NORTHWESTERN UNIVERSITY

Essays on Social Comparison Processes in Consumer Behavior

A DISSERTATION

SUBMITTED TO THE GRADUATE SCHOOL
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

for the degree

DOCTOR OF PHILOSOPHY

Field of Marketing

By

Chelsea Galoni

EVANSTON, ILLINOIS

June 2019

ABSTRACT

Social comparison is a ubiquitous part of social life. People compare themselves to others to establish and maintain a sense of social hierarchy and structure, to develop and sustain interpersonal relationships, and even to help understand themselves. In this dissertation, I focus on how the referent of social comparison – namely, whether consumers are comparing themselves to close or distant others – can influence subsequent decision processes and consumption behavior. In particular, I examine how social comparison with close versus distant others can have opposing effects on mindsets and divergent thinking (essay 1) and preference for innovative products (essay 2).

Essay 1 explores the apparent tautology in past research that assimilating with others leads to perceptions of greater similarity and that differentiating from others leads to perceptions of greater difference. In essay 1, I show instead that the act of differentiating from close others can sometimes increase perceptions of *similarity*. Across 4 studies, I propose and show that since close others play a defining role in the development and management of consumers' self-concepts, people have an automatic default to assimilate with close others. As a result, thinking about how one is different from close others feels metacognitively difficult. This difficulty in differentiation leads to a rebound effect. In contrast to differentiating from distant others which increases perceptions of differences, the mere act of trying to differentiate from close others leads to increased perceptions of *similarity*. As a result, while differentiating from distant others can evoke a differences mindset and increase divergent thinking, differentiating from close others leads to a similarity mindset and reduces divergent thinking.

In essay 2, I explore when and how marketing materials that encourage consumers to differentiate from others can reduce preference for innovative products. One common strategy that marketers employ to motivate consumers to buy innovative products is to encourage

consumers to "think different." This is because past research has shown that differentiating from others can broaden thinking and, in turn, increase understanding and liking of innovative products. However, I posit this strategy can backfire when the referent is a close other. Past research considered hypothetical or distant others where differentiation feels easy and fluent. In contrast, when people engage in social comparison with close others, assimilating is the default. In this way, differentiating from (vs. merely considering or assimilating with) a close other might feel disfluent. Feeling disfluency around close others is unexpected and may increase the need for the comfort of familiarity, thus reducing consumer preferences for novel and innovative products. Thus, beyond feeling difficult and limiting divergent thinking (essay 1), the disfluency in differentiating from close others increases the need for familiarity, reducing preference for innovative products. We present four studies and a pilot in support of this view and conclude with highlighting the relevance of these findings to social media contexts where differentiation from close others is common.

Keywords: Social Comparison; Relationships; Innovativeness; Identity; Metacognition

ACKNOWLEDGEMENTS

In the last five years I have had the honor of standing on the shoulders of giants.

First, I owe a big thank you to my committee: Kent Grayson, Wendi Gardner, Galen Bodenhausen, and especially my advisor, Aparna Labroo. To Kent, thank you for your thoughtfulness and kindness, and for inspiring me to not only be a better scholar, but a better person. To Wendi, thank you for curiosity and open-mindedness, and for sparking in me an interest in the psychology of interpersonal relationships. To Galen, thank you for being incredibly supportive, and whose patience, precision, and level-headedness I greatly admire. To Aparna, thank you for your passionate guidance, for always encouraging me to be my best self, and for teaching me the value of dedication and hard work.

I am grateful for my incredible mentors and co-authors: Blake McShane, Jeanne Brett, Gregory Carpenter, Hayagreeva Rao, Kelly Goldsmith, Hal Hershfield, and Jimena Ramirez-Marin, each of whom has inspired me to be a better researcher and scholar. Special thanks go to Theodore Noseworthy, who sparked my passion for research methods and inspired me to pursue academia in the first place.

I owe great thanks to my cohort rock stars, Brendan Strejcek, Christopher Cannon, and Jessica Gamlin, who brought joy to the last five years and without whom this would have been a lonely and significantly more difficult journey. To Mom, Dad, Granny, Austin, Davin, and Tysen, for making me who I am today – this is all for you. Last but certainly not least, thank you to Becky Krause, my rock and partner in crime, for reveling in the great days and being the light in the rough ones. Every day is a Bloomin' Onion day with you.

