More Useful to You: Believing That Others Find the Same Objects More Useful

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More Useful to You: Believing That Others Find the Same Objects More Useful**Abstract**

People routinely evaluate how useful objects are to themselves and to others. Seventeen experiments (with U.S. American and French participants, total $N = 8016$) show that people believe others find the same objects more useful than they themselves do. Using both mediation analysis and causal chain designs, the authors show that overestimating usefulness to others is caused by a self-serving bias in perceived materialism and by the belief that others need the same object more. The effect is reduced if participants own the object in question, for target others who are well-known, and for objects considered less indicative of materialistic values. The effect also drives overestimation of others' willingness-to-pay. The authors find evidence against alternative explanations involving perceived sophistication or specifically thinking of object users. The authors discuss theoretical implications for self-other biases and materialism, as well as practical implications for proxy decision-making, gift-giving, and negotiation.

Keywords: usefulness, materialism, self-other, self-serving, bias

We regularly try to estimate other people's preferences. When we are shopping on behalf of others, choosing a gift, or even negotiating, we may ask ourselves, "How useful is this item going to be for them?" While the usefulness of an object is often considered to be its ability to perform specific tasks, usefulness involves not just the functional benefits of an object but also non-functional benefits as well, such as the ability of an object to facilitate self-enhancement. The wide array of benefits that could be provided by an object opens up many avenues for differences in perceptions of how useful that object may be. In this paper, we propose that people tend to think that others find the same objects more useful than they do.

Why would people think that the same objects are more useful to others? We argue that this effect is driven by a self-serving bias: people believe they are less materialistic than others, and therefore less drawn to use and appreciate objects in general. In order to feel better about themselves, people tend to rate themselves above-average on positive traits such as intelligence, and below-average on negative traits such as rudeness (Alicke 1985). We propose that, since laypeople consider materialism a negative feature (Fournier and Richins 1991; Van Boven, Campbell, and Gilovich 2010), most people will consider themselves as less materialistic than average. Part of the scientific and lay conception of materialism is that materialists have a close connection with products in general (Belk, 1985; Van Boven et al., 2010). We argue that, since people *believe* materialists have a special relationship with products, and that other people are more materialistic than they are, they estimate that the same objects will be more useful to others. Overestimating usefulness has substantial implications for social decision-making and social behavior, as people frequently make decisions involving others. Estimates vary, but it seems that people make on average one choice for others per week (Wu, Moore, and Fitzsimons 2019); and about a fifth of frequent purchase decisions involve others (Garcia-Rada, Anik, and Ariely 2019).

We also find evidence for perceived object need as a mediator of our main effect, and we find that closeness to target others seems to reduce the bias, as does object ownership. The effect is also less pronounced for objects considered less aligned with materialistic values. Further, we show that overestimation of object usefulness mediates overestimation of others' willingness-to-pay (WTP).

This research makes several theoretical contributions. First, our paper contributes to growing research about self-other biases (Frederick 2012; Polman et al. 2018; Ratner and Kahn 2002). Second, we complement a rich literature about materialism and negative lay-beliefs surrounding materialists (Mick 1996; Van Boven et al. 2010). Finally, our research contributes to research investigating factors that contribute to WTP estimation (Matthews et al., 2016), and specifically, to factors that contribute to the overestimation of others' WTP (Frederick, 2012; Jung et al., 2020).

We also discuss a host of practical implications for improving decisions when people estimate what others think of the same objects in contexts such as proxy decision-making, gift-giving, and negotiation. We focus on these in greater detail in the General Discussion and now turn to our theoretical development.

Object Usefulness

The treatment of the concept of perceived usefulness in the literature emphasizes two things: that individuals understand what it means for an object to be useful, and that for an object to be useful, it must be used *for something*. Some prior research has focused on usefulness as the ability of an entity to contribute to the performance of a specific task (Davis, 1989; Herd & Metha 2019; Kulviwat, Bruner II, Kumar, Nasco, & Clark, 2007), and Aubin et al. (2012) suggest that usefulness is the ability of an object to procure an advantage for the user. Other research has focused on usefulness as “the ability of a product to fulfill customer requirements” (Dahl, Chattopadhyay, & Gorn, 1999; Moreau & Dahl, 2005) or the

“perception that a product or service provides a benefit that fulfills his/her needs” (Moldovan, Goldenberg, and Chattopadhyay 2011). Previous research often measures usefulness with a few items or even just one- (*useful*) or two-item measures (Debevec and Romeo 1992; Pocheptsova, Peterson, and Etkin 2015; Trudel and Argo 2013; Weingarten and Berger 2017).

While usefulness can be easily recognized in functional (or as Voss, Spangenberg, and Grohmann 2003 would say, utilitarian) objects, one can conceive of the enjoyment brought by non-functional (or hedonic) objects as their usefulness (Li, Zhang, and Wang 2015). Herd and Mehta (2019) take a similar approach by considering usefulness as solving the problem at hand and illustrate how even non-functional objects can be considered useful (e.g., toys, interior designs). As still another point of evidence that usefulness extends beyond functionality and to general need-fulfillment, Miron-Spektor and Beenen (2015) study the usefulness of new designs for décor items.

To summarize, prior research recognizes that individuals understand what it means for an object to be useful, and that for an object to be useful, it must be used *for something*. While this *something* has often been considered task performance or need fulfillment, it is important to realize that usefulness involves not just the functional benefits of an object but also non-functional benefits as well.

Perceptions of Others

People often estimate others' preferences, but they seem to have biased perceptions. For instance, people think that others are more variety-seeking than them (Ratner and Kahn 2002, p. 253). People think that their money has a higher purchasing power than other people's (Polman et al. 2018). Individuals also have biased perceptions of where they stand compared to others. Even when people evaluate their rank in a group of similar people, they tend to show biases in the self-assessment of cognitive (Kruger & Dunning, 1999) and moral qualities (Allison et al., 1989), as well as in their positions in income and wealth distributions

(Cruces et al., 2013; Gimpelson & Treisman, 2018). People show comparison biases because of self-serving motives - they are motivated to build and maintain a positive self-image (Van Lange, 1991). For example, when people are given a list of adjectives, they tend to position themselves above average if the adjectives are positive, but below average when the adjectives are negative (Alicke, 1985).

This self-serving motives mechanism underlies our hypotheses. Materialism is a well-studied individual variable (Mick, 1996; Pandelaere, 2016; Richins & Dawson, 1992), which is characterized by attachment to and centrality of possessions. In general, materialists are negatively stereotyped, and people consider materialism socially undesirable. Mick (1996) shows that the Material Values Scale (Richins and Dawson 1992) is negatively correlated with socially desirable responding (Crowne & Marlowe, 1960), indicating that people who wish to present themselves well are less likely to report high materialism levels. Materialistic people and materialistic behavior are stigmatized: they are judged as selfish, self-centered, and superficial (Fournier & Richins, 1991), and people tend to dislike discussions about materialistic purchases (Van Boven et al., 2010). For all of these reasons, we expect individuals to believe (in a self-serving manner) that others are more materialistic than they believe themselves to be.

Importantly, this self-other difference in perceived materialism has implications for how useful individuals believe objects will be to themselves vs. others. Individuals realize that materialists have a special relationship with possessions (Fournier and Richins 1991; Van Boven et al. 2010). Materialists are more likely to “attempt to engage in the construction and maintenance of the self through the acquisition and *use* of products” (Shrum et al. 2013, p. 1180). Materialism motivates the consumption (i.e., use) of objects for the furtherance of such goals (Fournier and Richins 1991; Richins 1994; Richins and Dawson 1992). Materialists (vs. less materialistic individuals) are more likely to report using objects for functional reasons, for

self-expression, for self-enhancement, or for feelings of control (Richins 1994). Materialists can find several sources of usefulness in objects, consistent with our conceptualization of usefulness as going beyond mere functionality.

For example, acquiring and displaying a collectible painting is prototypical materialistic behavior, involving the usage of the object through consumption (appreciation or showing off) rather than depletive use. Purchasing and wearing local sports team-branded clothing can also be materialistic behavior if the object is consumed in pursuit of materialistic values (e.g., trying to achieve the identity motive of fitting in), even though it involves repeated use that could result in wear (Shrum et al., 2013). People find objects useful because of their consumption value or ability to meet consumer needs (Dahl, Chattopadhyay, and Gorn 1999), not on whether the object is frequently physically handled nor on whether it becomes “used up.”

