The Smile-Seeking Hypothesis:

How Immediate Affective Reactions Motivate and Reward Gift-giving

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Abstract

People making decisions for others often do not choose what their recipients want. Prior research has generally explained such preference mismatches as decision-makers mispredicting recipients' satisfaction. We propose a smile-seeking hypothesis as a distinct cause for these mismatches in the context of gift-giving. Examining common gift options for which gift-givers expect the recipients' affective reaction (e.g., a smile when receiving the gift) and overall satisfaction to differ, we find that givers choose to forgo satisfaction-maximizing gifts and instead favor reaction-maximizing gifts. This reaction-seeking preference is mitigated when givers anticipate not giving the gift in person. Results from six studies suggest that anticipated affective reactions, independent of (and even in spite of) anticipated recipient satisfaction, powerfully shapes gift-givers' choices and giving experiences. These findings reveal a dominant yet overlooked role that affective reactions play in motivating and rewarding gift-giving behaviors and shed new light on interpersonal decision-making.

Despite our best intentions, choosing for others is often difficult. In the U.S., one out of three gift receivers report returning at least one gift (NRF, 2015), and even the gifts they keep are often unsatisfactory (Sherry, McGrath, & Levy, 1992). Researchers in psychology, economics, and other fields have pondered this apparent disparity between a giver's choices and the receiver's satisfaction, generally characterizing suboptimal gift choices as the giver's failed attempt to understand their receiver's preference (e.g., Marette, Lusk, & Norwood, 2015; Shalowitz, Garrett-Mayer, & Wendler, 2006; Waldfogel, 1993; Zhang & Epley, 2009).

In the present research, we identify a distinct cause for why giver's choices often deviate from receiver's preferences. We propose that the gift-giver's desire to enjoy immediate affective reactions (defined as facial, vocal, or gestural expressions of emotion; APA, 2006) may motivate giver's choices, separately from their intention to give a gift that satisfies the gift-receiver. Importantly, for the receiver, what induces the most enthusiastic affective reactions is not necessarily what induces the greatest satisfaction. Therefore, when a giver anticipates that one option will yield stronger affective reactions but that the receiver's satisfaction will favor another option, the giver's motivation may result in a preference discrepancy between the giver and the receiver, with the giver attaching greater importance to affective reactions than satisfaction relative to the receiver.

For example, a person may be more satisfied to receive a house plant that provides enduring decorative value than a bouquet of fresh flowers that costs the same, yet spontaneously express more enthusiastic affective reactions (e.g, a bright smile or a squeal of delight) when receiving the flowers. However, for the giver, observing the

receiver's positive affective reactions during the gift-giving interaction provides immediate and automatically evaluable gratification, which can be more motivating than eventually learning that the receiver is satisfied with the gift. Therefore, the giver may more likely to give the reaction-inducing fresh bouquet whereas the receiver more likely to prefer receiving the houseplant.

Next, we discuss the theoretical basis for the proposed smile-seeking hypothesis and the implications for interpersonal decision-making, particularly for gift-giving.

The Smile-Seeking Hypothesis

Empirical research to date has largely overlooked the potential role of anticipated affective reactions as a distinct motive in gift-exchange. Instead, prior research has focused on how givers gauge receiver preference and succeed or fail to maximize receiver satisfaction (e.g., Marette et al. 2015, Ward and Broniarczyk 2015, Zhang and Epley 2012, Gino and Flynn 2011, Baskin et al. 2014). This focus on receiver satisfaction has presumably occurred because the receiver's affective reactions have been assumed to represent a direct behavioral consequence of satisfaction. In fact, a person's displays of affective reactions to a stimulus (e.g., a receivers' reaction to a gift) have long been treated as a mere behavioral signal of the person's internal appraisal processes towards the stimulus, presumably due to the prevalent influence of appraisal theory (Aronson, 2005; Frijda, 1986; Lazarus, 1982).

However, alternative theories and increasing evidence suggest that affective reactions can occur as the result of *automatic* processing, without extensive perceptual and cognitive encoding (Berridge & Winkielman, 2003; Ekman & Friesen, 1969; Knapp,

Hall, & Horgan, 2013; Sonnby–Borgström, 2002; Forgas, 2002; Zajonc, 1980, 2000). Therefore a person's spontaneous affective reactions may systematically deviate in magnitude from the same person's eventual degree of satisfaction that results from more *deliberative* processing (Schooler, Ohlsson, & Brooks, 1993). This systematic discrepancy thus raises the possibility that gift-givers may separately consider the receiver's affective reactions and satisfaction.

Moreover, the anticipated display of affective reactions may be particularly evaluable and gratifying, and therefore especially important to the giver's decision process. It has been posited that the display of affective reactions may be key to forming and maintaining social relationships (Argyle et al., 1970; Gouaux, 1971; Moreland, 1987; Tickle-Degnen & Rosenthal, 1990), as observed in primates, infants, and adult humans (Izard, 1994; de Waal, Leimgruber, & Greenberg, 2008). For example, infants engage in "social referencing", actively seeking to understand how their behaviors influence others' affective reactions (Sorce et al., 1985) and then internalizing those reactions as guidance for future behaviors (Klinnert et al., 1983). Likewise, adults mentally simulate how their decisions will impact others' display of emotions and take the simulated reactions into account in repeated competitive interactions (Andrade & Ho 2009; Côté, Hideg, & van Kleef, 2013; van Kleef, De Dreu, & Manstead, 2004). These reaction-seeking tendencies may be further reinforced by their positive physiological and psychological consequences (Cacioppo & Patrick, 2008; Tsukiura & Cabeza, 2008).

In gift-giving, in particular, spontaneous displays of affective reactions often precede the communication of overall satisfaction in social interactions. Therefore, immediate affective reactions may have an even stronger influence on giver's preferences

than on receiver's preferences, compared to the receiver's satisfaction, which can be less observable and occur later. As a result, the anticipated display of affective reactions may outweigh anticipated satisfaction in the giver's gift choices, inconsistent with the receiver's experience of the gift.

Therefore, we postulate the *smile-seeking hypothesis*: that when the giver's beliefs about receiver's affective reactions conflicts with their beliefs about the receiver's satisfaction, the givers' choices will rely more on anticipated affective reactions. Thus, the giver's smile-seeking motive can cause a systematic preference discrepancy between givers and receivers. Givers will be more likely to favor reaction-inducing gifts (e.g., the fresh bouquet) whereas receivers will be relatively more likely to favor gifts that provide greater overall satisfaction (e.g., the house plant). This hypothesis is especially relevant for situations in which givers do have substantial insight into the receiver's preference but their choices nevertheless do not "match" what the receiver desires, such as gift choices that fail to satisfy a relationship partner or family member, or the curious yet not uncommon case of givers not abiding by gift-registries (Gino and Flynn, 2011).

The smile-seeking hypothesis suggests that when a giver-receiver preference discrepancy arises from the giver's smile-seeking motive, it will likely persist post-giving. Since givers will primarily derive enjoyment from receiver's affective reactions, this post-giving enjoyment discrepancy can in turn reinforce givers' smile-seeking preference in future gift choices. Furthermore, the smile-seeking hypothesis implies an additional testable boundary condition: the observability of affective reactions during gift reception. When givers anticipate not observing the receiver's affective reaction, the preference discrepancy between givers and receivers will be mitigated.

Recent reviews have identified the influence of affective displays on common social behaviors (van Kleef et al., 2010) as an understudied question in need of new empirical research. In particular, extant research has not tested whether anticipated affective reactions motivate interpersonal decisions independently of anticipated receiver's satisfaction. We consider gift-giving an ideal context to investigate the effects of anticipated affective displays, with implications for interpersonal decisions in general. We present six studies in which we separate the effect of anticipated affective reaction from the effect of anticipated satisfaction, and provide supportive evidence for the smile-seeking hypothesis, from both pre-giving and post-giving data.

Study 1: The Giver-Receiver Discrepancy

In Study 1, we test whether givers and receivers differ in their relative preference for a gift option that is more likely to induce affective reactions.

Method

We aimed for approximately 100 participants per cell, based on an expected medium effect size (d = .05) and the use of 30-100 individuals per cell in prior gift-giving research (e.g, Gino & Flynn, 2011, Zhang & Epley, 2012). We recruited 240 adult participants from Amazon MTurk, paid $1 each, yielding 213 completes (M_{age} = 33, 52% Male) after excluding duplicate IP addresses and participants who failed an instructional attention check in the end (Oppenheimer, Meyvis, & Davidenko, 2009). The same exclusion criterion was used in all studies. Additional details and full stimuli for all studies are available in the unreviewed appendix.

Participants read a scenario about a couple sharing a wedding-gift registry with close friends, each of whom would choose one of the gifts to give. Participants were randomly assigned to either imagine they were the gift-giver or the gift-receiver. The receivers would open the gifts at a wedding shower where all the friends would be present, and would receive all the gifts listed on the registry, so the net outcome to the receivers was held constant, regardless of an individual giver's choice. Thus, the registry isolates givers' consideration of affective reactions from their prediction of receiver interest and welfare.

"A pair of personalized wedding mugs adorned with silver inscriptions of the couple's names and the wedding date"

"A pair of award-winning ergonomic mugs that feels especially pleasant to hold in hands"

Figure 1. Stimuli in Study 1. Images of personalized and ergonomic mug sets.

Participants saw pictures and descriptions of two similarly priced pairs of mugs: personalized mugs and ergonomic mugs (Fig 1). The two options were pre-tested to differ in anticipated affective reaction but to provide similar satisfaction. Participants, randomly assigned to be givers or receivers, first indicated how much they would like each option

(from "just a little (1)" to "very much (7)") then indicated their preference between the pairs of mugs on a bipolar scale (from strongly preferring the first option (1) to strongly preferring the second option (9)). After that, all participants predicted the affective reactions and satisfaction that each pair of mugs would induce from the receivers (*"How much of an affective reaction (e.g., happy facial expressions) would the receivers show in response to these gifts when receiving them?*" and *"How much would the receivers be satisfied with these gifts when using them?"* on 7-point scales). Last, participants answered a battery of additional questions as control measures.

Results

First, the results revealed that participants (both givers and receivers) predicted the personalized mugs would induce greater affective reactions than the ergonomic mugs ($M_{reaction}$ = 5.79 vs. 4.59, SD = 1.38 vs. 1.59, $t(212) = 9.62$, $p < .001$), and predicted the mugs would yield similar levels of receiver satisfaction ($M_{satisfaction}$ = 5.31 vs. 5.34, SD = 1.54 vs. 1.47, $t(212) = -.24$, $p > .250$). The anticipated reaction benefit relative to the satisfaction benefit was significantly greater for the personalized mugs, than that for the ergonomic mugs ($\Delta_{personalized} = +.48$, $\Delta_{ergonomic} = -.76$, $t(212) = 8.88$, $p < .001$).