DEDICATION

To Mom, who believed in me when I didn't believe in myself, and who taught me courage,

independence, and the value of education.

To Dad, who taught me ambition, fearlessness, and that the fear of failure just means you're

doing something worthwhile.

To Austin, Davin and Tysen, my brilliant and wickedly talented brothers, who have thickened

my skin yet for whom I will always have a soft spot.

And to Granny, whose zest for life and work ethic made us all the women we are today.

TABLE OF CONTENTS

LIST OF FIGURES

ESSAY 1: THE SIMILARITY TRAP

People often compare with others on a variety of important dimensions including, among others, their success, wealth, attractiveness, intelligence, and goal progress (Brewer, 1996; Clement & Krueger, 2002). Engaging in social comparison serves many important social functions. Comparing the self to others provides people with information regarding their social rank and their unique strengths and abilities relative to others (Garcia, Tor, & Gonzalez, 2006; Garcia, Tor, & Schiff, 2013; Tajfel, 1982). Social comparison can also facilitate positive social interactions with others by helping people clarify their self-concept and maintain a sense of social belonging and identity, helping people better understand who they are, their attitudes, and what they believe (Brewer, 1996; Clement & Krueger, 2002; Fazio, 1979; Festinger, 1954). These functions of social comparison differ on whether they encourage people to assimilate toward or differentiate away from the other (Festinger, 1954; Mussweiler, 2003, 2007; Mussweiler, Rüter, & Epstude, 2004). When people engage in social comparison to establish a sense of social rank, they focus on their unique strengths and abilities relative to others, and therefore how they are different (Colpaert, Muller, Fayant, & Butera, 2015; Garcia et al., 2006, 2013; Tajfel & John, 2016). In contrast, when engaging in social comparison to develop a sense of social identity, people usually focus on whether others share their beliefs and attitudes and how they fit in to the group, and therefore how they are similar to others (Clement & Krueger, 2002; Tajfel & Turner, 1986; Walton, Cohen, Cwir, & Spencer, 2011).

It would seem almost tautological to believe that assimilating with others ought to increase perceptions of similarity, whereas differentiation ought to increase perceptions of difference. However, here we argue for an instance in which differentiating from other people might ironically *increase* perceptions of similarity with the other. To do so, we consider how the referent of social comparison – the social other with whom people are comparing – plays a role

in whether people engage in social comparison and the direction that social comparison will take. Because comparisons with close others are usually more meaningful and personally relevant, people are more likely to engage in social comparison with the people closest to them (Pleban & Tesser, 1981; Tesser & Campbell, 1982). Likewise, the normative way in which people compare with close others is to establish a sense of shared identity and belonging (Brewer & Gardner, 1996; Chen, Boucher, & Tapias, 2006; Slotter & Gardner, 2009). Thus, the normative way in which people engage in social comparison with close others is to assimilate. Indeed, research has shown that close others serve as an automatic standard for social comparison (Mussweiler & Rüter, 2003) and that people default to thinking about similarities rather than differences with close others (Corcoran, Epstude, Damisch, & Mussweiler, 2011).

The idea that thinking about differences between the self and a close other should necessarily increase perceived differences neglects the importance of one critical factor: metacognitive influences. Research in other contexts has shown that the judgments people make are not only impacted by the information available and motivations for the task at hand, but also by the processing experiences that accompany thinking (Schwarz, 2004; Zajonc, 1984). For instance, people infer an argument must be weak when generating support for the argument feels difficult rather than easy (Schwarz, 2004). Past research on social comparison might have assumed that differentiating and assimilating are equally easy or difficult tasks. But if differentiating from close others is not the default, then social comparison that requires differentiation from close others is likely to feel metacognitively difficult. We propose that people will attribute this experience of difficulty to a lack of differences between the self and close others. Thus, this experience of difficulty might boost perceived *similarity* with the other, perhaps even more than assimilating. Further, the difficulty in differentiating and the heightened perceptions of similarity could, in turn, encourage a similarity mindset that extends to subsequent

tasks, reducing the tendency to think about differences more broadly. In this research, we investigate this ironic similarity trap—that engaging in social comparisons that necessitate differentiation from close others can result in people viewing themselves as even more similar to those others, and the downstream consequences of this effect on divergent thinking.