Accordingly, since materialists have these special relationships with possessions that allow them to find greater self-enhancing utility (even if it is non-functional), we expect individuals to *believe* that materialists find objects more useful than non-materialists. Thus, we expect people will believe that others will find the same objects more useful than they do, because people think that others are more materialistic than they are. Formally, we predict:

H1: People believe objects to be more useful to others than to themselves

H2: This effect is mediated by a self-serving bias in perceived materialism

Perceptions of materialism may not be the only mediator of the present effect. People could exhibit alternative above-average effects, such as perceiving that others generally have a greater need for objects. That is, they may perceive that other people are more deficient on some dimension that an object could address. This explanation is especially plausible for self-improvement products (Polman et al., 2022) but could extend to other objects more generally. Again, the usefulness of an object lies not just in functional benefits but also in non-functional

benefits as well. Thus, we expect that in addition to the materialism bias, a discrepancy in perceived need may also contribute to the self-other usefulness effect:

H3: The usefulness effect will also be mediated by a self-serving bias in perceived need

Moderators: Target Closeness, Object Ownership, and Object Type

We also propose that the present effect will be smaller for target others that people know well. There are several reasons for why this might be the case. The first one has to do with personal knowledge. People tend to be more accurate when they judge close others (i.e., friends and family) than when they judge others they do not know very well, which may reduce the present effect. The second reason has to do with self-serving motives. People tend to have more favorable opinions of people close to them compared to people they do not know. If the present effect is partially due to the self-serving overestimation of other people's materialism, people may have a lower estimation of closer others' materialism, which in turn might reduce the effect. Formally:

H4: The usefulness effect will be reduced for well-known target others

If object owners have self-selected to be a user of an object, then we might expect that they would assess its usefulness to be relatively high, as it would be a precondition for their purchasing the object. Therefore, it stands to reason that ownership could be a boundary condition for the self-other discrepancy in perceived usefulness. However, notice that this does not touch the perceived materialism process we previously hypothesized. That is, while object ownership should mitigate the overall effect on perceived usefulness, it should not alter individuals' self-serving tendency to rate others as more materialistic than they are. Thus, we expect object ownership to operate as a boundary condition for the self-other discrepancy in perceived usefulness but not the self-other discrepancy in perceived materialism.

H5: The effect will be reduced for object owners

People are more likely to mention clothing, electronics, accessories, and jewelry as prototypical materialistic purchases (Van Boven et al. 2010), and they expect materialists to be especially attracted to specific objects – namely status-signaling products such as golf-club memberships, prestigious brand names, and fashionable items (Fournier and Richins 1991). This suggests that, for observers, purchases and acquisitions may differ in the extent to which they can align with materialistic values (MV), or in other words, to provide those alternative benefits that materialists seek. We expect objects to be considered aligned with materialistic values not strictly because they are *material* (although we expect materialistic values alignment and experientiality to be negatively correlated, experiences can also serve materialistic values; Shrum et al. 2014), but because of *how* people are expected to relate to them. MV-aligned objects lend themselves to the consumption style of materialistic people—they are more likely to be viewed as ends in themselves, and they are more likely to be instrumental for self-enhancement (Holt, 1995). For these reasons, we expect more (vs. less) MV-aligned objects to be seen as especially useful for materialistic individuals.

If people think objects will be more useful to others because of others' greater materialism, it follows that this belief should be stronger for objects considered especially MV-aligned (i.e., objects considered especially likely to be appreciated by materialistic people), such as a large flat-screen TV or a Louis Vuitton bag, but weaker for objects that are not considered especially MV-aligned (i.e., objects that observers think are not very likely to be appreciated by materialistic people), such as a subscription to a high-brow magazine. If the self-other discrepancy in perceived usefulness depends on MV-alignment in this way, it would be good process-related moderation evidence supporting the proposed perceived materialism process. Thus:

H6: Overestimation of object usefulness to others will be attenuated for less MV-aligned objects

A Downstream Consequence: Overestimating Others' WTP

People also make distorted estimates of others' monetary evaluations of the same good (Frederick, 2012). Numerous explanations of the overestimation of others' WTP have been proposed. Individuals could overestimate others' willingness-to-pay because they underestimate others' pain of paying (i.e., an empathy gap; Frederick 2012; Kurt and Inman 2013), because of relatively greater exposure to others enthusiastically spending money, because of differences in construal of the self vs. others, or even because they believe others are more affluent (Matthews, Gheorghiu, and Callan 2016). While Matthews and colleagues (2016) suggest a self-other bias in perceived affluence can account for part of other-WTP overestimation, they ultimately conclude that other-WTP overestimation is multiply determined.

We believe overestimation of object usefulness represents a candidate mechanism for other-WTP overestimation. It makes sense that people would be willing to pay more for an object that they will find more useful. The self-other willingness-to-pay discrepancy may in part be explained by our proposed self-other usefulness discrepancy. Notably, Frederick (2012) contends to have ruled out the possibility that other-WTP overestimation could be attributed to “a belief that others will enjoy the good more” (study 3, p. 3), which bears a fair resemblance to our process of how useful the object would be to others. However, it is informative that other-WTP overestimation appeared to be stronger with objects for which respondents *did* in fact have biased perceptions of enjoyment. Although other-WTP overestimation seems to be multiply determined, the possibilities that people have a self-other difference in perceived usefulness and that this could contribute to other-WTP overestimation are worthy of exploration. Thus:

H7: Overestimation of others' object usefulness to others will mediate other-WTP overestimation

Study Overview

In seventeen experiments (total $n = 8016$, summarized in Table 1; eleven preregistered; nine in the Supplementary Online Materials – from now on, SOM) we show that people believe others would find the same object more useful than they themselves would. Our conceptual model is illustrated in Figure 1.

Figure 1. Conceptual Model of the present paper.

In these studies, we report all measures, manipulations and exclusions. Minimum sample size was based on the conservative heuristic of 100 participants per condition – double the suggested requirement from Simmons et al (2013), and sufficient to detect an effect size Cohen’s $d = 0.40$ (close to the average effect size in social psychology; Lovakov & Agadullina, 2021; Richard et al., 2003) with a two-tailed $\alpha = 0.05$. Sample sizes were determined prior to data collection, and we often recruited more than 100 participants per condition to be able to detect even smaller effect sizes, depending on the available budget and on ease of data collection. We typically collected larger sample sizes in studies with more than two conditions, which require a correction of p -values for multiple pairwise comparisons embedded in an ANOVA, or when we were testing interactions, which require higher sample

sizes than two-cell studies (Simonsohn, 2015). Sensitivity power analyses for all studies are presented in Table 1. Sample sizes were decided a-priori. For all studies, analyses were only conducted post-data collection¹, and for all studies with follow-up multiple comparisons, we use Tukey-corrected *p*-values. Raw data, materials, and analyses for all studies are available at the following link: https://osf.io/8xy6k/?view_only=36c3e1A7cdfb423b9b32f263c1610731. We turn to Study 1 next.

¹ There are sometimes discrepancies between the number of observations we preregistered and the number of observations we received due to the imperfect connection between Qualtrics, MTurk, and Prolific.

Table 1

Study Overview and Sensitivity Power Analyses

Study	Month	Sample size	Min. <i>d</i>	Main Result
1	Sep. 2019	601 (MTurk)	0.11 ^a	People believe that others find the same objects more useful, within-subjects. Preregistration link: http://aspredicted.org/blind.php?x=sc2wg6
2	Nov. 2021	200 (MTurk)	0.40 ^b	The usefulness effect also presents when judging a very new product. Preregistration link: https://aspredicted.org/45L_CTP
3	Jun. 2021	788 (MTurk)	0.38 ^b	The usefulness effect also presents across different target others (e.g., colleague). The effect is attenuated for socially closer target others (e.g., family member). Preregistration link: https://aspredicted.org/blind.php?x=tq54jz
4	Aug. 2021	186 (MTurk)	0.41 ^b	People believe that others are more materialistic than they are. Preregistration link: https://aspredicted.org/blind.php?x=5kv9ee
5	Dec. 2021	601 (Prolific)	0.40 ^b	The self-other effect on usefulness is mediated by both perceived materialism and perceived object need.
6	Jun. 2021	496 (MTurk)	0.25 ^b	The effect is attenuated for object owners. Preregistration link: https://aspredicted.org/blind.php?x=mj8a2p
7	Oct. 2019	403 (MTurk)	0.28 ^b	The effect is stronger for MV-aligned objects
8	Nov. 2019	414 (French students)	0.34 ^b	The usefulness effect mediates other-WTP overestimation. No evidence that the effect is driven by an above-average effect in perceived sophistication.
SOM				
W1	Mar. 2018	602 (MTurk)	0.23 ^b	People believe that others find the same objects more useful, between-subjects (<u>incentive compatible</u>).
W2	Dec. 2020	182 (MTurk)	0.21 ^c	The usefulness effect also presents for average others and average users. Preregistration link: https://aspredicted.org/blind.php?x=h9n9y5
W3	Nov. 2018	603 (MTurk)	0.28 ^b	The effect is attenuated when judging one's best friend.
W4	Mar. 2019	604 (MTurk)	0.11 ^a	People believe that they are less materialistic than they actually are. Preregistration link: http://aspredicted.org/blind.php?x=3t7u6k
W5	Aug. 2021	400 (MTurk)	0.27 ^b	The self-other effect on perceived object usefulness is mediated by perceived materialism. Preregistration link: http://aspredicted.org/blind.php?x=j54y6i
W6	Feb. 2019	800 (MTurk)	0.24 ^b	Perceived materialism causally influences object usefulness judgments (<u>incentive compatible</u> ; with varying target person materialism levels). Preregistration link: http://aspredicted.org/blind.php?x=rw2ts8
W7	Sep. 2019	309 (MTurk)	0.33 ^b	Perceived materialism causally influences object usefulness judgments (with varying target person materialism levels). Preregistration link: http://aspredicted.org/blind.php?x=dw33kq
W8	Feb. 2019	535 (MTurk)	0.24 ^b	The effect is stronger for MV-aligned objects Preregistration link: http://aspredicted.org/blind.php?x=xm7se9
W9	Sep. 2019	293 (MTurk)	0.33 ^b	Perceived usefulness causally influences perceptions of others' WTP (with varying levels of perceived object usefulness).