Next, we tested our main hypothesis, comparing givers' relative preference in giving the mugs with receivers' relative preference in receiving the mugs. Givers indicated greater preference for the personalized mugs than receivers (M = 5.37 vs. 4.81, SD = 1.95 vs. 1.91, $t(211) = 2.10$, $p = .037$, $d = .29$; Fig 2), while receivers indicated greater preference for the ergonomic mugs than the givers (M = 4.15 vs. 4.87, SD = 1.76 vs. 1.75, $t(211) = -2.99$, $p = .003$, $d = .41$; interaction $F(1,211) = 8.86$, $p = .003$, $\eta_p^2 = 0.40$, observed power = 84%). The bipolar scale revealed a similar relative preference

discrepancy comparing givers and receivers preferences between the two pairs of mugs (M = 3.66 vs. 4.90, SD = 2.94 vs. 3.12, $t(211) = -2.95$, $p = .004$, $d = .40$).

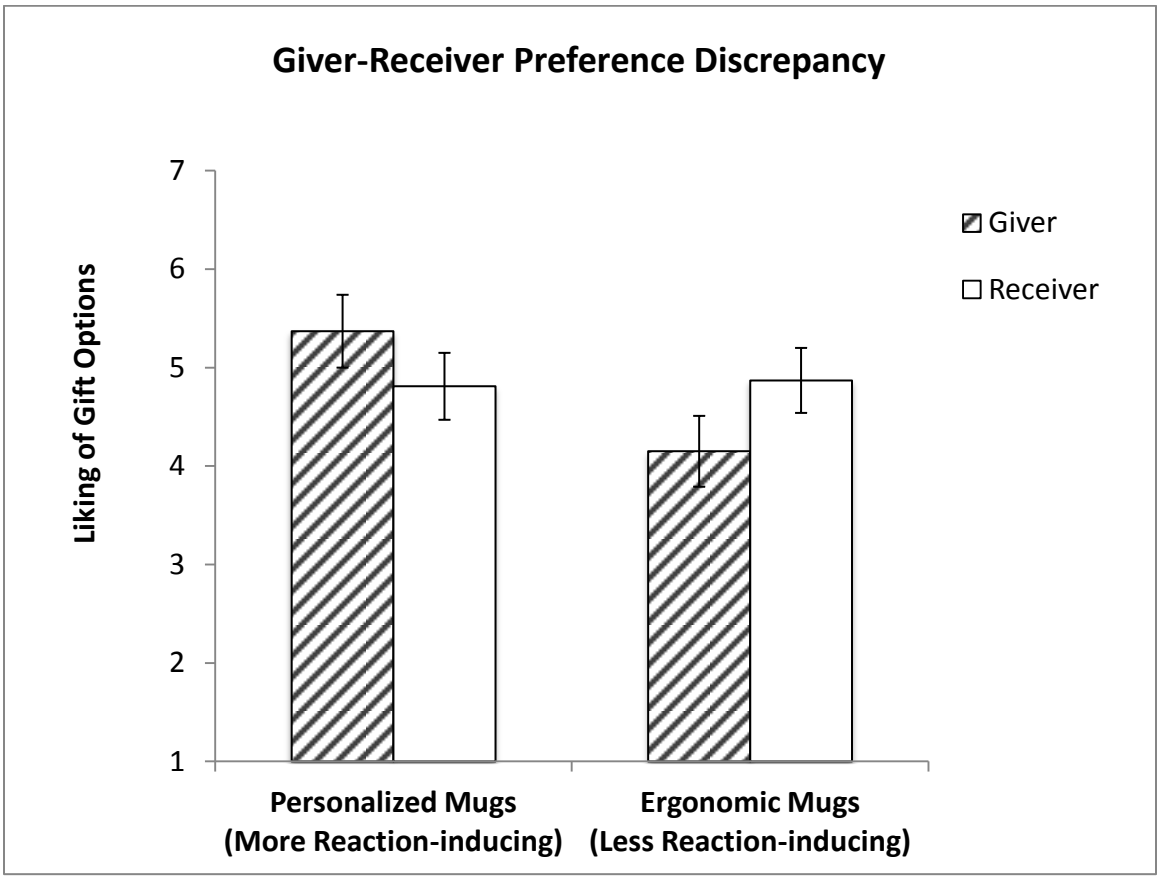

Figure 2. Results of Study 1. Givers prefer to give reaction-inducing gifts from a registry more than receivers prefer to receive them. Error bars represent 95% confidence intervals.

In contrast with prior research on gift-giving, this giver-receiver preference discrepancy was not explained by differences in beliefs about what receivers wanted (e.g, the receivers' satisfaction with the gift). Givers were miscalibrated about receivers' satisfaction to a degree ($M_{personalized}$ = 5.42 vs. $M_{ergonomic}$ = 5.17, SD = 1.55 vs.1.49) relative to receivers' own predicted satisfaction ($M_{personalized}$ = 5.21 vs. $M_{ergonomic}$ = 5.51,

SD = 1.53 vs.1.43; interaction $F(1,211) = 8.16$, $p = .048$, $\eta_p^2 = .02$). However, since the giver-receiver preference discrepancy persisted when controlling for predictions of receivers' satisfaction (unstandardized $b_{role} = .68$, $SE = .31$, $t(210) = 2.19$, $p = .030$), the discrepancy cannot be explained by givers' mispredictions.

Instead, the discrepancy was largely explained by anticipated affective reactions. Givers predicted a substantially larger difference in receivers' affective reactions to the two pairs of mugs than did receivers (Givers: $M_{personalized} = 5.89$ vs. $M_{ergonomic} = 4.10$, *SD* = 1.40 vs. 1.54; Receivers: $M_{personalized} = 5.70$ vs. $M_{ergonomic} = 5.07$, *SD* = 1.36 vs. 1.50; interaction $F(1,211) = 23.1$, $p < .001$, $\eta_p^2 = .10$). Controlling for the differences in anticipated affective reactions, we no longer observe the giver-receiver discrepancy (b_{role} = .22, $SE = .39$, $t(210) = .564$, $p > .250$; $b_{reaction} = .92$, $SE = .11$, $t(210) = 8.66$, $p < .001$). Moreover, the effect of role (giver vs. receiver) on gift preference was fully mediated by the differences in anticipated affective reactions ($b = .55$, $SE = .14$, CI = [.277, .813], $z = 3.99$, $p < .001$), controlling for anticipated satisfaction.

This finding directly supports the smile-seeking account, rather than other accounts posited in the prior literature. The preference discrepancy persists (*p*s < .025) when controlling for other factors identified in prior literature as potentially influencing gift-giving (see reviewed appendix for details), including hedonic or practical perceptions of the gift, how much a gift was associated with indulgence or guilt, givers' and receivers' construal levels (desirable vs. feasible) and regulatory foci (approach-avoidance), as well as social closeness between giver and receiver. Furthermore, the preference discrepancy was not explained by degree of attention or cognitive styles (i.e., intuitive vs. deliberative, Stanovich & West, 2002), as neither givers' nor receivers'

preferences correlated with response time ($ps > .250$). The findings were also robust to gender and age differences. These results were replicated in another study involving MBA participants and a peer gift-giving scenario (see reviewed appendix).

In sum, gift-givers preferred to give a mug set that receivers liked less. This discrepancy was not explained by givers having mistaken beliefs about what receivers would be more satisfied with, the predominant account of such discrepancies in the prior literature (e.g., Cavanaugh, Gino, & Fitzsimons, 2015; Waldfogel, 1993; Zhang & Epley, 2012). Instead, data suggest that the discrepancy is explained by the givers' smile-seeking motive: givers choosing an option that they believed would generate a more desirable affective reaction.

Study 2: Focus on Reaction vs. Satisfaction in Valentine's Day Gifts

In Study 2, we further investigate this motivational difference between how givers and receivers reason about gifts.

Method

We recruited 388 participants from Amazon MTurk the day before Valentine's Day 2015 and paid each $2. Participants who were not in a relationship or dating ($N = 88$) were re-directed to an alternative survey, yielding 295 valid completes ($M_{age} = 35$, 51% Male). After participants indicated their gender and their partner's first name, they were asked to evaluate three pairs of gifts. Participants indicated the gift in each pair that they would either prefer to give their partner (males), or receive from their partner (females), consistent with a common social norm in the U.S. Following the choices, participants rated the receivers' affective reactions and satisfaction for each item (both the chosen and

the unchosen option). Last, we measured personality traits, current relationship status, length of relationship, closeness to partner, and age (additional results are included in the unreviewed appendix).

Participants compared pairs of widely available and similarly priced Valentine's Day gift items: a dozen roses in full bloom versus two dozen rose buds that are about to bloom; a bouquet of fresh-cut flowers versus a bonsai plant; and a heart-shaped basket of cookies versus a similar basket of fruit. A pre-test ($N = 104$) confirmed that all the items were seen as highly appropriate Valentine's Day gifts (Ms > 5.3 out of 7; vs. scale midpoint of 4, ts > 10, ps < .001; details in unreviewed appendix). Each pair was constructed so that one item was more appealing to the senses (e.g, immediate scent, visual appeal, and taste) and therefore was likely to induce stronger affective reactions. The other item was selected to instead excel at attributes taken into account during appraisal (e.g., quantity, durability, and wholesomeness) and therefore likely to be superior at yielding satisfaction.

Results

Overall, results from the anticipated reaction and anticipated satisfaction scales confirmed that, as intended, in each choice pair one item was generally rated reaction-maximizing (blooming roses, fresh flowers and cookies) and the other satisfaction-maximizing (rose buds, bonsai plant and fruit basket; $\Delta_{\text{reaction-maximizing options}} = +2.49$, $\Delta_{\text{satisfaction-maximizing options}} = +1.30$, $t(294) = 16.0$, $p < .001$). Thus, each choice represented a tradeoff between the two motives of interest: reaction-seeking and satisfaction-seeking.

Replicating the giver-receiver discrepancy, givers were more likely than receivers to choose the reaction-maximizing option over the satisfaction-maximizing option in each

pair (blooms over buds: 44.4% of givers vs. 31.9% of receivers, $\chi^2(1, N = 295) = 4.82$, $p = .028$, $\eta = .13$; bouquet over plant: 39.7% vs. 27.8%, $\chi^2(1, N = 295) = 4.70$, $p = .030$, $\eta = .13$; cookies over fruit: 72.8% vs. 61.1%, $\chi^2(1, N = 295) = 4.60$, $p = .032$, $\eta = .13$). The overall effect of role (giver vs. receiver) on choice was confirmed in a regression with clustered standard errors at the person level ($b_{role} = .12$, $SE = .04$, $t(293) = 3.32$, $p = .001$)[1]. This giver-receiver preference discrepancy was robust to self-reported relationship length, quality and closeness. The preference discrepancy also persists when controlling for anticipated satisfaction ($b_{role} = .09$, $SE = .03$, $t(293) = 2.70$, $p = .007$), as in Study 1.

