Prosocial Spending and Well-Being: Revisiting a Recollection-Based Paradigm

Abstract

In the present research, we replicated a study reported by Aknin et al. (2013) which discovered that recalling a previous purchase made for another individual (*prosocial spending*) led to greater happiness than recalling a previous purchase made for oneself (*personal spending*). We attempted to replicate this finding online with one-thousand nine-hundred fifty Americans as part of a large, preregistered replication report. Upon completing baseline measures of happiness, respondents were randomly assigned to either recall a past spending experience that was prosocial in nature or recall a past spending experience that was personal in nature. Participants then reported their current well-being. Results indicate that, at least in our current application of the recollection paradigm, the emotional benefits of recalling an instance of prosocial spending are not any greater than those of recalling an instance of personal spending, controlling for baseline happiness. Thus, the original result from Aknin et al. (2013) was not replicated. The study's implications, applications, and limitations are discussed. Directions for future research are offered.

Keywords: prosocial spending, personal spending, well-being, happiness

Introduction

Recall a recent purchase where you spent approximately $20 on yourself. How did you feel afterward? Now, recall a recent purchase where you spent approximately $20 on someone else. Again, how did you feel afterward? Which spending instance made you happier? According to the body of past research, spending money on others (*prosocial spending*) leads to greater happiness than spending money on oneself (*personal spending*). This finding was reported by Aknin et al. (2013), who examined the causal link between financial generosity and well-being in individuals around the world. These researchers discovered that the emotional rewards of generous spending were larger than those of self-directed spending, whether immediately after the act or upon later recollection. However, several years have passed since this paper was published, and standards for evidentiary value have increased. In an effort to promote psychology's reproducibility, the psychological community is now advocating more stringent procedures, one of which is preregistration. Therefore, taking these new standards into consideration, we re-examine a research question addressed by Aknin et al. (2013) through a large, preregistered replication report.

Evidence for the emotional benefits of financial generosity has been mounting in the literature (e.g., Aknin et al., 2013; Aknin et al., 2011; Anik et al., 2013; Geenen et al., 2014; for a review and meta-analysis, see Curry et al., 2018). One of the earliest papers was by Dunn et al. (2008), which reported that prosocial spending engenders greater happiness than personal spending. This result has been replicated and expanded to diverse regions of the world by Aknin et al. (2013), who found converging evidence that the link between prosocial spending and happiness may be a cross-cultural universal. Indeed, this link was uncovered in 120 countries, rich and poor alike (Study 1), and in countries as varied as Canada, Uganda, India, and South

Africa (Studies 2a, 2b, and 3). Both the immediate and the recall benefits of prosocial spending were examined in Aknin et al.'s (2013) paper via two designs: the goody bag paradigm (Study 3) and the recollection paradigm (Study 2a). In their goody bag study, Aknin and colleagues (2013) found that participants who were randomly assigned to purchase a goody bag for charity reported higher levels of happiness than participants assigned to purchase a goody bag for themselves. Hence, the goody bag paradigm captures the immediate emotional rewards of generous spending. In the recollection study, it was discovered that simply recalling an instance of generous spending led to greater happiness than when recalling an instance of spending on oneself, which suggests that the emotional benefits of generous spending are even detectable upon reflection (Aknin et al., 2013).

The impetus behind Aknin et al.'s (2013) research was to determine whether the link between prosocial spending and well-being is a psychological universal. (The terms "well-being" and "happiness" are utilized as synonyms in the current article.) Psychological universals are "core mental attributes shared by humans everywhere" (Aknin et al., 2013, p. 2). Past studies (e.g., Anik et al., 2013; Dunn et al., 2008; Geenen et al., 2014), which have been conducted primarily in affluent countries, but not less affluent ones, failed to provide an adequate answer regarding universality. Yet the answer may be affirmative for theoretical reasons. According to evolutionary theory, prosocial behaviour may have promoted the flourishing of human societies in the past and therefore evolved to engender happiness in virtually all cultures today:

> [T]he evolution of altruistic behavior was essential in producing the large-scale social cooperation that allowed early human groups to thrive…If the capacity for generosity favored survival in our evolutionary past, it is possible that engaging in generous behavior might produce consistent, positive feelings across diverse cultural contexts.