Notes. Power analyses are for the focal self-other contrast and were conducted setting alpha = .05 (two-tailed), and power = 80% for a: ^adifference from a constant, ^bbetween-subjects difference, ^cwithin-subjects difference.

Study 1 – People Believe that Others Find the Same Objects More Useful, Within-Subjects

Method

We recruited 601 participants from MTurk (331 males, 270 females, $M_{age} = 39.05$, $SD_{age} = 12.06$)². Participants were presented four objects in randomized order (Bluetooth earphones; a spin mop; a fan; binoculars). We chose this set of objects from Amazon.com, in order to obtain a wide range of objects to which people are commonly exposed. For each object, participants were asked to indicate “the percentage of participants in this survey that would find this object more useful than you” on a slider scale of 0 to 100. In the absence of a bias, the average value should not be significantly different from the slider midpoint (50). Within-subjects designs have the advantage of increased statistical power compared to a between-subjects design (Judd et al., 2017).

Results

On average, participants thought that significantly more than half of the sample would find greater use for the objects ($M = 54.61$, $SD = 16.17$; vs. 50, $t(600) = 7.00$, $p < .001$, $d = 0.29$). Results per object are available in Table 2, and showed effects consistent with the average effect: $(t(600)_{\text{earphones}} = 8.54$, $p < .001$; $t(600)_{\text{spinmop}} = 3.61$, $p < .001$; $t(600)_{\text{fan}} = -1.41$, $p = .158$; $t(600)_{\text{binoculars}} = 7.33$, $p < .001$).

Table 2
Self-placement percentile in object usefulness, study 1.

Object	M (SD)	Cohen's d (vs. 50)
Earphones	58.75 (25.11)	0.35
Spin Mop	53.97 (25.08)	0.15
Fan	48.52 (25.67)	-0.06
Binoculars	57.49 (25.06)	0.30
Average	54.61 (16.17)	0.29

² We did not use an attention check in this study. While we cannot exclude the possibility that some participants were inattentive in this study, results accorded with our other studies in which we used an attention check.

Discussion

This high-powered study shows that there is a self-other effect in perceived object usefulness. This is a sharp test of the effect: even in a direct comparison with others, people think that most people would find the same object more useful than they themselves would. The effect was present for three of the four items in this study, and in later studies we examine heterogeneity across objects more closely. In our next studies, we probe the robustness and boundaries of the perceived usefulness discrepancy.

Study 2 – Replicating with a Very New Object

The objective of this study was to test this self-other discrepancy in perceived usefulness between-subjects. One possible alternative explanation for this effect is that perhaps people naturally imagine a typical *user* of the object when they imagine others instead of just a generic *other*. To cut against this possibility, we intentionally described the object in this study as a novel object because there would be no established user base.

Methods and Results

We recruited 200 CloudResearch-approved (Litman et al. 2017) U.S. American participants from MTurk (108 males, 90 females, 2 other; $M_{age} = 39.05$, $SD_{age} = 12.28$). No participants failed the attention check by replying "Yes" to the question "Have you ever been on Jupiter" (a "catch trial" as in Paolacci et al. 2010). Participants were randomly assigned to one of two conditions, between-subjects (self and other). Participants were presented the following object:

A new type of blender, the XR-400 (cost: \$40) will be launched next month by its producer, Lenton Technologies. It has a few features never adopted by such a blender, and therefore it is a completely new product.

Participants were then asked either whether they or the typical person would find it useful, measured on 4 items (useful, beneficial, helpful, worthwhile) anchored at 1 (*not at all*) and 7 (*very much*). The four items showed very high reliability ($\alpha = 0.97$) and were therefore averaged.

Participants believed that others ($M = 5.32$, $SD = 1.06$) would find the same object more useful than they would ($M = 4.89$, $SD = 1.41$, $t(198) = 2.42$, $p = .016$, $d = 0.34$).

Discussion

This study shows that people think others would find the same novel object more useful than they would, in a between-subjects design. We replicated this between-subjects effect using different objects in Study W1. In addition to our use of a novel object in this study, the SOM also features additional evidence that indicates this effect cannot be solely due to participants imagining *users*. In Study W2, we tested whether the effect differed when individuals imagined an average other vs. “typical [object] user” and found that they were in fact sensitive to this distinction rather than conflating the two terms. In Study W5, we asked participants specifically who they thought of, and while a minority of participants indicated a “typical user,” the effect still arose outside that subsample of participants. Thus, this effect cannot be solely attributed to participants imagining *users*.

Study 3 – Generalizing the Effect across Multiple Target Others

Do people overestimate product usefulness for every other person they meet, or is it moderated by how well they know the target other? The objective of this study was to test whether the effect varied across different target others.

Method

We recruited 795 participants from MTurk. Seven participants failed the attention check at the end of the survey, by replying “Yes” to the question “Have you ever been on

Jupiter?” This left 788 valid participants (395 males, 388 females, 1 other, 4 preferred not to disclose, $M_{age} = 38.23$, $SD_{age} = 11.86$). Participants were randomly assigned to one of seven between-subjects conditions (self, average MTurker, best friend, neighbor, celebrity, work or study colleague, family member). Participants were shown the object (earphones), asked to imagine the target person, and then asked to evaluate how useful the target would find the object on four items: useful, beneficial, worthwhile, and helpful, all measured on items anchored at 1 (*not at all*) and 7 (*very much*), which were averaged ($\alpha = .97$). Then, they were asked how well they knew the person they imagined and how psychologically close they felt to the person they imagined, both on items anchored at 1 (*not at all*) and 7 (*very much*).

Results

Usefulness. A one-way ANOVA found a significant effect of target ($F(6, 781) = 4.47$, $p < .001$, $\eta^2 = .033$). The self condition had the lowest mean value of all ($M = 4.50$, $SD = 1.81$) and was significantly lower than the MTurker condition ($M = 5.22$, $SD = 1.20$, $t(781) = -3.52$, $p = .008$, $d = 0.49$) and the colleague condition ($M = 5.22$, $SD = 1.17$, $t(781) = -3.68$, $p = .005$, $d = 0.50$), but not significantly different from the neighbor condition ($M = 4.95$, $SD = 1.43$, $t(781) = -2.25$, $p = .270$, $d = 0.31$), the best friend condition ($M = 4.63$, $SD = 1.50$, $t(781) = -0.69$, $p = .993$, $d = 0.09$), the family member condition ($M = 4.75$, $SD = 1.74$, $t(781) = -1.24$, $p = .879$, $d = 0.17$), or the celebrity condition ($M = 4.62$, $SD = 1.34$, $t(781) = -0.64$, $p = .996$, $d = 0.08$, see Table 3).

Knowledge. We excluded the self condition for this analysis³. A one-way ANOVA showed a significant effect of target on knowledge ($F(5, 677) = 70.60$, $p < .001$, $\eta^2 = .343$). Knowledge was higher for the best friend and family member compared to the MTurker, colleague, neighbor, or celebrity (see Table 3). Except for the celebrity, people made

³This decision was not preregistered.

usefulness judgments in line with their perceived knowledge of the target (greater perceived usefulness for less-known targets).

Psychological closeness. We excluded the self condition for this analysis⁴. A one-way ANOVA showed a significant effect of target on closeness ($F(5, 677) = 55.30, p < .001, \eta^2 = .290$). Closeness was higher for the best friend and family member compared to the MTurker, colleague, neighbor, or celebrity (see Table 3). Except for the celebrity, people made usefulness judgments in line with the psychological closeness of the target (greater perceived usefulness for farther targets).

Table 3
The impact of target on judgments, study 3.

Outcome	Condition <i>M</i> (SD)						
	Self (n=105)	MTurker (n=101)	Colleague (n=115)	Neighbor (n=110)	Best Friend (n=126)	Family (n=102)	Celebrity (n=129)
Usefulness	4.50 (1.81)	5.22 (1.20)	5.22 (1.17)	4.95 (1.43)	4.63 (1.50)	4.75 (1.74)	4.62 (1.34)
Knowledge	2.67 (1.92)	3.23 (1.86)	4.15 (1.68)	3.65 (1.66)	5.63 (1.65)	5.79 (1.68)	2.46 (1.75)
Closeness	2.76 (1.92)	3.58 (1.87)	4.03 (1.60)	3.44 (1.68)	5.39 (1.59)	5.51 (1.74)	2.55 (1.71)

Note. We believe the knowledge/closeness questions were confusing when they were about oneself and exclude the Self observations from our analyses for those variables. With the exception of the Celebrity, targets who were more “othered” (MTurker, Colleague, Neighbor) were expected to find greater usefulness than targets who were closer (Best Friend, Family Member).