Consistent with the smile-seeking account, this preference discrepancy was partially explained by differences in the givers' and receivers' anticipation of affective reactions. Givers anticipated greater differences in affective reactions between options than did receivers (Givers: $M = 5.50$ vs. 5.18, $SD = 1.15$ vs. 1.01; Receivers: $M = 5.58$ vs. 5.56, $SD = 1.08$ vs. 1.00; interaction $F(1, 293) = 4.76$, $p = .030$, $\eta_p^2 = .02$). When controlling for anticipated affective reactions, the preference discrepancy is significantly reduced ($b_{role} = .06$, $SE = .03$, $t(292) = 2.50$, $p = .013$; $b_{reaction} = .19$, $SE = .01$, $t(292) = 30.8$, $p < .001$). Overall, we find an indirect effect of role on gift choice via differences in anticipated reaction that partially mediates the preference discrepancy ($b = .06$, $SE = .03$, $z = 2.20$, bootstrapped $p = .028$), controlling for the indirect effect via anticipated satisfaction ($b = .004$, $SE = .003$, $z = 1.26$, bootstrapped $p = .207$). In fact, the indirect effect via reaction is significantly stronger than the indirect effect via satisfaction ($\Delta b = .05$, $SE = .03$, $z = 2.05$, bootstrapped $p = .041$; Fig 3).

[1] Throughout the paper, we use clustered standard errors when analyzing repeated measures data.

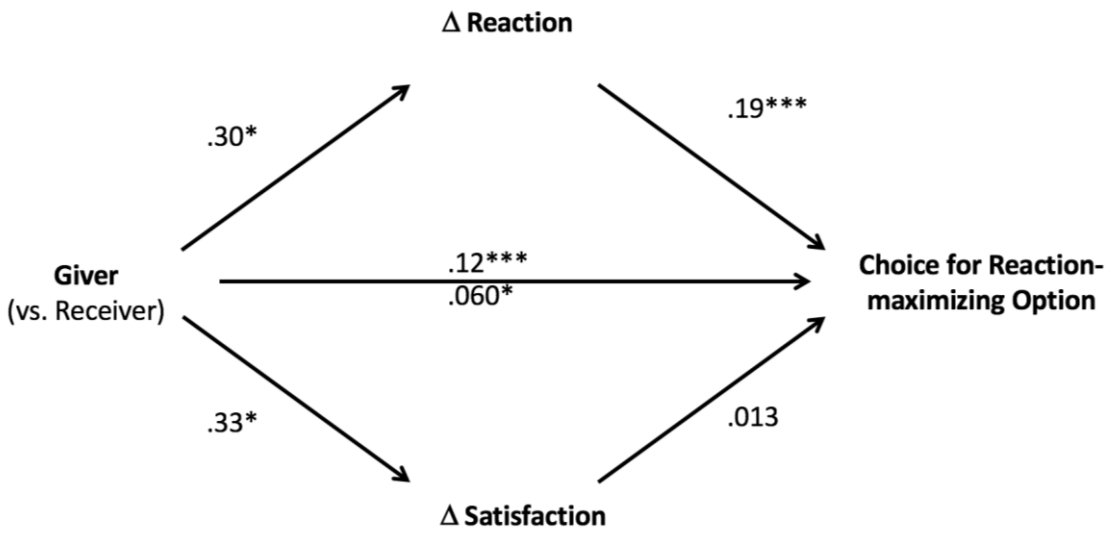

Figure 3. Mediation analyses in Study 2. Anticipated differences in affective reaction between gifts mediated preference differences between givers and receivers, whereas anticipated differences in satisfaction did not (*** $p < .001$, ** $p < .01$, * $p < .05$).

Discussion

These results provide further evidence that the giver-receiver preference discrepancy may be attributed to the differential motivations of givers and receivers, over and above givers' misprediction of receivers' preference. Givers may base their gift choices on the affective reactions they anticipate from receivers and largely neglect receiver satisfaction, even when they also predict that receivers will be more satisfied with alternative gifts. The popularity of fresh-flowers as gifts on Valentine's Day, for example, may have more to do with givers' ardent desire to elicit the enjoyable affective reactions that receivers display (Haviland-Jones et al., 2005), than with a belief that flowers are the most preferred by recipients (which is often not the case; Stewart, 2016).

Study 3A: Discrepancy Eliminated When Receiver Reactions Are Unobserved

We have proposed that smile-seeking giving stems from the givers' desire to observe and enjoy the receivers' affective reactions to the gift. This predicts a boundary condition that we test in the next two studies. When givers anticipate not being present to observe the receiver's reaction to the gift, they should have a weaker preference for reaction-inducing gifts, and thereby deviate less from receivers' preferences, which would remain unaffected.

Method

We recruited 490 Mturk participants, paid $1.50, and obtained 449 valid completes (M_{age} = 35, 44% Male). The study employed a 2 (role: giver vs. receiver) x 2 (reaction: observable vs. unobservable) between-subjects design. Participants listed a friend's first name, and then were asked to either imagine that they were preparing to give a birthday gift to that friend, or that they would receive a birthday gift from the friend. In addition, participants were either told that the gift-giver would be present on the receiver's birthday and give the gift in person, or that the gift-giver would be out of town and have the gift mailed.

The target gift in the study was a rechargeable Bluetooth phone speaker in standard packaging, as listed on a popular shopping site. Participants were asked to choose between two upgrade options for the gift: visually appealing gift-wrap (*"Have the product beautifully wrapped! - According to customer reviews, our exquisite gift wrap impresses people with cheerful excitement."*), or an entertaining add-on function (*"Add an LED light show to the speaker! - According to customer reviews, having LED lights show when playing music makes the user experience more fun."*) Participants then rated the

anticipated affective reaction and receiver satisfaction for each upgrade, as in previous studies.

Results

The intended difference in perceptions of the two gift options was confirmed. The anticipated reaction was greater (relative to anticipated satisfaction) for the gift wrap than for the LED light ($\Delta_{\text{reaction-maximizing option}} = +1.67$, $\Delta_{\text{satsifactoin-maximizing option}} = -.67$, $t(448) = 18.4$, $p < .001$).

We replicated the preference discrepancy in the observable-reaction conditions (i.e., giver presenting the gift in person), with more givers than receivers choosing the reaction-maximizing gift-wrap (44.8% vs. 19.8%, $\chi^2(1, N = 227) = 16.1$, $p < .001$, $\eta = .27$, Fig 4). This discrepancy was eliminated in the unobservable-reaction conditions (i.e, giver absent during gift reception), with givers choosing the gift-wrap at a similar rate to receivers (27.7% vs. 26.4%, $\chi^2(1, N = 222) = .05$, $p > .250$, $\eta = .02$; interaction $F(1, 445) = 7.78$, $p = .006$, $\eta_p^2 = .02$, observed power = 80%). The elimination of the preference discrepancy is specifically driven by givers being less likely to choose the gift wrap when they would not be there to see the person open the gift (44.8% vs. 27.7%, $\chi^2(1, N = 228) = 7.24$, $p = .009$, $\eta = .18$). Again, the effect of role on choice in the observable-reaction condition held ($b_{\text{role}} = .17$, $SE = .04$, $t(224) = 3.91$, $p < .001$) when controlling for predicted receiver satisfaction.

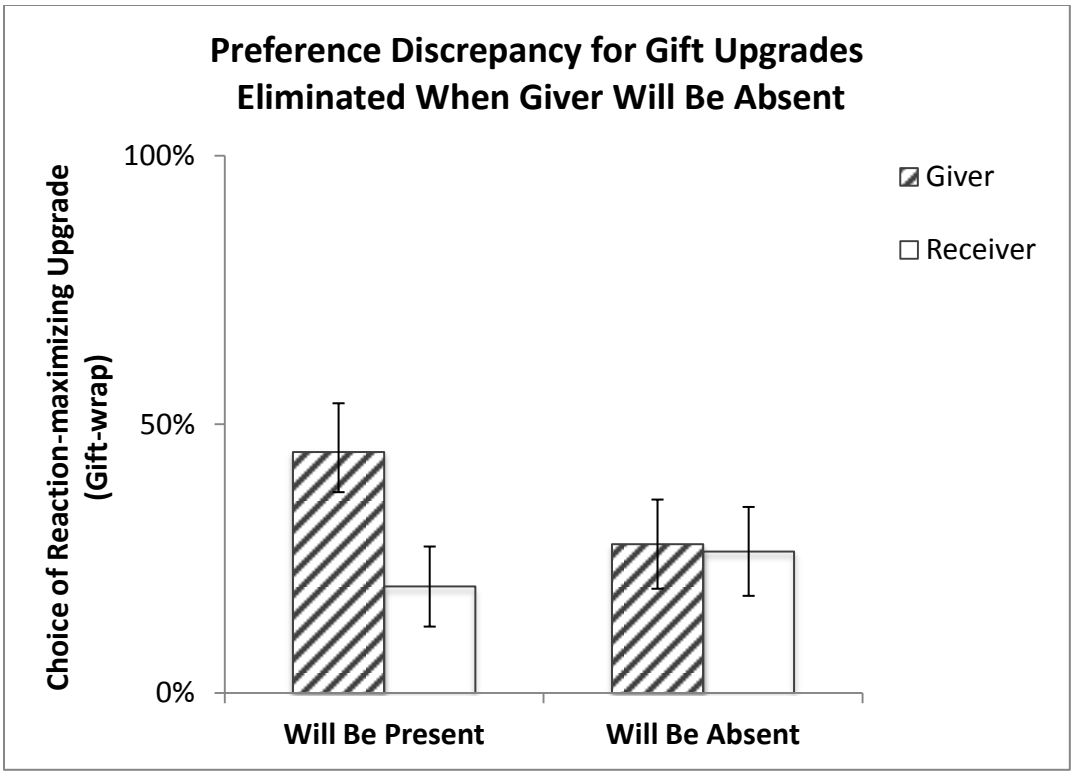

Figure 4. Results of Study 3A. Observability of receiver reaction moderates givers' choice for the reaction-maximizing upgrade (gift-wrap). Error bars represent 95% confidence.

In the observable-reaction conditions, the giver-receiver preference discrepancy was mediated by differences in anticipated reactions (b = -.06, SE = .02, z = - 2.65, CI = [-.101, -.015], p = .008) controlling for anticipated satisfaction, while no indirect effect was found in the unobservable-reaction conditions (b = -.03, SE = .03, z = - 1.23, CI = [-.088, .020], p = .219).