By testing the role of metacognitive inferences in social comparison with close others, we offer many novel theoretical insights. First, we demonstrate that the normative way in which people engage in social comparison with others influences whether differentiating increases or decreases perceptions of similarity. Second, we show that metacognitive inferences are important for determining the outcome of social comparison processes on perceptions of similarity and difference. Third, we show that the effects of social comparison difficulty can carry through to subsequent tasks unrelated to the comparison by creating a similarity mindset. Finally, we show a distinct metacognitive path through which differentiating from close others might increase perceptions of similarity above and beyond the motivation to see close others as more similar to the self. In what follows, we review the literature to develop our theoretical model.

Conceptual Development

Metacognitive Effects of Social Comparison Processes

The judgments people make are influenced by more than just accessible motivations and the declarative information they are presented with when making decisions. Metacognitive experiences of ease or difficulty when processing information can also qualify the judgments people make (Haddock, Rothman, Reber, & Schwarz, 1999; Schwarz, 2004; Schwarz & Clore, 2007; Zajonc, 1984). When processing information feels metacognitively easy, people infer that the target they are considering must be abundant, familiar, highly relevant, or liked a great deal. For instance, the ease with which Chicagoans can name 2 excellent restaurants in the city leads people to infer that there must be an abundance of great restaurants in Chicago – why else would

the examples come to mind so easily? (Schwarz, 2004). This inference of an abundance of restaurants arose because people have an understanding that things that are abundant, familiar, preferred, or recently considered come to mind more quickly and easily than things that are not (Labroo, Dhar, & Schwarz, 2008; Landwehr, Labroo, & Herrmann, 2011). Similarly, when processing information feels metacognitively difficult, people infer that there is a lack of supportive instances or that the target they are considering must be rare, unfamiliar, irrelevant, or disliked. For instance, listing 12 excellent restaurants in Chicago is difficult, and even though listing 12 restaurants provides objectively more examples of excellent dining than listing 2, the difficulty experienced leads people to infer that there must not be many excellent restaurants in Chicago (Schwarz, 2004). In sum, the metacognitive experience of ease or difficulty in processing information can serve to inform subsequent judgments about the target.

An important factor that can influence whether information processing feels metacognitively difficult is whether people are processing information in a manner that is counter to their default strategy of thinking about the target (Aaker & Lee, 2006; Hong & Sternthal, 2010; A. Y. Lee & Aaker, 2004). For example, experts in a domain are advancement-focused and default to processing information sequentially rather than simultaneously. Presenting information simultaneously to experts can thus evoke metacognitive difficulty and reduce liking for and confidence in new domain-relevant products (Hong & Sternthal, 2010). Likewise, people with an advancement focus prefer messages framed in terms of gains rather than losses. Presenting loss information to advancement-focused people can thus evoke metacognitive difficulty and reduce liking for and confidence in the product (A. Y. Lee & Aaker, 2004). Thus, prompting people to consider information in a manner that is against their default strategy can evoke metacognitive difficulty, and people can infer from this experience of difficulty that the information they are considering must be irrelevant or lack support.

We propose an analogous process is likely in the context of social comparison. Specifically, metacognitive difficulty is also likely to arise when the process of engaging in social comparison goes against the default strategy people typically use. If people have a default to assimilate with close others, then situations that prompt people to differentiate from close others (e.g., competition) might lead to experiencing metacognitive difficulty. If metacognitive difficulty leads to inferences that there must be a lack of support for the information, then difficulty in differentiating from close others might lead to a belief that there is a lack of differences between the self and other. Thus, differentiating from (vs. assimilating with or merely considering) a close other might make them appear even more similar to the self.

