When participants notified the research assistant that they had completed the computer-based questionnaire, the research assistant – the only other person present – rated how happy each participant appeared to be on a one-item scale ranging from 1(*Not at all happy*) to 5 (*Extremely happy*). [1] Because all instructions regarding the spending decision were delivered by the computer, the research assistant remained blind to condition throughout the procedure, allowing us to rule out the possibility that prosocial spending leads to greater well-being through reputational concerns and relationship building. Similarly, because participants in the prosocial spending conditions did not interact with the recipient of their gift, this design allowed us to examine whether the emotional benefits of fast and slow acts of generous spending are detectable by spenders and other people nearby, even when spenders do not build social relationships or receive social praise.

Finally, participants were probed for suspicion and asked to verbally indicate whether they had really believed that the goody bag they purchased would reach its intended target (i.e. a sick child or the participant themselves, depending on condition). After the experiment, participants in the personal spending condition were allowed to take their goody bag home, whereas those in the prosocial spending condition were assured that the goody bag would be delivered to a needy child at a later date.

Results

Self-Reported Affect

To investigate whether decision speed and spending target influenced self-reported affect, we conducted a 2 (spending target: personal vs. prosocial spending) X 2 (decision speed: fast vs. slow decision) between subjects Analysis of Covariance (ANCOVA) controlling for baseline levels of happiness. Consistent with previous research (Dunn et al., 2008), we observed a significant main effect of spending target, whereby participants who purchased a goody bag for a sick child reported a higher affect balance score ($M = 1.68$, $SD = 0.80$) than participants who purchased a goody bag for themselves ($M = 1.37$, $SD = 0.84$), $F(1, 112) = 4.56$, $p = .04$, $d = .38$.[2] Neither the main effect of decision speed nor the interaction between decision speed and spending target were significant, $Fs < 1.70$, $p > .20$. Thus, participants engaging in charitable spending reported being in a better mood than participants who purchased the same goods for themselves.

Third-party Happiness Ratings

Research assistant's ratings of participant's happiness were positively correlated with

participants' self-reports, $r(115) = .18$, $p = .06$, suggesting that third-party observers can detect the emotional states of others. Therefore, we next examined whether the third-party observer was able to detect the emotional benefits of generous spending. To do so, we conducted a 2 (spending target: personal vs. prosocial spending) X 2 (decision speed: fast vs. slow decision) between subjects ANCOVA examining the research assistant's ratings of participant happiness. Consistent with our earlier analysis, we controlled for baseline levels of participants' happiness; this allowed us to control for pre-existing differences in happiness before our manipulations. Again, we found a main effect of spending target, whereby the research assistant rated participants who engaged in prosocial spending as happier ($M = 3.69$, $SD = 0.82$) than those who engaged in personal spending ($M = 3.34$, $SD = 0.76$), $F(1, 113) = 5.97$, $p = .02$, $d = .44$.[3] Analyses also revealed a marginal main effect of decision speed; participants who made spending decisions quickly were rated as happier by the third-party observer ($M = 3.63$, $SD = .86$) than those who made spending decisions slowly ($M = 3.39$, $SD = .73$), $F(1, 113) = 3.13$, $p = .08$, $d = .30$. This finding dovetails with previous research by Pronin and colleagues (Pronin & Jacobs, 2008) demonstrating that making decisions rapidly leads to better mood than making the same decisions more slowly. Again, there was no interaction between spending target and decision speed, $F(1,113) = 1.57$, $p = .21$. These results suggest that a third-party rater can detect the happiness benefits of generous spending, and to a lesser extent, the emotional rewards of fast decision making.

Discussion

Our results replicate earlier research demonstrating that spending money on others makes people happier than spending on themselves, and extend this work by demonstrating that these emotional benefits can be detected by strangers nearby. These findings also demonstrate that the

emotional benefits of prosocial spending can be reliably measured through means other than self-report. In our experiment, a research assistant blind to spending condition was asked to rate participants' happiness. Not only were observer ratings of happiness positively correlated with participants' self-reports, but observer ratings were also sensitive to the two spending interventions: the spending target and decision speed. As such, these findings illustrate that the emotional rewards of certain spending decisions can be detected by not only the spender, but also other people nearby who may be unaware of the act.

Importantly, although the speed with which participants made their spending decisions did not influence their self-reported happiness, our research assistants *were* able to detect a marginal effect of decision speed. This finding dovetails with research by McConnell, Dunn, Austin and Rawn (2011) demonstrating that third-party observers may be better able to predict what makes people happy than people are themselves. Interestingly, McConnell and colleagues (2011) found that coders who observed as participants were presented with different foods made more accurate predictions of how much participants would enjoy those foods than did the participants themselves. The researchers propose that although individuals' implicit attitudes are not always consciously accessible when making important decisions, attitudes may "leak" out in expressions and behavior, making them accessible to nearby onlookers. Likewise, the fact that our research assistants were more sensitive to the effects of decision speed than our participants suggests that, at least in some cases, other people may be better at detecting our emotional responses than we are ourselves.