Discussion

Targets that people reported knowing less well (MTurker, colleague, neighbor) were expected to find greater usefulness than targets who were closer (best friend, family member). The one exception was the celebrity, whom participants felt would not find the earphones that useful despite feeling the celebrity was a stranger. This study shows that several target others are considered as finding the same object more useful, and it suggests that targets that are either better known or psychologically closer are less susceptible to this usefulness effect. We

⁴This decision was not preregistered. In both cases, we excluded the self condition because our hypothesis pertained to knowledge of and psychological closeness to other people, and it was clear these items were not interpreted the same way in the self condition.

found converging evidence of this in Study W3, in which the effect was attenuated when thinking of a best friend (vs. generic other). Thus, we find that the effect generalizes to several specific others, but we also delineate very close others for whom the effect is weaker.

Study 4 – Self-Other Differences on the Material Values Scale

What underlies the belief that others think the same objects are more useful? In this study, we test the first step of our proposed causal chain – whether individuals believe others are more materialistic than they are.

Method

We recruited 199 participants from MTurk. Thirteen participants failed the attention check at the end of the survey, by replying “Yes” to the question “Have you ever had a fatal heart attack?” (Paolacci et al. 2010). This left 186 valid participants (101 males, 85 females, $M_{age} = 39.92$, $SD_{age} = 12.30$). Participants were randomly assigned to one of two conditions, self and other. In the self condition, they completed the Material Values Scale (MVS) 9-item short scale measuring materialism (Richins 2004), in which each item is anchored at 1 (*not at all*) and 5 (*very much*). In the other condition, they completed a modified version of the MVS, such that “I” was replaced with “the average MTurker.” For example, while the first item of the MVS was presented as “I admire people who own expensive homes, cars, and clothes” in the self condition, it was modified into “the average MTurker admires people who own expensive homes, cars, and clothes” in the other condition. In both conditions, the order of the items was randomized.

Results

The scale showed high reliability ($\alpha = .86$), so we averaged the items (the fourth item was reverse-coded first). An independent-samples t-test showed that participants rated themselves ($M = 2.75$, $SD = 0.86$) as significantly less materialistic than the average MTurker

($M = 3.24$, $SD = 0.64$, $t(184) = -4.41$, $p < .001$, $d = 0.65$). Similar results were obtained in exploratory analyses with the three subscales in which the MVS is typically divided (success, centrality, and happiness) and are reported in the SOM.

Discussion

This study shows that participants rate themselves as less materialistic than the average MTurker, using a validated instrument for measuring materialism. We also replicated this finding using target manipulated within-subjects in Study W4.

Study 5 – Testing Parallel Mediation

It is possible that perceived materialism is not the only mediator of the present effect. The objective of this study was to test the mediating roles of perceived materialism and perceived need in explaining the self-other discrepancy in perceived usefulness.

Method

We recruited 601 participants from the United States on Prolific. One participant failed the attention check at the end of the survey by replying “Yes” to the question “Have you ever been on the planet Venus” and was excluded from analyses. This exclusion left 600 participants (196 males, 391 females, 3 other, 1 preferred not to disclose, 9 non-binary people; $M_{age} = 35.32$, $SD_{age} = 14.22$). Participants were randomly assigned to one of six conditions in a 2 (target: self, other) x 3 (occasion: control, party with close friends, party with rich friends) between-subjects design. Participants were shown a Louis Vuitton bag. In the control condition, we did not mention any specific occasion or event in which the bag might be used, as in our other studies. In the other two occasion conditions, participants imagined they were invited to a party with close friends, or to a party with rich friends. We hypothesized that the need for the Louis Vuitton bag would be higher when someone would be invited to the party with rich friends than in the other conditions. In the self condition, participants responded

from their own perspective, whereas in the other condition, they reported what they thought about someone else, who, in this study, was named L.K.

Participants rated how useful, helpful, beneficial, and worthwhile the product would be for them or for L.K. on four items anchored at 1 (*not at all*) and 7 (*very much*). These items showed a high reliability ($\alpha = .95$), so we averaged them into our measure of perceived usefulness. Then, they were asked how much they thought they or L.K. needed the product, on a scale anchored at 1 (*not at all*) and 7 (*very much*). Finally, they were asked to complete the nine-item Material Values Scale (MVS; Richins 2004; $\alpha = .87$), either for themselves or in their opinion regarding L.K.

Results

Usefulness. A two-way ANOVA found main effects of target ($F(1, 594) = 157.09, p < .001, \eta^2 = .206$) and occasion ($F(2, 594) = 4.47, p = .012, \eta^2 = .012$), but no interaction ($F(2, 594) = 0.94, p = .391, \eta^2 = .002$). Participants believed that L.K. would find the product more useful ($M = 4.67, SD = 1.27$) than they would ($M = 3.18, SD = 1.64, d = 1.03$). Participants also believed that the product would be more useful in the party with rich friends ($M = 4.05, SD = 1.73$) compared to the party with close friends ($M = 3.84, SD = 1.58, t(594) = 2.27, p = .061, d = 0.29$) or the control condition ($M = 3.75, SD = 1.66, t(594) = 2.85, p = .013, d = 0.23$). Results per occasion are available in Table 4.

Materialism. A two-way ANOVA found a main effect of target ($F(1, 594) = 223.84, p < .001, \eta^2 = .272$), but no effect of occasion ($F(2, 594) = 1.14, p = .322, \eta^2 = .003$) nor interaction ($F(2, 594) = 1.70, p = .184, \eta^2 = .004$). Participants believed that they ($M = 2.68, SD = 0.80$) were less materialistic than L.K. ($M = 3.56, SD = 0.64, p < .001, d = 1.29$).

Need. A two-way ANOVA found a main effect of target ($F(1, 594) = 69.56, p < .001, \eta^2 = .104$), but no effect of occasion ($F(2, 594) = 1.11, p = .332, \eta^2 = .003$) nor interaction

($F(2, 594) = 0.24, p = .790, \eta^2 = .001$). Participants believed that L.K. would need the product more ($M = 2.74, SD = 1.60$) than they would ($M = 1.75, SD = 1.31, p < .001, d = 0.68$).

Parallel mediation. A parallel mediation analysis using PROCESS (5000 bootstraps; Hayes 2013) with target as the independent variable, perceived need and materialism as mediators, and usefulness as the dependent variable found indirect effects of both perceived need (ab (SE) = 0.45 (0.06), 95% CI [0.34, 0.57]) and materialism (ab (SE) = 0.38 (0.08), 95% CI [0.23, 0.54]), indicating that although perceived need accounted for part of the effect of target, the effect through perceived materialism explained unique variation in perceived usefulness. As mediation analysis has several limitations, we caution the reader against a univocal interpretation of these findings, which are just one of the many possible paths. We encourage the reader to consider all the evidence we present in this paper. This mediation analysis is consistent with the rest of the evidence.

Table 4
The impact of target on judgments, Study 5.

Outcome	Control M (SD)			Close Friend Party M (SD)			Rich Friend Party M (SD)		
	Self (n=102)	Other (n=98)	d	Self (n=98)	Other (n=99)	d	Self (n=110)	Other (n=80)	d
Usefulness	3.11 (1.71)	4.45 (1.30)	0.91	3.13 (1.56)	4.60 (1.21)	1.00	3.34 (1.67)	5.08 (1.24)	1.18
Materialism	2.71 (0.87)	3.57 (0.67)	1.19	2.66 (0.69)	3.45 (0.61)	1.10	2.65 (0.80)	3.67 (0.63)	1.42
Need	1.58 (1.16)	2.71 (1.62)	0.78	1.82 (1.23)	2.76 (1.39)	0.64	1.89 (1.53)	2.83 (1.83)	0.64

Discussion

This study sheds light on the psychological processes driving our effect by showing both perceived materialism and perceived need mediate. The SOM also contains further evidence of the materialism process. Study W5 replicated our finding of mediation by materialism using a single-item global measure of perceived materialism. Studies W6-7 provide additional process evidence by manipulating perceived target materialism (i.e., asking

people how useful people with varying levels of materialism would find objects) rather than relying solely on the correlational basis of statistical mediation (Spencer, Zanna, and Fong 2005).

Study 6 – Object Ownership Moderates the Self-Other Usefulness Effect

What happens to estimations of object usefulness if people own the object in question?

The objective of this study was to test whether ownership moderates our effect.