STUDY 3B: Absent for Christmas

The studies thus far have investigated gift preferences among pre-selected gift options. Next, we examine givers' motivations regarding actual holiday gifts.

Method

Three days before Christmas, we recruited 218 Mturk participants who had prepared three or more Christmas gifts, yielding 198 valid completes (M_{age} = 33, 55% Male). Participants specified three gifts they had prepared, the receivers' first names, and indicated their relationship with and social closeness to each receiver. Participants then rated both the anticipated affective reaction and anticipated receiver satisfaction for each gift on 7-point scales. Lastly, participants indicated whether they would be present when each gift would be received (and the receiver's reaction would therefore be observable), and the cost of each gift.

In addition to self-report measures, we asked two research assistants blind to the purpose of the study to independently predict the receivers' affective reaction and satisfaction based on the gift description, for each of the 594 listed gift items, on 5-point scales. Since the coders' ratings were strongly correlated ($r(592)_{reaction}$ = .56, $r(592)_{satisfaction}$ = .60, ps < .001), we averaged the scores. The average coded scores were also positively correlated with participants' own ratings of the gift items ($r(592)_{reaction}$ = .34, $r(592)_{satisfaction}$ = .35, ps < .001). For example, a cordless drill was considered by both participants and coders to generate weak affective reactions but high receiver satisfaction, sweaters and movies were rated to yield moderate reactions and satisfaction, and cupcakes were seen as inducing a strong reaction but low satisfaction.

Results

Whether the givers would be present or not did not predict a difference in the level of receiver satisfaction that the givers anticipated (M = 5.47 vs. 5.39, SD = 1.35 vs. 1.43, $b_{presence}$ = -.08, SE = .19, $t(196)$ = .42, p > .250). In contrast, when givers would be

giving the gift in person, they rated their gifts as inducing marginally stronger affective reactions from the receivers (M = 6.01 vs. 5.71, SD = 1.02 vs. 1.20; $b_{presence}$ = .30, SE = .17, $t(196) = 1.74$, p = .084, Fig 5). The coders' ratings confirmed that the gifts chosen when the giver would be present were more objectively reaction-inducing than the gifts chosen when the giver would be absent ($M_{reaction}$ = 2.98 vs. 2.75, SD = .74 vs. .73; $b_{presence}$ = .23, SE = .08, $t(196) = 2.76$, p = .006), controlling for coders' ratings of gift satisfaction. Therefore, this difference reflects actual difference in the gifts prepared, rather than differences in givers' perceptions. This effect of presence on how reaction-inducing the chosen gifts were, per coder ratings, also persists when controlling for social closeness to the recipient and cost of the gift ($b_{presence}$ = .18, SE = .08, $t(194) = 2.31$, p = .022).

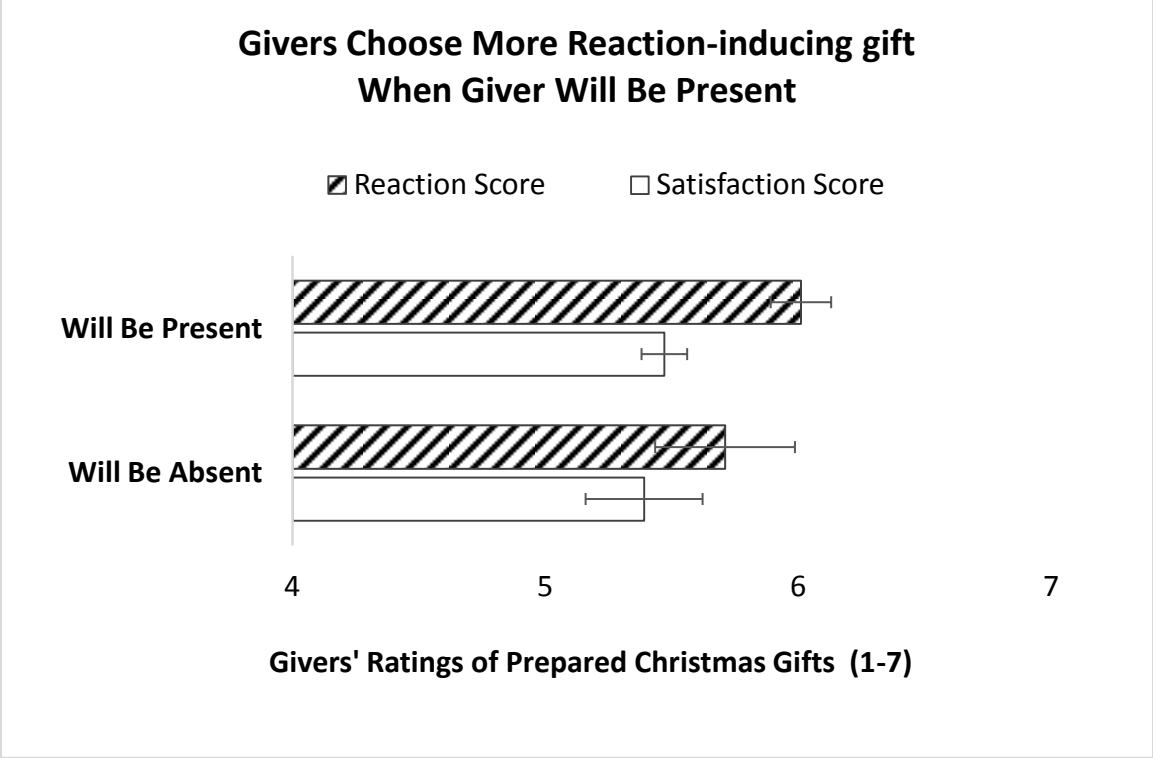

Figure 5. Results of Study 3B. Givers' rating of Christmas gifts that they had prepared

for friends and family members, when they expected to be present versus absent during gift reception. Error bars represent 95% confidence intervals.

Study 4A: Remembering Past Gifts

In the final two studies, we investigate judgments after gifts have been given, to investigate whether the giver-receiver discrepancy persists post-giving and explore the consequences of smile-seeking giving.

Method

We recruited 86 Mturk participants, yielding 80 valid completes (M_{age} = 34, 50% Male). Participants were randomly assigned to recall recent gifts they had liked and disliked, either as givers or receivers. We averaged ratings from two independent coders of each gift separately for affective reaction and receiver satisfaction, as in Study 3B.

Results

Givers' favorite gifts were rated by the coders as generating more positive affective reactions than receivers' favorite gifts (M = 3.41 vs. 2.50, SD = 1.01 vs. 1.07, $t(78) = 3.90$, $p < .001$; Fig 6). In contrast, givers' favorite gifts were rated by the coders as generating less overall satisfaction than receivers' favorite gifts (M = 2.33 vs. 3.11, SD = 1.01 vs. 1.09, $t(78) = 3.30$, $p = .001$).

In fact, receivers' favorite gifts were markedly similar to givers' least favorite gifts, in that both were less reaction-inducing than satisfaction-inducing (combined $M_{reaction}$ = 2.39 vs. $M_{satisfaction}$ = 3.00, SD = 1.05 vs. 1.05, $t(78) = 3.76$, $p < .001$). This resemblance suggests that the gifts that receivers typically enjoy, such as books and

money, differ from those givers enjoy giving the most, due to the lesser affective reactions these gifts tend to elicit.

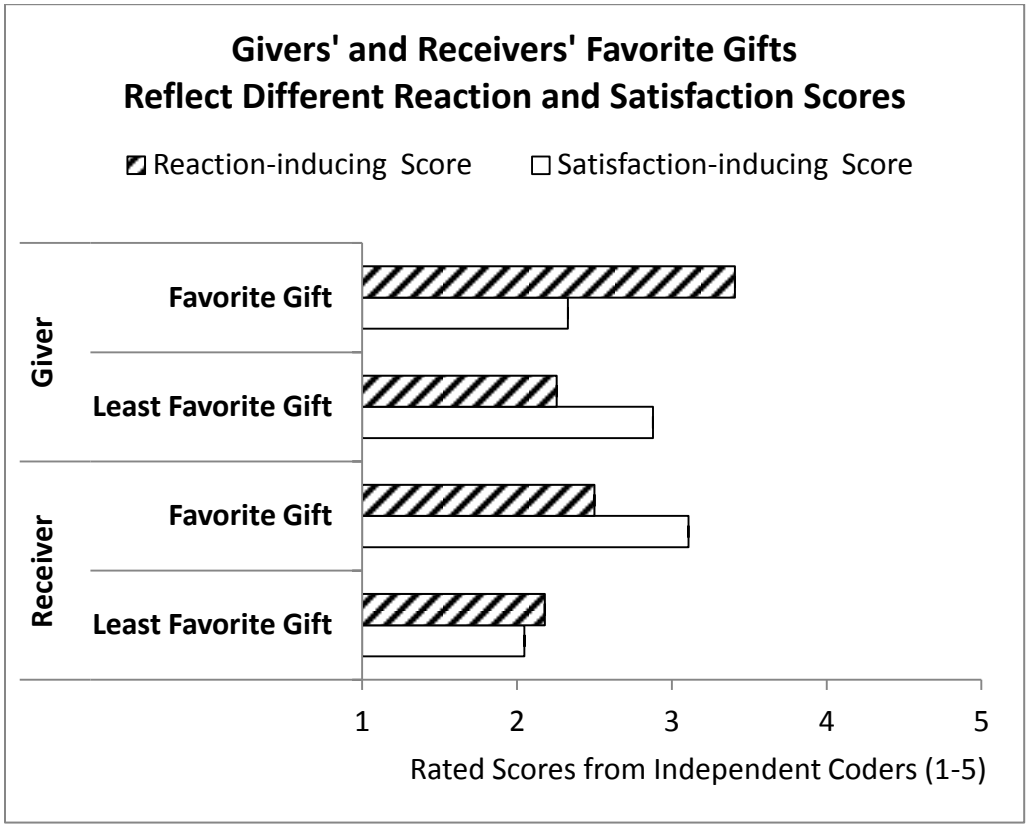

Figure 6. Results of Study 4A. Independent coders' rating of givers' and receivers' favorite and least favorite gifts. Error bars represent 95% confidence intervals.

Overall, whether a giver liked or disliked a gift was primarily predicted by how reaction-inducing the gift was ($b_{reaction}$ = .20, *SE* = .05, $t(35) = 4.28$, $p < .001$, $b_{satisfaction}$ = -.08, *SE* = .05, $t(35) = 1.54$, $p = .133$). While receivers' liking was also predicted by both how reaction-inducing the gift was ($b_{reaction}$ = .09, *SE* = .04, $t(39) = 2.21$, $p = .033$), receivers' liking was more strongly predicted by how satisfaction-inducing the gift was ($b_{satisfaction}$ = .22, *SE* = .04, $t(39) = 5.73$, $p < .001$), a marginally significant difference ($b_{difference}$ = -.58, *SE* = .32, $p = .063$). In sum, the discrepancy between givers' and

receiver's preferences persists even after gift reception, which may further reinforce the givers' smile-seeking motive in future gift choices.