(Aknin et al., 2013, p. 2)

As with altruistic behaviours in general, prosocial spending may induce positive emotions in the benefactor in cultures around the world. Aknin et al. (2013) theorized that this relationship is not merely widespread, but a psychological universal. There was empirical evidence for this: The authors provided a review of past studies—studies involving subjects as diverse as young children, adults, chimpanzees, and regions of the brain—that indirectly supported a universal link between prosocial spending and well-being. However, there was also a reason to believe that the derivation of positive emotions from prosocial spending is *not* a psychological universal. Although the emotional benefits of prosocial spending are evident in wealthy countries, individuals in poorer countries may be more focused on meeting basic needs, which could be threatened if the individual were to spend their limited resources on others. In this case, the emotional benefits of prosocial spending would be reduced. It was upon these theoretical and empirical bases that Aknin and colleagues conducted the research that is presently being replicated. These researchers' findings indicated that, quite likely, the link between prosocial spending and happiness is indeed a psychological universal, resolving the two competing hypotheses outlined above.

Over the better part of the last decade there has been growing concern of a "replicability crisis" in psychology that has cast doubt on the veracity of many empirical claims. Indeed, a recent large-scale investigation attempted to replicate 100 experimental and correlational psychological findings published in 2008 and reported a 47.4% replication success rate (Open Science Collaboration, 2015). This replicability crisis was perhaps fueled by the alarmingly high rates of false positives in psychology; as Simmons et al. (2011) note, "It is unacceptably easy to publish 'statistically significant' evidence consistent with *any* hypothesis" (p. 1359; original

emphasis), including an erroneous research hypothesis. The culprit behind false positives, the authors explain, is what they term *researcher degrees of freedom*, which include flexibility in the following: choosing among dependent variables, choosing sample size, using covariates, or reporting subsets of experimental conditions (Simmons et al., 2011, p. 1360). When this flexibility is exploited, it amounts to a questionable research practice (QRP), which is arguably quite prevalent among psychologists today (John et al., 2012). In fact, QRPs may comprise the de facto norm in psychological research, serving to insidiously render psychological science disreputable while hindering our quest for truth.

In response, new methods have been suggested to reduce researcher degrees of freedom and, in turn, promote more transparent and reproducible science. A main solution adopted by the field, which we also implemented, is preregistration: specifying the details such as the research question and analysis plans prior to data analysis (Nosek et al., 2018). What we aim to do is to conduct a preregistered replication of a seminal finding in psychology. By preregistering and replicating, we are effectively minimizing our own flexibility and taking ownership of our own findings—what Pashler and De Ruiter (2017) label *investigator accountability*. Furthermore, in addition to undertaking a preregistered replication, notably, we are also using a large sample size that is nearly 2.5 times the sample size of the original study. Findings emerging from small samples may be skewed or inaccurate, compounding the replicability crisis, and up until recently researchers habitually relied on smaller samples (Aknin et al., 2019). In our replication, we ensured that our sample size was sufficiently powered to detect a small effect and provide an accurate estimate of the effect. We have preregistered our study question, sample size, methods, and analyses, for greater transparency.

The original result that we attempt to replicate was reported by Aknin et al. (2013). Since

its publication, this article has been applied broadly, and remarkably so: According to the main author (L. Aknin, personal communication, June 24, 2019), its findings have been reported in textbooks, used to inform government policies in some countries, and cited hundreds of times in various articles. Most likely, then, this paper has made an impact and its findings may be valuable. Thus, in light of recent concerns regarding the replicability crisis gaining traction in psychology, it seems worthwhile to revisit this work and attempt a replication. A replication may offer further support for a valuable finding. Therefore, we submit the recollection paradigm to a further test in the present paper in order to ascertain that using a larger sample and having preregistered our analysis plans beforehand, the results will still hold. We predicted that, consistent with previous findings reported in past research by Aknin et al. (2013, Study 2a), participants randomly assigned to recall a time they spent money on others would report greater happiness than participants randomly assigned to recall a time they spent money on themselves, controlling for baseline happiness.

Methods

Participants

Participants were recruited through Qualtrics from the general population. A final sample of one-thousand nine-hundred fifty Americans (M_{age} = 42.7 years, SD = 15.2, range = 14-90; 68.7% female) participated in exchange for gift certificates and credit vouchers. This sample size was determined by an a priori power analysis to ensure we had enough statistical power to detect a small effect (d = .15) at 95% power with alpha set to .05 using a one-tailed test.

Procedure

Replicating Aknin et al.'s (2013) recollection paradigm, participants first reported their baseline levels of well-being assessed via two questions: "Do you feel happy right now?" (a state

measure of happiness; 1 = *Not at all* to 5 = *Extremely*) and "In general, I consider myself…" with responses ranging from 1 = *Not a very happy person* to 7 = *A very happy person* (a trait measure of happiness). States are temporary and short-term whereas traits are enduring and long-term. The questions above were embedded within other questions to disguise our interest in happiness. Because these two measures were highly correlated, $r(1948) = .60$, $p < .001$, baseline happiness was then computed by standardizing and averaging the two measures to create a composite.