Method

We initially recruited 501 participants from MTurk. Five participants failed the attention check at the end of the survey, by replying “Yes” to the question “Have you ever been on the planet Jupiter?” This left 496 valid participants (244 males, 247 females, 3 other, 2 preferred not to disclose, $M_{age} = 40.56$, $SD_{age} = 12.05$). Participants were randomly assigned to one of two conditions, self and other. Then, they randomly completed three blocks of questions, about object usefulness, materialism, and usage. In the self condition, they completed the MVS 9-item short scale measuring materialism (Richins 2004), with items anchored at 1 (*not at all*) and 5 (*very much*). In the other condition, they completed a modified version of the MVS, such that “I” was replaced with “the average MTurker.” For example, while the first item of the MVS was presented as “I admire people who own expensive homes, cars, and clothes” in the self condition, it was modified into “the average MTurker admires people who own expensive homes, cars, and clothes” in the other condition. In both conditions, the order of the items was randomized. After reverse-coding the one item for which it was needed, this scale showed high reliability ($\alpha = 0.90$), so we averaged the items into a materialism index.

Participants were also asked to rate how useful, beneficial, helpful, and worthwhile they or the average MTurker would find an iPhone. These four items were each rated on a

scale ranging from 1 (*not at all*) to 7 (*very much*) and showed good reliability ($\alpha = 0.96$), so we averaged them into a usefulness index. Participants also completed two yes/no ownership questions, indicating whether they were iPhone users and whether they were smartphone users.⁵

Results

Materialism. Participants believed that they ($M = 2.62$, $SD = 0.93$) were less materialistic than others were ($M = 3.20$, $SD = 0.70$, $t(494) = 7.80$, $p < .001$, $d = 0.70$).

Usefulness. Participants also believed that others ($M = 5.58$, $SD = 1.27$) would find the iPhone more useful than they would ($M = 5.07$, $SD = 1.62$, $t(494) = 3.93$, $p < .001$, $d = 0.35$).

Mediation. A mediation analysis with PROCESS for SPSS (5000 bootstraps) indicated that the relationship between target and usefulness was mediated by the extent to which participants believed others were more materialistic than they were (ab (SE) = 0.21 (0.06), 95% CI [0.10, 0.34]).

Moderation. About 54% percent of participants (264/496) indicated that they were iPhone owners, whereas about 46% (229/496) indicated that they were not iPhone owners. An ANOVA using target, iPhone ownership, and their interaction as independent variables and the usefulness index as the dependent variable showed a significant main effect of target ($F(1, 489) = 14.60$, $p < .001$, $\eta^2 = .027$), a significant main effect of ownership ($F(1, 489) = 19.42$, $p < .001$, $\eta^2 = .036$), and a significant target by ownership interaction ($F(1, 489) = 20.49$, $p < .001$, $\eta^2 = .038$), such that when participants indicated that they were not iPhone owners, they believed that others ($M = 5.59$, $SD = 1.29$) would find the same object more useful than they would ($M = 4.54$, $SD = 1.70$, $p < .001$, $d = 0.76$). However, iPhone owners believed that others ($M = 5.57$, $SD = 1.25$) would find the same object similarly (i.e., not necessarily

⁵ We had also preregistered an analysis using general smartphone ownership but we opted against conducting the analysis because only 14 valid participants indicated that they were not smartphone users, which did not leave a large enough cell size for us to draw useful inferences from that analysis.

equivalently, but not significantly differently) useful as they would ($M = 5.66$, $SD = 1.24$, $p = .955$, $d = 0.06$; see Figure 2).

Follow-up Moderated Mediation Analysis. To assess whether the perceived materialism process was inhibited by ownership, we ran a moderated mediation analysis⁶ with PROCESS for SPSS (5000 bootstraps, model 59, allowing for moderation of iPhone ownership on any path), which indicated the direct effect of target on usefulness was moderated by ownership ($b = 1.07$, $t(487) = 4.08$, $p < .001$), driving the total interaction effect. However, the indirect effect of target on usefulness through materialism was not conditional on ownership status (index of moderated mediation (SE) = 0.07 (0.12), 90% CI [-0.13, 0.27]). That is, the self-other effect in perceived usefulness was driven by materialism to a similar degree for both owners (ab (SE) = 0.17 (0.07), 95% CI [0.06, 0.32]) and non-owners (ab (SE) = 0.24 (0.10), 95% CI [0.05, -0.45]) and cannot solely be explained by the ownership status of our participants. As mediation analysis has several limitations, we caution the reader against a univocal interpretation of these findings, which are just one of the many possible paths. We therefore encourage the reader to consider all the evidence we present in this paper.

Figure 2. Self-other Usefulness Effect but Not Materialism Bias is Moderated by Ownership Status, Study 6.

Note. Errors bars are 95% confidence intervals.

⁶We had preregistered a mediation analysis but not a moderated mediation analysis. The moderated mediation analysis allows us to test a model taking into account all the variables measured and manipulated in our study.

Discussion

This study replicates the self-other usefulness effect and the mediating role of perceived materialism. Further, this study adds a practically interesting moderator: being an object owner reduces the self-other effect. Notably, while ownership does mitigate the usefulness effect, it does not do so by affecting perceived materialism.

Study 7 – Process-relevant Moderation

In previous studies, we noticed that the extent of usefulness overestimation exhibited some heterogeneity across objects. In this study, we identify an object characteristic that affects the magnitude of this effect. Recall that materialists are more likely to “attempt to engage in the construction and maintenance of the self through the acquisition and use of products” (Shrum et al. 2013, p. 1180). Materialism motivates the consumption (i.e., use) of products for functional reasons, for self-expression, for self-enhancement, or for feelings of control (Richins 1994). Materialists can find several sources of usefulness in products, but some may be more stereotypically materialistic than others. Materialistic people are supposed to be drawn to certain kinds of objects, such as “the latest fads” (Fournier & Richins, 1991) and are likely to indicate, for example, electronics and jewelry as exemplars of materialistic purchases (Van Boven et al., 2010). Evidently, individuals have a sense of which purchases are “more materialistic,” which we term materialistic values alignment. We expect objects to be considered aligned with materialistic values not strictly because they are *material* (although we expect materialistic values alignment and experientiality to be negatively correlated, experiences can also serve materialistic values; Shrum et al. 2014). For example, so-called “experiential products” (Guevarra & Howell, 2014) are material items purchased with experiential goals in mind, like a water bottle for enjoying the outdoors or bronzer for personal enjoyment. But even the spectrum of materiality/experientiality is not sufficient to

capture “how one consumes, not what one consumes” (Holt 1995, p.14), which is critically what underlies the materialistic consumption style (indeed, the bronzer is somewhat more materialistic values aligned than the bottle even though it is less material). Thus, materialistic values alignment is the most suitable object dimension for testing our perceived materialism process via moderation, and we accordingly differentiate it from materiality/experientiality.

If people believe others have more use for the same objects because they are more materialistic than they are, then this effect should be particularly strong for objects considered appreciated by materialistic people (i.e., highly materialistic values aligned objects), but it should be attenuated for objects not appreciated as much by materialistic people (i.e., less materialistic values aligned objects). Studies 7 and W8 test this notion.

Pretest

We conducted a pretest to illustrate the meaning of alignment with materialistic values and to identify highly MV-aligned and less MV-aligned objects. We reasoned that, since people hold pre-existing notions about materialists, they could have similar notions about which objects are especially representative of materialistic values and useful to materialistic people. We also included a measure of object “materiality” (i.e., where they are positioned on the material-experiential continuum; Goodman and Lim 2018) to differentiate between these two similar terms. Although we do not believe these to be orthogonal constructs, we do believe these are conceptually distinguishable- material (vs. experiential) objects are more often used to pursue material values, but not all material objects are equally efficacious for this purpose, nor are all experiential objects ineffectual for this purpose.

Method. We recruited 100 participants (63 males, 37 females, mean age = 34.2) on MTurk. Participants were shown sixteen objects, in randomized order. For each object, participants were asked four questions, three related to how aligned the object was with materialistic values, all on seven-point scales (“Is this product representative of materialistic

values?"; "How much would a materialistic person use this product?"; "Is this a materialistic product?" anchored at 1 = Not at all; 7 = Very much), and one related to how material (vs. experiential) they considered each object ("Is this product a material or experiential product?" anchored at 1 = "Definitely material"; 4 = "Equally material and experiential"; 7 = "Definitely experiential").

Results. Expected use by a materialistic person, representativity of materialistic values, and ratings of object materialism all correlated positively, significantly and strongly (see Table W10 in the Web Appendix). These three measures correlated negatively and less strongly, but still significantly, with the measure of object materiality-experientiality. We combined the three MV-alignment items into a multi-item scale (α 's are available in Table 7) and plotted each object's MV-alignment against its experientiality, as seen in Figure 3. One can tell these constructs are related (average $r(98) = -.47$), but we strategically chose objects from this pretest to use in the main study to provide a stringent test of our hypothesis.

Stimuli selection. We would expect the self-other effect in perceived usefulness to be stronger for more (vs. less) MV-aligned objects. Ideally, we would test our hypotheses with objects similar on experientiality but different on MV-alignment, and this imperative guided our stimuli selection. We would expect our effect to be stronger for the e-cigarette, tablet, and luxury handbag than for the bottle, dictionary, and family vacation. The e-cigarette/dictionary and tablet/bottle, while matched on experientiality, differ on our key construct of MV-alignment. Thus, these four objects allow a good test of our core hypothesis. We also included the luxury handbag as it is a prototypically MV-aligned object, and we included the family vacation because it has bearing on a possible alternative explanation for some of the less MV-aligned objects used in our studies.