Study 4B: A Longitudinal Study of Post-Giving Outcomes and Enjoyment

Last, we used a longitudinal design to track givers' perceptions of the receivers' immediate reactions and longer-term satisfaction both before and after actual gift-giving, and explore how the consequences of giving affect givers' post-giving enjoyment.

Method

Ten days before Christmas, we recruited 138 Mturk participants who had prepared three or more gifts, yielding 111 valid completes in the first wave (M_{age} = 36, 60% Male). Participants listed their gifts, as in Study 3B, and listed the date that each gift would be received, closeness with each receiver, gender and age.

A month later, we re-contacted the participants for the second wave of the survey (87 completes, M_{age} = 37, 58% Male). Participants reported whether they had been present for the gift exchange, rated their perception of the receiver's immediate reaction to the gift, and their perception of the receiver's longer-term satisfaction with the gift. Last, participants indicated their own enjoyment from having given each gift (on a 1-100 slider scale), and the cost of the gifts.

We asked two coders to rate the 261 listed gifts on the reaction and satisfaction scales used in Study 3B. The two coders' scores were strongly correlated ($r(259)_{reaction}$ = .72, $r(259)_{satisfaction}$ = .59, ps < .001), and were therefore averaged. The gifts were primarily given to close family members and friends ($M_{closeness}$ = 9.0 out of 10).

Results

We related the coder's ratings of the gifts to the givers' reports of immediate receiver reaction and longer-term receiver satisfaction after giving the gift. Givers reported stronger receiver reactions to the more reaction-inducing types of gifts (b = 2.57, SE = 1.12, $t(84) = 2.29$, p = .024; Fig 7), but not greater longer-term receiver satisfaction (b = -.20, SE = 1.2, $t(84) = .16$, $p > .250$). Conversely, givers reported greater receiver satisfaction from the more satisfaction-inducing types of gifts (b = 3.56, SE = 1.68, $t(84) = 2.11$, p = .038), but not more positive receiver reaction (b = -.55, SE = 1.58, $t(84) = .35$, $p > .250$). The results were similar controlling for the cost of the gifts (see reviewed appendix).

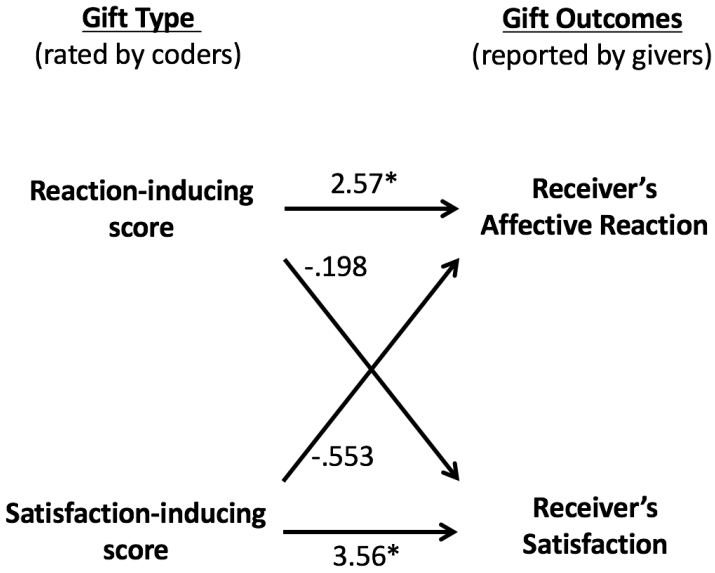

Figure 7. Coded gift type predicted givers' reports of receiver reaction and satisfaction (*** $p < .001$, ** $p < .01$, * $p < .05$).

Next, we examined how reported receiver reaction versus receiver satisfaction contributed to givers' enjoyment. Givers' reports of the receivers' immediate reaction

strongly predicted how much givers enjoyed giving the gift ($b_{reaction}$ = 1.08, *SE* = .10, $t(84)$= 10.94, $p < .001$). In contrast, givers' reports of the receiver's longer-term satisfaction did not contribute to givers' enjoyment ($b_{satisfaction}$ = -.06, *SE* = .08, $t(84)$ = .74, $p > .250$). These results held when controlling for gift cost.

Overall, mediation analyses revealed that the more reaction-inducing gifts were, the more they contributed to givers' enjoyment, via the positive receiver reaction that givers reported (indirect effect b = 3.04, *SE* = .77, CI = [1.30, 4.78], z = 3.93, $p < .001$; Fig 8). By contrast, satisfaction-inducing gifts did not contribute to givers' enjoyment, even though givers recognized that the receivers were more satisfied with these gifts overall (indirect effect b = -.18, *SE* = .33, CI = [-.869, .519], z = -.53, $p > .250$). In fact, the indirect effect of reaction was significantly different from the indirect effect of satisfaction (Δb = 3.22, *SE* = .90, z = 3.56, p = .002).

These results suggest that givers derived enjoyment primarily from the beaming smiles and happy squeals that resulted from the reaction-inducing gifts, even though they anticipated that receivers would not be as satisfied with these gifts later on. Moreover, the fact that the givers' enjoyment primarily stemmed from receivers' spontaneous reactions instead of receivers' long-term satisfaction may reinforce the givers' smile-seeking motive in future gift choices.

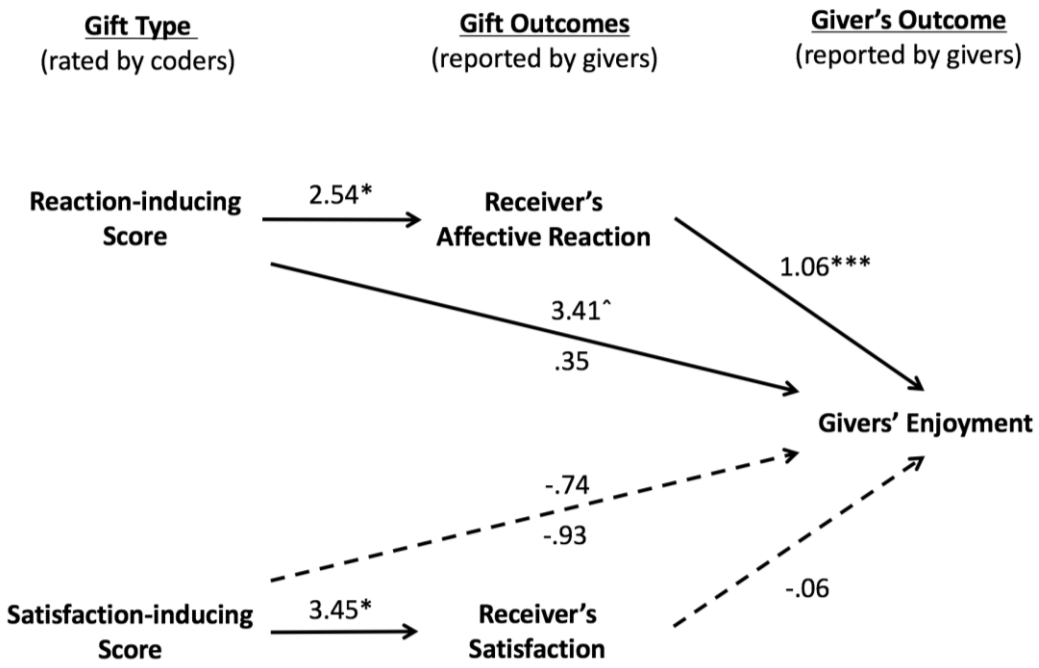

Figure 8. Results of Study 4B showed that givers' perception of receiver reaction, but not receiver satisfaction, predicted givers' enjoyment and mediated the relationship between the coded reaction-inducing score of a gift and givers' enjoyment of giving (*** $p < .001$, ** $p < .01$, * $p < .05$, ^ $p < .10$).

Next, we compared givers' enjoyment for gifts they had given in person (and therefore observed receiver reactions; 79.9% of gifts), with those they had not given in person. Givers enjoyed the gift-giving experience substantially more if they had been present to see the receivers' reactions ($M = 87.1$ vs. 46.3, $SD = 17.9$ vs. 36.8, $d = 1.43$; $b = 40.9$, $SE = 6.52$, $t(85) = 6.27$, $p < .001$), even controlling for interpersonal closeness ($b = 38.70$, $SE = 7.00$, $t(84) = 5.53$, $p < .001$). Observing the receiver's reaction mattered a great deal for the giver's enjoyment of giving.

General Discussion

The foregoing studies highlight the smile-seeking motive as an under-recognized factor that helps explain why gift-givers often choose gifts that are not the most valued by the receivers. Our findings suggest that givers' choices reflect their anticipation of receivers' affective reactions more than their beliefs about receivers' satisfaction. In contrast, receivers' satisfaction is only partly shaped by their reactions. This discrepancy between givers and receivers extends after giving, to their subsequent enjoyment of the gift exchange, which may further enforce givers' future smile-seeking motive. Moreover, consistent with the smile-seeking motive, when givers could not observe the receiver's reaction, the giver-recipient preference discrepancy was eliminated.

Besides affective reactions being more motivating for givers, the giver-receiver preference discrepancy may be amplified by other factors. For instance, some givers may believe that positive first impressions are more important than long-term satisfaction for successful gift-giving. However, this normative belief is not sufficient to explain why givers' smile-seeking preference is mitigated by being absent during gift reception. That said, some underappreciated gifts may be chosen for reasons unrelated to the smile-seeking motive, such as outright selfishness (e.g., a vacuum cleaner for a romantic partner), obvious carelessness (e.g., candies for a diabetic patient), or mere lack of information. Some gift choices may even be guided by motives in direct opposition to smile-seeking, such as to form character or endow assets in consideration of the receivers' long-term benefits, particularly in parental giving (e.g., educational materials or funds given to children).

Nevertheless, our evidence in support of a smile-seeking motive sheds new light on theories of gift-giving. For example, prior findings of self-other preference discrepancies that were attributed to the decision-maker being miscalibrated about recipient preferences, such as, off-registry gifts (e.g., Gino & Flynn, 2011; Ward & Broniarczyk, 2016), may have instead been the result of givers' attempt to elicit and enjoy greater affective reactions. This motive could then bias givers' reports of what they think receivers would most appreciate, due to motivated reasoning (Kunda, 1990; Epley, Keysar, Van Boven, & Gilovich, 2004). Another example is givers' reluctance to give cash as a gift (Waldfogel, 1993). The smile-seeking motive suggests that givers' preference for gifts in kind over cash will persist as long as cash gifts elicit weaker affective reactions, even when receivers would actually prefer cash (Gino & Flynn, 2011).