After completing these initial measures, participants were randomly assigned to recall and write about a recent purchase where they had spent $20 either on themselves *(personal spending condition*) or on others (*prosocial spending condition*). The recall prompts were to "Please think back to and describe as vividly and in as much detail as possible the last time you spent approximately $20" followed by either "on yourself" or "on someone else." This was equivalent to Aknin et al.'s (2013) original methods. However, one difference between the original and present studies was in the mode of survey administration: Participants in the original study completed the survey in person while participants in the present study completed the survey online. An online survey method confers numerous benefits—expediency, economy, and speed among them—and with its use, the present study captured these advantages.

Measures

After recalling the spending memory, participants reported their momentary post-recollection subjective well-being on the Positive Affect and Negative Affect Scales, including the key word "happy" as one of the items (PANAS; Watson et al., 1988; $\alpha = .93$) and the Scale of Positive and Negative Experience (SPANE; Diener et al., 2009; $\alpha = .92$). The PANAS was computed by taking the average of the 10 positive affect items together with "happy," and the

SPANE was the sum of the 6 positive affect items. Notably, these scales were used in place of the Subjective Happiness Scale (SHS; Lyubomirsky & Lepper, 1999) that was utilized by Aknin et al. (2013)—a key point of divergence between the present and original studies. This change was made as our manipulation was projected to influence momentary state, but not enduring trait, levels of subjective well-being; the SHS is a measure of the latter and the scales used here are measures of the former and therefore more appropriate for our purposes. Of note, reasons for employing the SHS over other scales were not explicitly elucidated by Aknin et al. (2013). The SHS has the benefit of being a brief measure (containing only four items) and has been utilized widely around the world, and perhaps it was for these reasons that the SHS was utilized by the original authors—unfortunately, the exact reasons are unclear. Regardless of the scales used, the construct being measured—well-being—was essentially the same across the two studies. Differences in the scales were not anticipated to significantly hinder our endeavour to replicate. Lastly, basic demographic information (age, gender, ethnicity, and income) was collected. Following data collection, two research assistants examined participant responses to the recall prompts and noted irrelevant, non-purchase related responses to exclude from analyses.

Results

We predicted that participants randomly assigned to recall a time they spent money on others would be happier than those who recalled a time they spent money on themselves. We tested this hypothesis with the following pre-registered analyses. First, we employed an analysis of covariance (ANCOVA) to compare happiness levels on the PANAS (with the addition of "happy") across conditions while controlling for baseline happiness. Contrary to predictions, results showed no significant main effect of spending type, as participants in the prosocial spending condition ($M = 3.10$, $SD = .90$) were not significantly happier than participants in the

personal spending condition (M = 3.08, SD = .91), F(1, 1943) = .457, p = .499. Second, we employed an ANCOVA to compare happiness levels on the SPANE across conditions while controlling for baseline happiness. Again, results indicated no significant main effect of spending type, as participants in the prosocial spending condition (M = 19.93, SD = 6.01) were not significantly happier than participants in the personal spending condition (M = 19.99, SD = 5.93), F(1, 1944) = .118, p = .732. Therefore, participants randomly assigned to recall a purchase made for someone else did not report greater happiness than participants randomly assigned to recall a purchase made for themselves.

Discussion

The current study presents a preregistered replication of the research conducted by Aknin et al. (2013). Among a large online sample of Americans, we did not find evidence that participants recalling an instance of prosocial spending reported greater emotional rewards than participants recalling an instance of personal spending. This outcome conflicts with past results from Aknin et al. (2013), who found that recollections of prosocial spending confer greater happiness than recollections of personal spending.

The current findings present some challenges to past research. Prior to our replication endeavour, the literature had mostly been in agreement: Prosocial spending was found to generate greater happiness than personal spending, even if the effect was not large, but small-to-medium (Curry et al., 2018). Our study witnessed no such effect. This may raise some concerns regarding past research, such as the use of smaller samples, the presence of researcher degrees of freedom, or other aspects of the methods employed. As such, this work helps to refine the underlying theory regarding when this effect is detectable. In the original research by Aknin et al. (2013), recollection is involved in only one study design; the other study design, the goody

bag paradigm, has been left unscathed. This latter paradigm revealed the emotional rewards of prosocial spending immediately after the generous act. Hence, the act of engaging in generosity may still boost happiness in the moment, although merely reflecting upon past instances of generosity may not boost happiness. Our findings do not indicate that financial generosity will not impact happiness; they do not necessarily speak to the overall emotional benefits of prosocial spending.