Specifically, analogous to our hypothesized below-average effect in perceived materialism, individuals could exhibit an independent above-average effect on the usefulness

of objects that are deemed socially desirable to purchase, which would provide a possible competing account for the attenuation of the effect if the less MV-aligned objects also happen to be more socially desirable. The family vacation provides a useful test case of a socially desirable, high experientiality, but low MV-alignment object. If our theory is correct, we would expect an attenuation of the self-other effect for the family vacation, but not necessarily to a greater degree than that observed for, particularly, the dictionary (which is equal in MV-alignment), whereas a social desirability above-average effect would predict, beyond the attenuation for being less MV-aligned, a reversal of the self-other effect for the family vacation.

Table 7
Results of the pretest, study 7.

Object	Cronbach's α	M (SD)	
	Materialistic Values	Alignment	Experientiality
Luxury bag	.90	6.34 (1.05)	1.88 (1.57)
Luxury pen	.89	6.20 (1.15)	2.06 (1.63)
Phone	.91	5.41 (1.32)	2.87 (1.59)
TV	.93	5.04 (1.54)	3.39 (1.65)
Tablet	.93	5.00 (1.50)	3.35 (1.68)
Laptop	.95	4.49 (1.85)	3.32 (1.73)
E-cigarette	.95	4.34 (1.69)	4.18 (1.82)
Bronzing cream	.95	4.27 (1.85)	3.93 (1.95)
Laser pointer	.95	4.12 (1.91)	3.30 (1.87)
Plastic bottle	.93	3.78 (1.69)	3.33 (1.86)
Luxury vacation	.89	3.40 (1.80)	6.04 (1.46)
Science magazine	.93	3.22 (1.66)	4.52 (1.76)
Music	.93	3.06 (1.59)	5.02 (1.66)
Family vacation	.85	3.02 (1.55)	6.05 (1.52)
Dictionary	.95	3.02 (1.89)	4.04 (1.93)
Book	.93	2.99 (1.77)	4.47 (1.92)

Note. Objects in bold are used in the main study.

Figure 3. Materialistic Values Alignment vs. Experientiality

Study 7 – Moderation by Materialistic Values Alignment

Method

We recruited 403 participants from Amazon Mechanical Turk (175 females, 228 males, mean age = 36.8). Participants were randomly assigned to one of two conditions, self and other. In both conditions, participants were shown six objects in randomized order. Three were more MV-aligned objects (tablet, e-cigarette, luxury handbag) and three were less MV-aligned (bottle, dictionary, family vacation), drawn from our pretest. Participants rated how useful they or a random MTurker would find each object, anchored at 1 (*not at all*) and 7 (*very much*).⁷ We averaged the measures for the three more MV-aligned and for the three less

⁷ In Studies 2, 3, 5, and 6, we used a four-item usefulness scale. In this study, Study 8, Study W1, and Studies W3-W9, we measured usefulness using a single item and expected frequency of use using a single item, which cohered extremely well with the usefulness item either separately or as part of a two-item composite scale. In Study 1 and Study W2, we used only the single item usefulness scale. Results replicate across all measurement approaches.

MV-aligned objects. Finally, they also responded to an item asking about perceived materialism, as in previous studies.

Results

Perceived Materialism. An independent-samples *t*-test showed that individuals ($M = 3.40$, $SD = 1.49$) believed others were more materialistic ($M = 4.09$, $SD = 1.21$, $t(401) = 5.15$, $p < .001$, $d = 0.51$).

Usefulness. A repeated-measures ANOVA with condition as a between-subjects factor and object as a within-subjects factor showed a significant main effect of object ($F(1, 401) = 138.75$, $p < .001$, $\eta^2 = .097$), indicating more MV-aligned objects were viewed as less useful on average; a significant main effect of condition ($F(1, 401) = 30.85$, $p < .001$, $\eta^2 = .043$), revealing the hypothesized self-other effect; and a significant mixed interaction between condition and object, as hypothesized ($F(1, 401) = 31.41$, $p < .001$, $\eta^2 = .022$). For more MV-aligned objects, individuals ($M = 3.21$, $SD = 1.23$) believed the objects would be more useful for others ($M = 4.16$, $SD = 1.15$, $t(401) = 7.97$, $p < .001$, $d = 0.79$), but for less MV-aligned objects, the effect was attenuated to the point that there was no significant difference between usefulness for themselves ($M = 4.43$, $SD = 1.36$) vs. others ($M = 4.59$, $SD = 1.13$, $t(401) = 1.27$, $p = .583$, $d = 0.13$). Results per object are reported in Table 8, and overall results can be seen in Figure 4.

Table 8

The impact of target and materialistic values alignment on usefulness judgments, Study 7.

Object	Condition M (SD)		Other-Self (Cohen's d)
	Self ($n=203$)	Other ($n=200$)	
Tablet	5.20 (1.80)	5.72 (1.33)	0.32
E-cigarette	1.75 (1.65)	2.83 (1.90)	0.60
Luxury handbag	2.68 (2.13)	3.93 (1.82)	0.63
Average (more materialistic)	3.21 (1.23)	4.16 (1.15)	0.79
Bottle	5.43 (1.72)	5.46 (1.34)	0.02
Dictionary	3.65 (2.07)	3.72 (1.78)	0.03
Family vacation	4.21 (2.09)	4.59 (1.76)	0.20
Average (less materialistic)	4.43 (1.36)	4.59 (1.13)	0.13

Figure 4. Self-other Usefulness Effect is Moderated by Materialistic Values Alignment of the Object, Study 7 and Study W8.

Note. Errors bars are 95% confidence intervals.

Discussion

This study showed that people overestimate how useful objects are to others particularly if these objects are considered highly aligned with materialistic values. When objects are considered less MV-aligned, the effect is significantly smaller and no longer significant. These results corroborate our theorizing and lend more credence to the notion that the self-other effect in perceived usefulness is due to a self-serving bias in materialism. Since others are perceived to be more materialistic, people think others will find more use from more MV-aligned objects, but to a lesser degree from less MV-aligned objects. In Study W8, we generalize our results to a different set of objects.

Study 8 – Testing a Downstream Consequence (Overestimation of Other People’s WTP) and Ruling out an Alternative Self-Serving Bias

In this study, we tested a downstream consequence of the effect with participants from outside the United States. We also aimed to rule out a possible alternative self-serving bias – perceived sophistication. Consumer sophistication is the possession and use of the necessary traits and abilities to facilitate efficient decisions (Titus & Bradford, 1996; Wu et al., 2011). Sophisticated consumers are expected to put forth more information search effort in pursuit of

better consumption outcomes (Liu, 2010) and are more demanding (Ang & Tan, 1985).

Relatedly, one might describe these sophisticates as “maximizers,” who are focused on making what could be considered the objectively best choice (Cheek & Schwartz, 2016), or as “picky,” which involves having narrow preferences in choices (Cheng et al., 2021). Just as materialism is often paired with negative perceptions, and individuals are motivated to believe they are less materialistic than others, sophistication is often paired with positive perceptions (North & Hargreaves, 1997), and individuals could be motivated to believe they are more sophisticated than others. Thus, one possibility we wanted to rule out was that individuals may believe others find objects more useful because they perceive others as less sophisticated (with less discerning tastes).

Method

We recruited 414 students in a French business school as participants for course credit (166 males, 245 females, 3 other, $M_{age} = 20.31$, $SD_{age} = 1.78$). Participants were randomly assigned to one of three conditions: self, other, and sophisticated other. In the self condition, they reported the usefulness of four objects presented in randomized order (Q-Tips cotton swabs; Sharpie markers; Listerine mouthwash; Scotch-Brite sponges). In the other condition, they were asked to guess the preferences of “participant number 85 - who previously participated in a previous survey.” Because we expected participants to consider themselves more sophisticated than generic others, we aimed to manipulate sophistication up in the sophisticated other condition. In this condition, they were asked to guess the preferences of “participant number 85 - who participated in a previous survey. We tested Participant number 85 on their sophistication as consumer. Sophisticated means that they were experienced and selective in what they buy. Participant number 85 scored **very high (9,5 out of 10)** on how much they were sophisticated. It was the highest score out of all the participants we tested.”

Participants reported how useful they thought each object would be to them (or to participant number 85) on a scale anchored at 1 (*not at all*) and 7 (*very much*). They also indicated their own or their estimate of the target consumer's WTP per object on a slider from €0 to €20 (€0 to €10 for markers), which we expected to serve as a converging measure (Jung et al. 2020). Finally, we measured how sophisticated, selective, and exclusive they perceived themselves or their target to be, all anchored at 1 (*not at all*) and 7 (*very much*); we averaged these three items into a perceived sophistication scale ($\alpha = .74$).