More generally, the present research highlights a broad distinction, often overlooked in theories of interpersonal decision-making, between the *intrapersonal value* of a good (i.e. the direct benefit to an individual) and the *interpersonal value* of a good (i.e., the indirect benefit from interpersonal communication of affective reactions). The interpersonal value of a good may systematically differ from its intrapersonal value. When the two sources of value differ, interpersonal value may have a distinct and stronger effect on interpersonal decisions. After all, whereas the receiver walks away with a gift, the giver walks away with the receiver's smile.

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APPENDIX A

A1. Study 1 additional results

Factors from prior gift literature

Table S1. Effect of difference in hedonic vs. practical perception of the gifts.

DV= mug preference	B	Std. Error	Beta	t	Sig.
Constant	-0.203	0.322		-0.629	0.530
Giver1Receiver0	1.227	0.429	0.193	2.862	**0.005**
ΔHedonic-Practical	0.108	0.085	0.087	1.281	0.202

Table S2. Effect of difference in how much gifts were associated with feeling of guilt or indulgence.

DV= mug preference	B	Std. Error	Beta	t	Sig.
Constant	-0.346	0.300		-1.153	0.250
Giver1Receiver0	1.240	0.406	0.196	3.053	**0.003**
ΔIndulgence	0.541	0.109	0.318	4.979	0.000
ΔGuilt	-0.099	0.100	-0.063	-0.990	0.323

Table S3. Effect of difference in desirable vs. feasible perception of the gift.

DV= mug preference	B	Std. Error	Beta	t	Sig.
Constant	-0.368	0.273		-1.351	0.178
Giver1Receiver0	0.945	0.385	0.149	2.457	**0.015**
ΔDesirability-Feasibility	0.531	0.072	0.448	7.391	0.000

Table S4. Effect of difference in promotion-related vs. prevention-related benefits of gift.

DV= mug preference	B	Std. Error	Beta	t	Sig.
Constant	-0.101	0.304		-0.334	0.739
Giver1Receiver0	1.225	0.429	0.193	2.853	**0.005**
ΔPromotion-Prevention	0.113	0.095	0.081	1.191	0.235

When controlling for factors identified in prior literature as influencing gift-giving, including hedonic or practical perceptions of the gift, how much a gift was associated with indulgence or guilt, givers' and receivers' construal levels (desirable vs. feasible) and regulatory foci (approach-avoidance), as well as social closeness between giver and receiver, the preference discrepancy persists (*p*s<.025).

Response time

Givers' stronger preferences for affective gifts was not driven by carelessness or lack of deliberative processing, because givers spent a longer time reading the scenario (Median 28.2 vs. 22.9 seconds, non-parametric test $p<.001$), and directionally longer time evaluating gift options than the receivers (Median 112 vs. 100 seconds, non-parametric test $p=.193$). Moreover, response time did not correlate with either givers' or receivers' preferences (*p*s>.250).

Table S5. Effect of response time.

DV= mug preference	B	Std. Error	Beta	t	Sig.
Constant	-0.298	0.392		-0.761	0.447
Giver1Receiver0	1.237	0.429	0.195	2.881	**0.004**
Response time	0.002	0.002	0.066	0.968	0.334

Gender, age, and closeness

Gender and age did not affect or moderate gift preferences. Social closeness contributed to the effect but the giver-receiver preference discrepancy persists when controlling for social closeness.

Table S6. Effect of gender, age and closeness.

DV= mug preference	B	Std. Error	Beta	t	Sig.
Constant	-3.022	1.161		-2.603	0.010
Giver1Receiver0	1.228	0.426	0.193	2.883	**0.004**
Gender	0.386	0.437	0.061	0.884	0.378
Age	-0.010	0.022	-0.032	-0.468	0.641
Closeness	0.393	0.117	0.224	3.358	0.001

Last, all participants understand the notion of gift registry, and 58% of all participants have used it before, similar between the giver and receiver conditions (54.7% vs. 61.3%, $p>.250$).

1. Study 4B additional results

Gift price.

Gift price predicted observed satisfaction, above and beyond how reaction-inducing or satisfaction-inducing a gift was coded.

Table S7. Effect of gift price on observed receiver satisfaction.

Observed Satisfaction	B	Std. Err.	t	Sig.	[95% Conf. Interval]	
Constant	76.009	6.685	11.370	0.000	62.721	89.298
Coded Reaction	-1.275	1.593	-0.800	0.426	-4.443	1.892
Coded Satisfaction	2.209	1.756	1.260	0.212	-1.282	5.700
Cost	0.025	0.006	4.370	0.000	0.013	0.036

(Std. Err. adjusted for 87 clusters)

However, when controlling for the cost of gifts, givers' perception of receiver reaction was still predicted by how reaction-inducing a gift was coded, and not predicted by how satisfaction-inducing the gift was coded.

Table S8. Effect of gift price on observed receiver reaction.

Observed Reaction	B	Std. Err.	t	Sig.	[95% Conf. Interval]	
Constant	79.721	5.061	15.750	0.000	69.660	89.782
Coded Reaction	2.038	1.158	1.760	**0.082**	-0.265	4.340
Coded Satisfaction	-1.186	1.350	-0.880	0.382	-3.871	1.498
Cost	0.018	0.005	3.500	0.001	0.008	0.028

(Std. Err. adjusted for 87 clusters)

When controlling for gift price, givers' perception of the receivers' immediate reaction still strongly predicted how much givers enjoyed giving the gift whereas givers' perception of the receivers' long-term satisfaction did not.

Table S9. Effect of gift price on reported giver enjoyment.

Enjoyment	B	Std. Err.	t	Sig.	[95% Conf. Interval]	
Constant	-6.915	7.571	-0.910	0.364	-21.967	8.136
Observed Reaction	1.071	0.100	10.700	**0.000**	0.872	1.270
Observed Satisfaction	-0.066	0.079	-0.830	0.406	-0.222	0.091
Cost	0.010	0.005	1.820	0.072	-0.001	0.020

(Std. Err. adjusted for 87 clusters)

A2. Additional Study (Conceptual replication of Study 1)

In addition to the studies in the paper, one other study was conducted for this research. No other data was collected that tested the hypotheses in this paper.

We recruited MBA students (N=150, M_{age}=29.6, 61% Male, M_{close}=6.3) from a mid-western university in the winter time during class breaks. Each participant received a two-page questionnaire about a scenario involving two MBA students: Person A is a member of a student organization in the MBA program; at the end of each quarter, the student organization honors a best volunteer for on-campus student initiatives during the quarter; Person B, the secretary of the organization this year is in charge of choosing a gift from the campus bookstore today for the award-winner Person A. We randomly assigned participants to either imagine they were Person A (Receiver Condition), or Person B (Giver Condition).

The scenario presented two apparel gift options, "a fuzzy winter hat-and-scarf set" and "a sleek all-year-round sportswear", both available in the campus gift store and featuring the school logo. In the scenario, Person B would purchase either item with a free voucher, and Person A owns neither item. We posited that this choice represents a tradeoff between sensory appeal and versatility, because the fuzzy hat-and-scarf set feels warm and is more attractive in cold weather, and the sleek sportswear has more versatile uses. We validated an anticipated reaction-satisfaction tradeoff in a pretest (repeated-measures ANOVA interaction $F(1, 66)=5.07$, $p=.028$), with givers predicting the hat-and-scarf set would elicit more desirable reaction (at marginal significance, 4.91 vs. 4.52, $t(67)=1.58$, $p=.122$), and both options would induce similarly favorable overall appreciation (4.85 vs. 4.88, $t(67)=-.140$, $p>.25$).

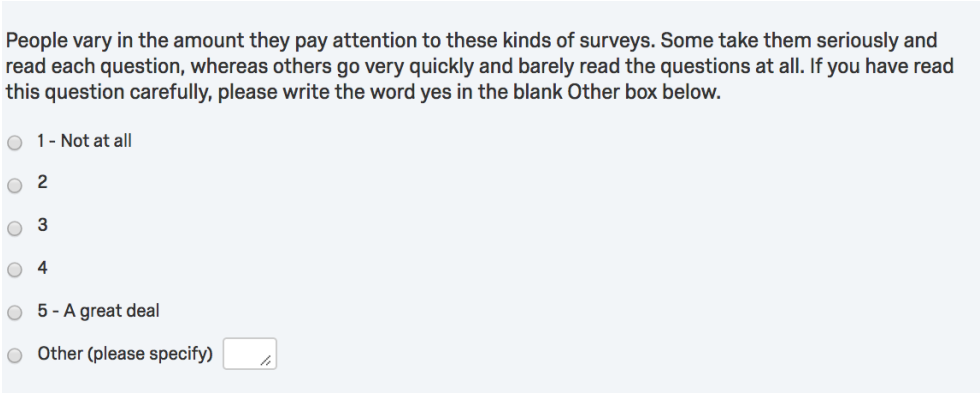
In the main study, those assigned to be givers were more likely to choose the reaction-maximizing option than receivers (53.9% vs. 13.6%, $\chi^2(1)=24.7$, $p<.001$), as predicted.