Several limitations of the present research should be noted. First, we operationalized giving in a relatively limited fashion, by providing participants with the opportunity to purchase

a goody bag for a sick child. While this act of prosocial spending may be smaller than those enacted in everyday life, we suspect that the use of a restricted paradigm underestimates the emotional rewards detectable in real-world settings. It should likewise be noted that although our results are statistically significant, the observed effect sizes are relatively modest, potentially limiting the practical importance of our findings. However, considering that we chose to use such a minimal manipulation in our design, it is not surprising that the resulting differences between groups were correspondingly modest. Again, it is likely that these effects might be even more impressive in a real world, rather than a highly controlled laboratory, setting. Second, our research assistants did not undergo extensive training before rating spenders' happiness, and may consequently have been less likely to report nuanced differences in emotional responses. Again, we expect that this limitation underestimates our results; had our research assistants been trained extensively in facial coding, we may have detected more extreme differences in observer ratings of happiness across the spending conditions. In addition, our findings demonstrating that untrained observers were able to detect the emotional benefits of giving may improve the external validity of our findings; indeed, in everyday situations, people likely do not require intensive training in order to detect happiness in others, relying instead on more intuitive emotional measures.

As noted above, we did not replicate the self-reported emotional benefits of fast decision making demonstrated in past research by Pronin and colleagues (Pronin & Jacobs, 2008; Pronin & Wegner, 2006). We believe that this discrepancy might be due to differences in experimental design. Specifically, Pronin & Jacobs (2008) required participants to make decisions in either less than five seconds (*fast condition*) or more than 35 seconds (*slow condition*), while we used a

less extreme manipulation, requiring participants to make fast decisions in less than ten seconds, and slow decisions in more than ten seconds. Although we used a more subtle manipulation akin Rand and colleagues (2012) to examine a small distinctions between fast and slow decisions, it is possible that fast decisions would have increased happiness relative to slow decision making if we had we distinguished fast and slow decision making with a more extreme manipulation.

The present findings have important implications for future research in the field of happiness studies. We demonstrate that third-party raters are able to detect the happiness benefits of spending decisions in others with similar sensitivity to participants themselves. This novel method may allow researchers to assess happiness outcomes of various behaviors when otherwise impossible or impractical. For example, third-party ratings may prove useful when dealing with populations who are unable to provide reliable ratings of their own emotions, such as infants, or when reporting emotion may interrupt real-time experiences.

In addition to these methological applications, these findings have important practical implications as well. For example, if the emotional consequences of our personal decisions can be detected by others, the present results may help explain recent research documenting the spreading of happiness across large groups and social networks (Fowler & Christakis, 2008). For example, perceiving happiness in others may be one important way in which happy people cluster together; detecting positive emotion in others might enable people to locate individuals who experience high levels of happiness. Furthermore, being near happy individuals may even improve one's own mood. Although we did not ask our research assistants to report their own mood after rating participants' happiness, we suspect they would report higher levels of happiness after interacting with a participant who had just engaged in prosocial spending. This

possibility seems especially interesting because it would suggest that third-party observers can benefit from simply being near a prosocial act, even if they do not engage in the act or benefit directly as the beneficiary.

In sum, the present research provides evidence that engaging in generous spending not only increases personal happiness, but that others are sensitive to these affective boosts as well. These findings suggest one important way in which happiness might spread across social groups. Attuned to even subtle affective changes in others, people may recognize happy companions and cluster around positive people. As such, the emotional rewards of prosocial spending may not only benefit spenders and recipients themselves, but others nearby at the time.

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Footnotes

[1] Although we would have liked to have multiple research assistants present to calculate reliability, we feared that this would arouse suspicion for a computer-based study. However, a single informant's happiness ratings appear to provide valid information because coder ratings were positively correlated with self reported emotion, even though coders were blind to condition. Moreover, because previous research has shown that multiple coders using a similar coding system demonstrate high reliability (see Aknin, Hamlin & Dunn, 2012), adding additional coders may have added little value to the accuracy of these ratings. Finally, the use of one coder provides a conservative test of our research question. If single coder ratings present noisier data, they should be *less* likely to differ by condition; our results demonstrate the opposite.

[2] The main effect of spending target remained relatively unchanged if we controlled for state happiness only ($F(1,112) = 4.11, p < .05$), trait happiness only ($F(1,112) = 3.92, p = .05$), or removed any measure of baseline happiness ($F(1,112) = 3.49, p = .06$).

[3] As with the self-report affect ratings, this effect remained significant when we controlled for state happiness only ($F(1,113) = 5.90, p < .02$), trait happiness only ($F(1,113) = 5.92, p < .02$), or removed any measure of baseline happiness ($F(1,113) = 5.91, p < .02$).