Results

Sophistication. A one-way ANOVA with condition as a between-subjects factor and perceived sophistication as dependent variable showed that the manipulation worked as intended ($F(2, 411) = 13.30, p < .001, \eta^2 = .061$). The sophisticated other ($M = 4.54, SD = 1.36$) was judged as more sophisticated than the generic other ($M = 3.97, SD = 0.98, t(411) = 4.18, p < .001, d = 0.50$). The sophisticated other was considered similarly sophisticated as the participants who rated themselves ($M = 4.61, SD = 1.05, t(411) = -.53, p = .856, d = -0.06$). This confirmed the success of our manipulation in the sophisticated other condition. The generic other was considered less sophisticated than the participants who rated themselves ($t(411) = -4.72, p < .001, d = -0.57$).

Usefulness. A repeated-measures ANOVA with condition as a between-subjects factor, object as a within-subjects factor, and usefulness as dependent variable revealed a significant main effect of object ($F(3, 1233) = 169.86, p < .001, \eta^2 = .200$), showing that some objects have higher usefulness than others; a significant main effect of condition ($F(2, 411) = 9.70, p < .001, \eta^2 = .013$), as hypothesized; and a significant mixed interaction of object and condition ($F(6, 1233) = 8.39, p < .001, \eta^2 = .020$), suggesting some heterogeneity in the effect (primarily due to the sponges), but the pattern was consistent across the remaining objects (see Table 9 for means per object). Overall, individuals ($M = 4.28, SD = 0.97$) believed that

generic others would find the same objects more useful ($M = 4.64$, $SD = 0.92$, $t(411) = 3.03$, $p = .007$, $d = 0.38$). Participants also believed that a sophisticated other would find the same objects more useful ($M = 4.79$, $SD = 1.07$, $t(411) = 4.28$, $p < .001$, $d = 0.50$) than they themselves would, and that the sophisticated other would find the same objects similarly useful as the generic other ($t(411) = 1.24$, $p = .430$, $d = 0.15$). These results are inconsistent with perceived sophistication driving the overestimation of others' object usefulness.

Table 9

The impact of target on usefulness and sophistication judgments, study 8.

Object	Condition M (SD)			Comparison (Cohen's d)		
	Self ($n=139$)	Other ($n=137$)	Soph. Other ($n=138$)	Other- Self	Soph. Other- Self	Soph. Other- Other
Cotton Swabs	4.22 (2.33)	4.47 (1.66)	4.68 (1.83)	0.12	0.22	0.12
Markers	3.29 (1.64)	3.77 (1.50)	4.12 (1.63)	0.31	0.51	0.22
Mouthwash	3.47 (1.78)	4.34 (1.51)	4.69 (1.56)	0.53	0.73	0.23
Sponges	6.15 (1.09)	5.99 (1.24)	5.67 (1.43)	-0.14	-0.38	-0.24
Average Usefulness	4.28 (0.97)	4.64 (0.92)	4.79 (1.07)	0.38	0.50	0.15
Sophistication	4.61 (1.05)	3.97 (0.98)	4.54 (1.36)	0.57	-0.06	0.50

Willingness to pay. A repeated-measures ANOVA with condition as a between-subjects factor and WTP per object as the dependent variable found a between-subjects effect of condition ($F(2, 411) = 22.0$, $p < .001$, $\eta^2 = .046$), a within-subjects effect of object ($F(3, 1233) = 168.07$, $p < .001$, $\eta^2 = .148$), and a mixed interaction ($F(6, 1233) = 7.02$, $p < .001$, $\eta^2 = .012$), suggesting some heterogeneity in the effect (again, primarily due to the sponges), but the pattern was consistent across the remaining objects (values per object are available in Table 10). Overall, individuals ($M = 2.77$, $SD = 1.21$) believed that generic others would be willing to pay more for the same objects ($M = 3.47$, $SD = 1.56$, $t(411) = 3.47$, $p = .002$, $d = 0.50$). Participants also believed that a sophisticated other would be willing to pay more ($M = 4.10$, $SD = 2.10$, $t(411) = -6.62$, $p < .001$, $d = 0.78$). Interestingly, they also estimated the sophisticated other would be willing to pay more than the generic other ($t(411) = -3.14$, $p = .005$, $d = 0.34$). Using sliders ensured we did not have a strongly skewed distribution of

values; we report alternative analyses using values standardized within each object and using ln-transformed values in the SOM, which replicate the results.

Table 10

The impact of target on WTP, study 8.

Object	Condition <i>M</i> (SD)			Comparison (Cohen's <i>d</i>)		
	Self (n=139)	Other (n=137)	Soph. Other (n=138)	Other- Self	Soph. Other- Self	Soph. Other- Other
Cotton Swabs	2.03 (1.87)	3.00 (2.29)	3.80 (3.23)	0.46	0.67	0.29
Markers	2.20 (1.34)	2.64 (1.28)	3.07 (1.77)	0.34	0.55	0.28
Mouthwash	4.03 (2.14)	5.06 (2.68)	6.22 (3.60)	0.43	0.92	0.44
Sponges	2.83 (1.54)	3.17 (1.93)	3.31 (2.14)	0.19	0.26	0.07
Average	2.77 (1.21)	3.47 (1.56)	4.10 (2.10)	0.50	0.78	0.34

Mediation. We ran a mediation analysis with multi-categorical condition as the independent variable, usefulness (averaged across objects) as the mediator, and average WTP as the dependent variable (5000 bootstraps). We found that when employing the self dummy (1 = Self, 0 = else), the indirect effect of self (vs. other) was significant (ab (SE) = -.08 (.04), 95 % CI [-.22, -.01]). When employing the sophisticated other dummy (1 = soph. other, 0 = else), we do not find evidence supporting mediation of the sophisticated other (vs. other) effect (ab (SE) = .03 (.03), 90% CI [-.02, .10]). These results show that usefulness mediates the effect of self (vs. other) on WTP and that sophisticated other and generic other behaved similarly with heightened sophistication failing to drive incremental changes in perceived usefulness. Again, as mediation analysis has several limitations, we caution the reader against a univocal interpretation of these findings, which are just one of the many possible paths. We encourage the reader to consider this analysis embedded within all the evidence we present in this paper.

Discussion

This study provides evidence that overestimating others' object usefulness may contribute to other-WTP overestimation. This study therefore adds a theoretically and

practically relevant consequence to our results: an overestimation of usefulness can lead to overestimation of WTP. Study W9 provides additional evidence of this stream of effects by directly manipulating perceived product usefulness rather than relying solely on the correlational basis of statistical mediation (Spencer, Zanna, and Fong 2005).

All data, analyses, and materials relating to this article are available at https://osf.io/8xy6k/?view_only=36c3e1A7cdfb423b9b32f263c1610731.

General Discussion

In seventeen experiments with U.S. American and French participants, we showed that people believe others would find the same object more useful than they themselves would, and we probe the causes and a consequence of this effect. Using both bootstrapping techniques and a causal chain approach, we demonstrate that a self-serving, biased perception of others' materialism underlies this effect. Perceptions of object need are also a mediator of our effect. We find three theoretically interesting moderators for the present effect: psychological closeness and object ownership, both of which reduce the present effect, and object alignment with materialistic values, which increases the present effect. Finally, we show that our effect is a driver of the overestimation of others' WTP. Our results hold in both U.S. American adult and French student samples, and we provide evidence against the possibility that biased perception of others' sophistication could account for the results. We also rule out a possible alternative explanation based on thinking of typical object users rather than others more generally. These results also have a host of practical implications for improving decisions when people estimate what others think of the same objects in contexts such as proxy decision-making, gift-giving, and negotiation.

Theoretical Contribution

We make several theoretical contributions. First, we document two new consequential effects in how people perceive others. Previous research has studied a host of self-other biases (Frederick 2012; Jung et al., 2020; Polman et al. 2018; Polman, Ziano, Wu, & Van Kerckhove, 2022; Ratner and Kahn 2002), and we add to this literature by showing that people exhibit a self-serving bias in perceived materialism and, more importantly, show that judgment-target (self v. other) changes perceptions of how useful objects are. This finding contributes to research in both consumer behavior (Frederick 2012) and social psychology (Alicke 1985; Jung et al., 2020) by studying the downstream, non-obvious consequences of self-serving, better-than-average biases. These effects are particularly important to various contexts as the usefulness of objects is a crucial input for how people believe others value objects. That is, not only do we document additional self-other biases, but the ones studied in this research have important downstream consequences that may foster future linkages between consumer behavior and social psychology phenomena.

Our findings also complement a rich literature on materialism. Previous literature suggests that people find materialism to be an undesirable trait (Fournier and Richins 1991; Mick 1996; Van Boven et al. 2010). Connecting this literature with that on self-serving biases, we show that people exhibit a self-serving bias in perceived materialism. Beliefs about others' materialism also carry-over into their judgments of how useful objects will be to others, reinforcing the idea that laypeople view materialistic people as having a special relationship with objects in general (Mick 1996; Pandelaere 2016; Richins 2004; Richins and Dawson 1992; Shrum et al. 2013, 2014).