APPENDIX B

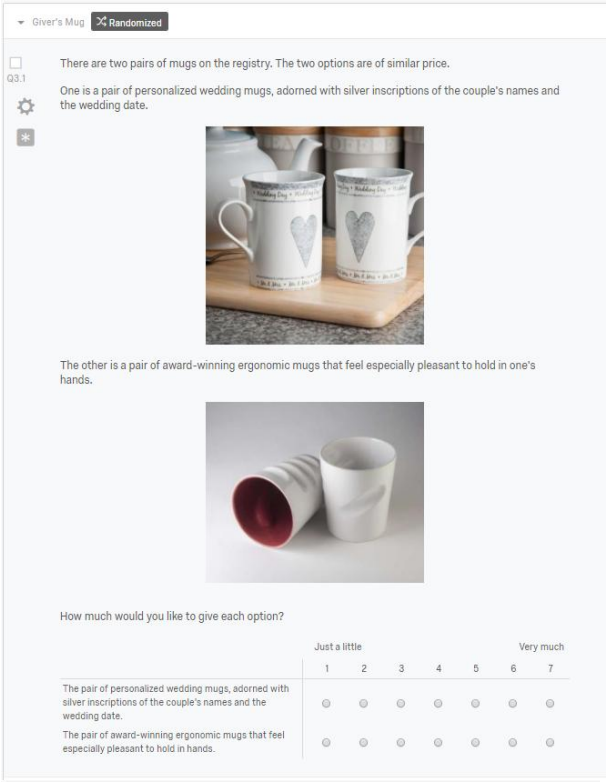
B1. Information About Study Procedures

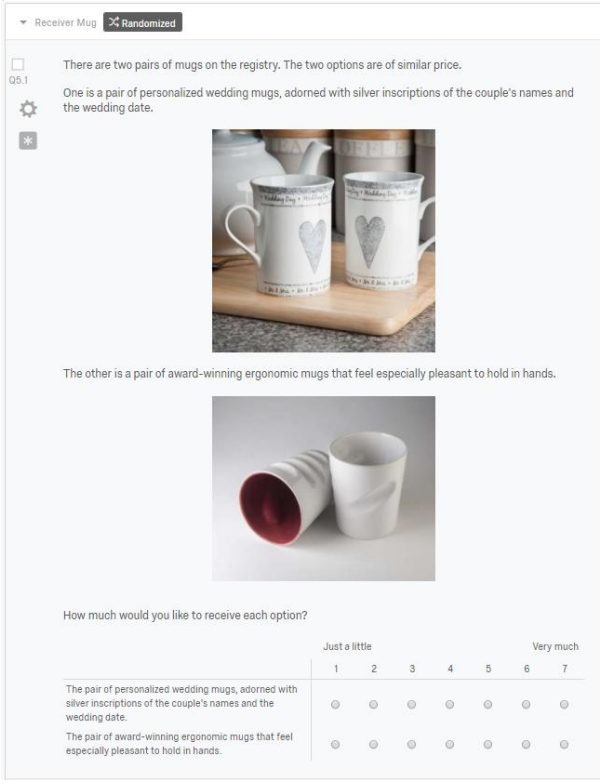
Exclusion criteria for all studies

For participants recruited from Amazon MTurk, we excluded duplicate IP addresses and participants having failed an instructional attention check (as below; Oppenheimer, Meyvis and Davidenko 2009) in the end. This exclusion criterion was used for all Mturk data.



Study 1 rating pages for giver and receiver

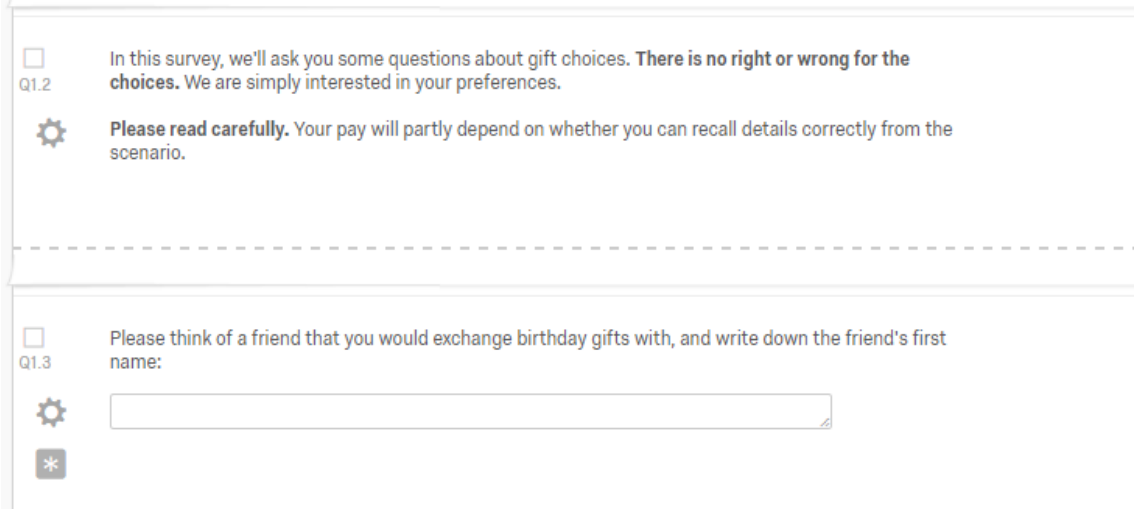




Study 2 choices

	
A dozen roses in full bloom	Two dozen rose buds about to bloom
	
A fruit basket adorned with a heart shape	A cookie basket adorned with a heart shape
	
A pink bouquet of fresh flower	A bonsai plant

Study 3A gift scenario friend-listing



Stimuli and key manipulation (presence = 1 or 2)

Giver's version:

Giver

Q2.1 Imagine that you are choosing a birthday gift for ${q://QID4/ChoiceTextEntryValue}'s upcoming birthday.

On a shopping website that you and your friend both like, you found a bluetooth phone speaker that you think your friend ${q://QID4/ChoiceTextEntryValue} will like, so you ordered it as the birthday gift for ${q://QID4/ChoiceTextEntryValue}.

This product is rechargeable and comes in standard packaging with a user's manual.

Display This Question:
If presence Is Equal to 1

Q2.2 As you check the calendar, you find that you will be in town on the day of ${q://QID4/ChoiceTextEntryValue}'s birthday, so you plan to give your gift to ${q://QID4/ChoiceTextEntryValue} in person.

Display This Question:
If presence Is Equal to 2

Q2.3 As you check the calendar, you find that you will be away on the day of ${q://QID4/ChoiceTextEntryValue}'s birthday, so you plan to have the gift delivered to ${q://QID4/ChoiceTextEntryValue} while you're away.

Q2.4 As you place your order on the website, you see two options to upgrade the gift:

- Option A: ***"Have the product beautifully wrapped!*** *- According to customer reviews, our exquisite gift wrap impresses people with cheerful excitement."*
- Option B: ***"Add LED light show to the speaker!*** *- According to customer reviews, having LED light show when playing music makes the user experience more fun."*

Each upgrade option costs $6. However, purchasing both options would go over your budget, so you would like to choose one of the upgrade options for your friend.

Which option would you prefer to buy?

- Standard speaker in beautiful gift wrap
- Speaker with LED light display in original standard packaging

Receiver's version:

Receiver

Q3.1 Imagine that ${q://QID4/ChoiceTextEntryValue} is choosing a birthday gift for your upcoming birthday.

On a shopping website that you and your friend both like, your friend found a bluetooth phone speaker that ${q://QID4/ChoiceTextEntryValue} thinks you will like, so ${q://QID4/ChoiceTextEntryValue} ordered it as the birthday gift for you.

This product is rechargeable and comes in standard packaging with a user's manual.

Display This Question:
If presence Is Equal to 2

Q3.2 ${q://QID4/ChoiceTextEntryValue} will be away on the day of your birthday, so ${q://QID4/ChoiceTextEntryValue} is planning to have the gift delivered to you.

Display This Question:
If presence Is Equal to 1

Q3.3 ${q://QID4/ChoiceTextEntryValue} will be in town on the day of your birthday, so ${q://QID4/ChoiceTextEntryValue} is planning to give the gift to you in person.

Q3.4 As ${q://QID4/ChoiceTextEntryValue} puts in the order on the website, he/she sees two options to upgrade the gift:

- Option A: ***"Have the product beautifully wrapped!*** *- According to customer reviews, our exquisite gift wrap impresses people with cheerful excitement."*
- Option B: ***"Add LED light show to the speaker!*** *- According to customer reviews, having LED light show when playing music makes the user experience more fun."*

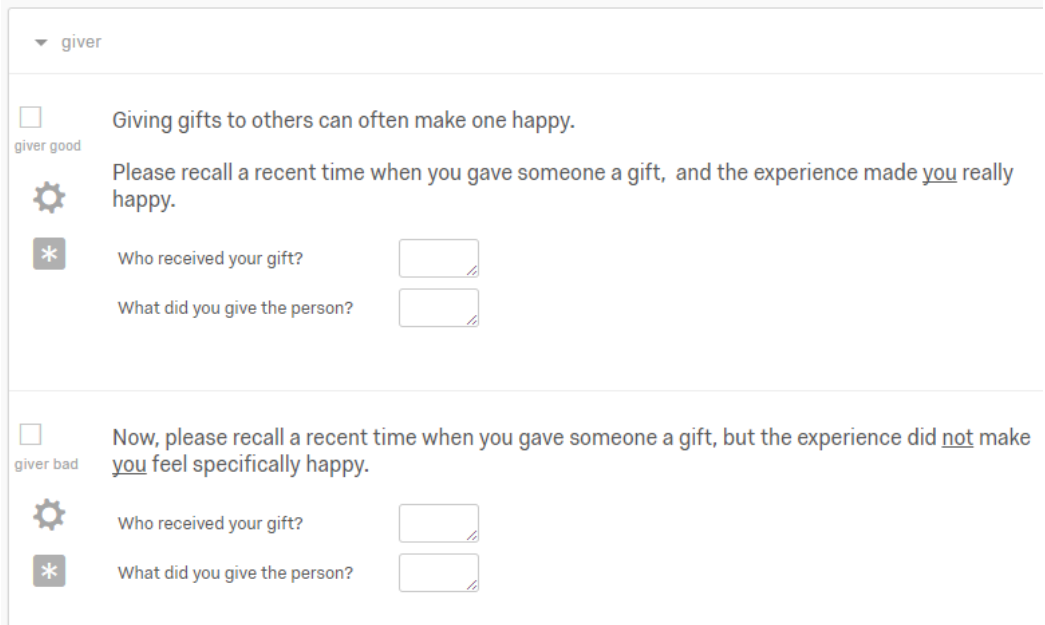
Each upgrade options costs $6. However, spending on both options will go over ${q://QID4/ChoiceTextEntryValue}'s budget, so ${q://QID4/ChoiceTextEntryValue} would like to choose one of the upgrade options for the gift.

Which option would you prefer ${q://QID4/ChoiceTextEntryValue} to buy?