The null effect that we observed here has practical applications. Critically, our findings, in combination with past research, underscore the need to partake in actual prosocial spending to derive its immediate emotional rewards. Indeed, because prosocial spending has such an emotional impact in the moment (Aknin et al., 2013, Study 3) while reflecting upon an instance appears to have no significant emotional impact, perhaps we should actively spend on others to experience the warm glow of giving—not merely doing a single kind deed some time ago and replaying that single event in one's mind, as this is not an effective strategy to boost happiness.

A number of limitations should be considered. First, although participants were asked to "think back to and describe as vividly and in as much detail as possible" a past purchase, participants rarely adhered to these instructions. In fact, some responses were brief (e.g., "food," "birthday," "getting gasoline," and "i bought cigs") with no elaboration as to how the events unfolded. Detailed recollections are important because emotional differences may only be detectable if and when spending experiences are relived. We endeavoured to exclude irrelevant, non-purchase related responses from our analyses, but unfortunately the quality of the responses we did analyse was still not ideal. The amount of spelling and grammar errors present, as well as the brevity of the responses, indicate that very little thought was involved in the response process. Thus the two factors that were found by previous research (Strack et al., 1985) to

determine whether reminiscing about the past elicits affect—participants describing the events vividly and in detail, and participants describing how the events occurred rather than why they occurred—were absent in our study. To account for this, perhaps the online environment conferred upon the participants a sense of imperviousness to scrutiny and psychological distance from our experiment. When completing a questionnaire in person, the setting is less impersonal and thus participants may be more invested in providing elaborate accounts as requested. The original study by Aknin et al. (2013) used such an in-person survey method and found that their manipulation had an effect. Interestingly, another recollection study by Aknin et al. (2013, Study 2b) was carried out online, but here the manipulation nonetheless had an effect. Hence the online method is not inherently problematic. Perhaps future research could encourage deeper engagement with the recollection activity by some other means, such as imposing a minimum response time or character count for responses.

Additionally, our study was limited by the timing of our survey, which was right after Mother's Day. This may have led participants to give knee-jerk responses that were not all that thoughtful or to recall an instance of generous spending that was not freely made. For example, a number of survey responses mentioned a purchase for Mother's Day. However, purchases made for this day are often obligatory and this obligation could be resented, resulting in diminished happiness when recollecting the experience. Past research suggests that feeling obligated to act prosocially is negatively related to well-being (Rinner et al., 2022; Weinstein & Ryan, 2010). Furthermore, the recent memory of Mother's Day would be highly salient, and no reflection would be necessary to recall the purchase, reducing the amount of thought poured into remembering the past spending activity and reducing its emotional effects in turn. Future research could avoid these complications by implementing their surveys at a date sufficiently far

from Mother's Day, Christmas, Valentine's Day, and so forth, where gift giving is the norm.

Another limitation is that our study asked participants to report their current well-being, not how they felt at the time of their purchase. Although measuring current emotion has some benefits (e.g., Kahneman, 1999), asking participants to report their current well-being may have provided an overly conservative test because this does not rely on deeply engaged recollections. It is likely that the emotional consequences of personal and prosocial spending are most distinct immediately after the purchase, and that upon delay, the emotional consequences become diluted. Even reporting how one feels in general, as was requested by Aknin et al. (2013, Study 2a), involves considering both present *and* past feelings. It requires retrospective reflection on one's feelings in the past that brings the participant closer to the spending experience. In short, it may be a tall order to expect that simply recalling a purchase one made possibly months ago would significantly influence mood in the present. Instead, a more direct test of the research question may be using recollections to examine how personal and prosocial spending led to different levels of well-being *at the time of purchase*, an approach that could be adopted for future research. This approach may better uncover the effects of purchase type as spending activities are thought to influence well-being more potently at the time of purchase.

Conclusion

Contrary to previous research, recalling a past instance of generous spending does not appear to impart greater hedonic benefits than recalling a past instance of self-directed spending. There are a number of admittedly post hoc reasons that may have been the case. For instance, we used state measures of current happiness; the original study by Aknin et al. (2013) used trait measures of happiness. We compared samples from the general population; the original study compared samples of university students. We launched our survey days after a holiday where

gifting was expected; the original researchers launched their survey at a more ordinary time. Our survey was completed online; the original survey was completed in person. Regardless of the reason, as the data currently stand, it seems that recalled acts of prosocial spending do not lead to a higher degree of happiness than recalled acts of personal spending. The results raise important questions about the nuances of the recollection paradigm in assessing the aftereffects of prosocial spending, but perhaps the effect is in fact detectable if we can encourage better recollections. At present, this is unclear. However, the possibility offers an exciting route for future research to probe into the limitations mentioned above and elucidate the impact of prosocial spending—a fundamental human virtue—on a fundamental human experience: happiness.

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