This research also contributes to research about perceived object need, evidencing that self vs. other status contributes to perceived object need. Our results show that people believe that others would need the same objects more than they do and that this effect adds to the

belief that others would find the same objects more useful than they do. We show one antecedent of perceived object need, the target of the judgment. Further, we show a consequence of perceived object need, that is, perceived object usefulness. These results extend those of Polman and colleagues (2022), who mentioned the possibility of a self-other effect on perceived object need for self-enhancement objects but did not find evidence for it.

Finally, we add to research about the social aspects of willingness-to-pay. Specifically, we show that the belief that the same objects are more useful to others is a contributor to the overestimation of others' WTP, an effect for which explanations have remained elusive (Frederick, 2012). In Study 7, we also found that perceived WTP increased with perceived sophistication. It is possible that this boost could be driven by beliefs that sophisticated people are richer than less sophisticated ones (in line with Matthews et al. 2016). These results replicate other-WTP overestimation and moderate it, showing that a personal attribution (in this case perceived sophistication) can increase other-WTP overestimation. This finding is in line with our general theorizing (that other-WTP overestimation depends on biases in how we compare ourselves to others) and is deserving of further investigation in future research.

Practical Implications

Since in many contexts people often estimate others' preferences, this research also has many practical implications for contexts such as proxy decision-making (choices for others), gift-giving, and negotiation.

We expect our findings to be relevant when individuals make decisions for others. Proxy decision-making is common in interpersonal and organizational contexts - parents make decisions for their kids; managers for their employees; brokers for their clients. Many of these decisions involve the acquisition or the usage of an object, such as an office manager choosing a printer on behalf of office employees. It is possible that these decisions are made

more difficult by the overestimation of object usefulness, causing organizational friction, misunderstandings among acquaintances, and overspending.

Relatedly, people can choose suboptimal gifts that do not satisfy the gift receiver as expected. For instance, especially for less well-known others, gift-givers are more likely to choose material over experiential gifts (Goodman & Lim, 2018), despite experiential gifts being more psychologically rewarding (Kumar & Gilovich, 2015; Kumar, Killingsworth, & Gilovich, 2014). Our research offers a complementary explanation for these results: people may be led to material gifts because they believe others are relatively more materialistic.

Negotiations also involve thinking about others. Negotiators may attempt to hide some information about their own preferences for fear that their counterpart will use such information to take advantage of them. Our findings imply this strategy can backfire at times. At least in cases where there is low hostility among negotiating parties, offering more information about one's own preferences (e.g., how useful the item is to oneself) should smooth transactions by reducing mis-estimations of the other party.

Overall, the existence of self-other biases has the potential to create many frictions in interpersonal behavior; our results reiterate the value of learning others' preferences to clarify misperceptions and reduce these biases.

Limitations and Future Research

The present study recruited participants from two different countries (France and USA). While this gives us a modicum of generalizability across Western countries, we did not zoom in into participants from specific demographics or settings, and did not include participants from less-developed, non-Western countries. As such, another fertile avenue for future research is to examine these effects across different participants, specifically those from non-Western cultures.

Researchers have tried to uncover the underpinnings of the endowment effect, appealing to loss aversion, psychological ownership, biased sampling of attributes, and even self-extension as possible factors explaining this valuation discrepancy (Marzilli Ericson and Fuster 2014; Morewedge and Giblin 2015; Villanova 2019). A common thread of this prior work is the belief that buyers and sellers have different representations of the object in question. What if buyers and sellers think of different *people*, with different features, when reporting their willingness-to-pay or willingness-to-accept? If buyers think of how much use they would get from an object when considering how much they would be willing to pay for it, and sellers think of how much use the new owner would get from an object when thinking about how much they would be willing to sell it for, buyers and sellers would then be susceptible to self-other biases in valuation judgments. Buyers, thinking of themselves, may estimate lower usefulness, whereas sellers, thinking of others, may estimate higher usefulness, resulting in the endowment effect. We believe this would be an exciting proposition to test in future research.

Our findings might also motivate additional exploration of how individuals view themselves vs. others in social distributions. Previous research has found that people in several countries tend to underestimate their position in wealth and income distributions (Cruces et al., 2013; Gimpelson & Treisman, 2018; Karadja et al., 2017; Matthews et al., 2016). It is unclear what the roots of this bias are. To the extent that individuals associate materialism with (material) wealth, our results suggest that overestimating others' wealth and income could be caused by the self-serving bias in perceived materialism. Future research may test this notion and possibly whether informing people of others' actual level of materialism is a viable way to give people a more accurate picture of economic inequality.

We outlined a source of the below-average effect in perceived materialism: self-serving motives. But in the literature, another potential source of self-other comparison biases

has been proposed: asymmetrical exposure to others' (vs. one's) behaviors and skills (Deri et al., 2017; Kruger, 1999). People tend to be exposed to a biased sample of others' lives: for instance, they are more likely to be exposed to others in social situations and less likely to be exposed to others in non-social situations, but they have a more complete picture of their own life. Therefore, most people think that they are less social than others, despite considering sociality a positive trait (Deri et al. 2017), or that they are less adept at juggling than others, since they have not been exposed to a lot of juggling (Kruger, 1999). The scholarly debate on which of these is the more likely cause of above- and below-average effects is vast (Alicke, 1985; Brown, 1986, 2012; Deri et al., 2017; Dunning et al., 2005; Ehrlinger et al., 2008; Fabricius & Büttgen, 2013; Kahneman & Tversky, 1996; Logg et al., 2018; Ziano et al., 2020). Although self-serving motives formed the basis for our hypotheses (and we observed underestimation of own materialism in Study 4), it is possible that both sources contribute. Future research may explore this micro-mediation question to test the extent to which the below-average effect in perceived materialism is due to asymmetrical exposure or self-enhancement.

Another possible explanation is that participants exhibit this effect because they believe that they are better than others on some features for which the object is useful (for instance, better breath), and therefore would find an object aimed at improving themselves (such as mouthwash) less useful than others would. However, many objects for which we find our effect are not clearly aimed at self-improvement. For instance, a lawnmower, a cell phone, or a tablet computer are not usually considered self-improvement objects, yet we find sizeable and statistically significant self-other usefulness effects for these objects. This evidence speaks against the notion that above-average effects on a feature for which an object is useful are necessary for our effect to be observed. Study 7 also provides some evidence against this hypothesis, as it shows that an above-average effect in sophistication does not explain our

findings. We found that people do believe that they are more sophisticated than others are, showing a classic better-than average effect. However, the same participants also believed that someone who is very sophisticated would find objects more useful than they themselves would. The results of Study 7 also speak against the notion that feeling above the average in some improvable feature is a *prerequisite* to observing a self-other effect in object usefulness perceptions. However, we did find that perceived need *contributed* to the effect. We treated perceived need for an object as a global appraisal (in symmetry with the global appraisal of usefulness), but future research might consider how different bases for need perceptions (e.g., functional vs. non-functional benefits) could offer additional nuance.

Conclusion

In seventeen experiments, we showed that people tend to believe that others find the same objects more useful than they do. We identified two mediators: the belief that others are more materialistic than us and that others need the same objects more than us. Further, we found that the effect is smaller for individuals who own the object in question, for target others who are well-known by participants (such as their best friend or a family member), and for objects considered less indicative of materialistic values (such as a book, rather than a Louis Vuitton bag). The effect also drives overestimation of others' willingness-to-pay. This research contributes to the understanding of self-other biases, object usefulness, and the social aspects of willingness-to-pay. Practically speaking, our results may have implications about how negotiations, pricing, and interpersonal decisions about objects are made. We hope future research extends our investigation.

Open Practices

Materials, data and analyses are available at

https://osf.io/8xy6k/?view_only=36c3e1A7cdfb423b9b32f263c1610731.

Study 1 was preregistered at <http://aspredicted.org/blind.php?x=sc2wg6>. Study 2 was preregistered at https://aspredicted.org/45L_CTP. Study 3 was preregistered at <https://aspredicted.org/blind.php?x=tq54jz>. Study 4 was preregistered at <https://aspredicted.org/blind.php?x=5kv9ee>. Study 5 was not preregistered. Study 6 was preregistered at <https://aspredicted.org/blind.php?x=mj8a2p>. Studies 7 and 8 were not preregistered. Study W1 was not preregistered. Study W2 was preregistered at <https://aspredicted.org/blind.php?x=h9n9y5>. Study W3 was not preregistered. Study W4 was preregistered at <http://aspredicted.org/blind.php?x=3t7u6k>. Study W5 was preregistered at <http://aspredicted.org/blind.php?x=j54y6i>. Study W6 was preregistered at <http://aspredicted.org/blind.php?x=rw2ts8>. Study W7 was preregistered at <http://aspredicted.org/blind.php?x=dw33kq>. Study W8 was preregistered at <http://aspredicted.org/blind.php?x=xm7se9>. Study W9 was not preregistered.

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