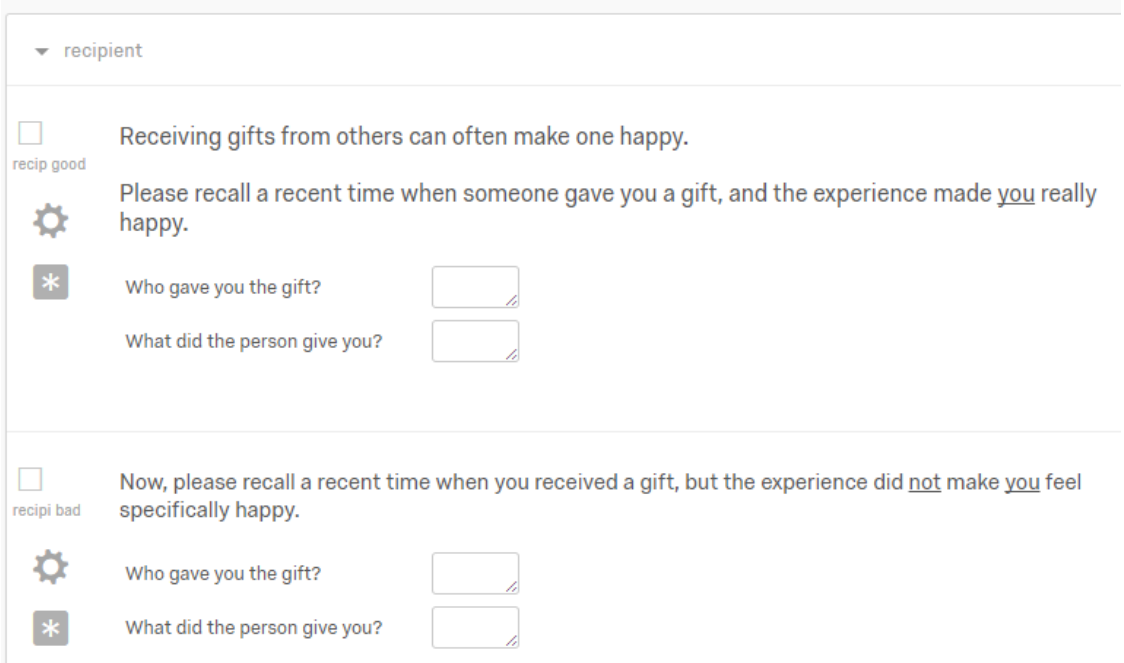
- Standard speaker in beautiful gift wrap
- Speaker with LED light display in original standard packaging

Study 4A

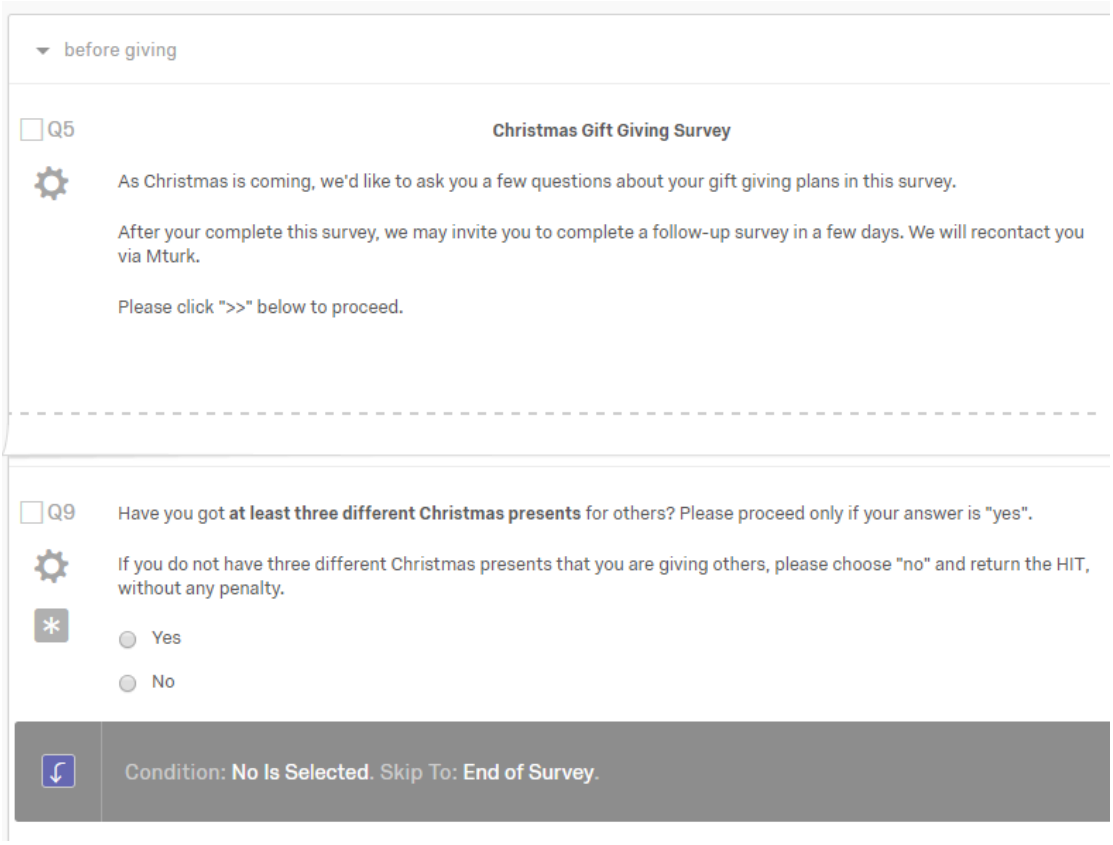
Giver's version:



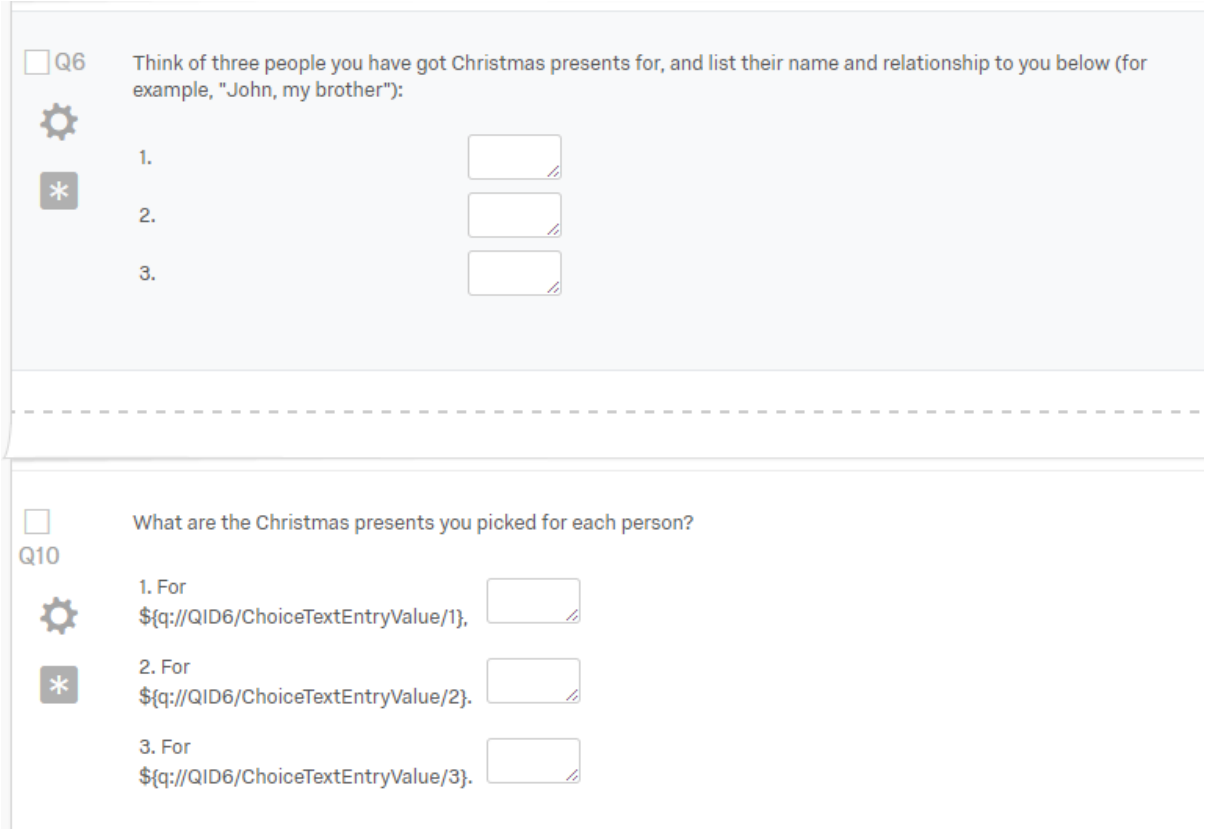
Receiver's version:



Study 3B and 4B instructions and screening criterion



Study 4B gift-listing



B2. Supplemental Data Analyses

Study 2 additional results

Closeness and relationship length

The giver-receiver preference discrepancy was robust to self-reported relationship length, quality and closeness.

Table S10. Effect of relationship length.

Choice	Coef	Std. Err.	t	Sig.	[95% Conf. Interval]	
Constant	1.336	0.060	22.280	0.000	1.218	1.454
Giver1Receiver0	0.114	0.037	3.070	**0.002**	0.041	0.187
Years	0.003	0.002	1.450	0.147	-0.001	0.007

(Std. Err. adjusted for 295 clusters)

Table S11. Effect of relationship happiness.

Choice	Coef	Std. Err.	t	Sig.	[95% Conf. Interval]	
Constant	1.303	0.118	11.050	0.000	1.071	1.535
Giver1Receiver0	0.123	0.037	3.340	**0.001**	0.050	0.196
Relationship happiness	0.006	0.011	0.510	0.611	-0.016	0.028

(Std. Err. adjusted for 295 clusters)

Table S12. Effect of relationship closeness.

Choice	Coef	Std. Err.	t	Sig.	[95% Conf. Interval]	
Constant	1.303	0.109	11.940	0.000	1.088	1.517
Giver1Receiver0	0.121	0.037	3.300	**0.001**	0.049	0.193
Closeness	0.006	0.011	0.530	0.594	-0.016	0.028

(Std. Err. adjusted for 295 clusters)

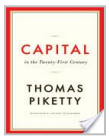
Gift appropriateness

We tested the perceived appropriateness of the six gift items in Study 2 with another four randomly selected Valentine's Day gift items below. We asked participants to rate "how appropriate is each gift for Valentine's Day?" on a 7-point scale from "Not Appropriate" (1), to "Very Appropriate" (7). We compared the ratings with the midpoint of the scale (4) in one-

sample t-tests. All experimental items were considered appropriate gifts, and significantly more appropriate in comparison to the control items.

Running shoes

Water bottle



Book

A dozen coke

Table S13. Ratings of gift appropriateness.

Gift Items	Mean	Std. Deviation	One-sample t-tests	p-value	
Cookie Basket	**6.18**	0.94	23.6	$p < .001$	Experimental Items - All Considered Appropriate
A Dozen Rose Blossoms	**6.15**	1.00	21.7	$p < .001$	
Two Dozen Rose Buds	**6.08**	1.00	21.1	$p < .001$	
Flower Bouquet	**6.08**	0.96	22.2	$p < .001$	
Flower Tree Bonsai	**5.85**	1.07	17.6	$p < .001$	
Fruit Basket	**5.26**	1.28	10.1	$p < .001$	
Running Shoes	4.00	1.40	0.04	$p = 0.972$	Control Items - Considered Less Appropriate
A Water Bottle	3.06	1.12	-8.62	$p < .001$	
A Book	2.55	1.19	-12.4	$p < .001$	
A Dozen Coke	2.07	1.12	-17.6	$p < .001$	