The Social Functions of Social Comparison

People primarily engage in social comparison with close others to build and maintain relationships and to develop a sense of self. As a result, the primary way in which people engage in social comparison with close others is to assimilate (Brown, Novick, Lord, & Richards, 1992; Mussweiler et al., 2004). Research has overwhelmingly demonstrated that social comparison in close relationships helps define and shape personal identities. When a consumer assesses who they are as a person, they often first focus on who the people closest to them are and how those people think of them (Aron, Aron, Tudor, & Nelson, 1991; Aron, Lewandowski Jr, Mashek, & Aron, 2013; Bless & Schwarz, 2010; Goldstein & Cialdini, 2007; Mussweiler & Rüter, 2003; Slotter & Gardner, 2009). People come to understand themselves through feedback from those with whom they are close (Aron et al., 2013; Cooley, 1902; Mead, 1934), and they infer their own attributes by observing the attributes of close others (Goldstein & Cialdini, 2007). When asked to define the self, the traits that are shared with close others become more accessible in memory than traits the other does not share (Corcoran et al., 2011; Mussweiler & Rüter, 2003b). For example, the traits that a person shares with their mother come to mind more readily when

thinking about their mother than when thinking about the self alone (Baldwin, 1992; Chen, Boucher, & Tapias, 2006). People infer their own attributes by merely observing the actions of close others (Goldstein & Cialdini, 2007), and confuse the skill sets and traits of close others with the skills and traits that they themselves possess (Aron et al., 1991), even on negative appraisal dimensions (Brown et al., 1992; Hinkley, Andersen, Reznik, & Glassman, 1996). Thus, the default when engaging in social comparison with close others is to assimilate. When people are with close others, shared and complementary traits are more salient and accessible than traits that make the person different from close others.

Likewise, research suggests that people are more likely to engage in social comparison with close rather than distant others. This is because the outcome of social comparison with close others is often more meaningful and personally relevant than social comparison with distant or unknown others (Pleban & Tesser, 1981; Tesser & Campbell, 1982). As a result, research has shown that close others serve as automatic and routine sources of social and self-knowledge (Mussweiler & Rüter, 2003). People perform better when they compare with close rather than distant referents (Locke, 2007), and people engage in more self-evaluation after comparing to a close rather than distant other (Tesser & Campbell, 1982). Taken together, the fact that close others make similarities salient and that people are more likely to engage in social comparison with close others suggests that people have a strong and immediate default tendency to engage in assimilative social comparison with close others. As a result, situations that necessitate differentiating from close others (for example, when competing; e.g., Garcia et al., 2006) might feel metacognitively difficult. Formally:

H$_1$: Differentiating from (vs. assimilating with or merely considering) close others feels difficult.

Importantly, we do not expect the same effect for social comparison with distant others. This is because people engage in less social comparison and are also generally less likely to think about people who are distant from them (e.g., Tesser & Campbell, 1982). Likewise, since people do not have the goal to maintain a close relationship with distant others, the form that social comparison with distant others will take (assimilation vs. differentiation) is not pre-established. People might be equally likely to have the desire to build rapport and therefore assimilate with distant others, or to establish rank and therefore differentiate from distant others. Thus, people do not have a default when engaging in social comparison with distant others.

Although people have no default way of engaging in social comparison with distant others, differentiating from distant others might nevertheless feel easier than assimilating. This is because people know considerably more about themselves and what makes them unique than they know about distant others. Thus, when asked to compare the self to distant others, many of one's own features and traits come to mind readily and easily, and very few of them map on to what is known about the distant other (Catrambone, Beike, & Niedenthal, 1996; Tversky, 1977). This lack of available mapping allows people to assume that the other does not share the trait and makes the self seems surprisingly different from the other. In support, research has shown that comparing a highly known subject (e.g., the self) to a lesser known referent (e.g., a distant other) leads to greater judgments of difference than comparing to a greater known referent (Catrambone, Beike, & Niedenthal, 1996). Thus, even though people do not have a default way of engaging in social comparison with distant others, the mere fact that they have considerably more information about the self than the other makes differences more apparent and might make differentiating feel surprisingly easy. In this way, explicitly guiding people to differentiate from distant others ought to feel easier than directing them to assimilate with or merely think about distant others.

Why Differentiation Might Increase Perceived Similarity More than Assimilation

Metacognitive difficulty can increase inferences that enough supporting instances do not exist for the information a person is trying to generate or consider. For example, thinking of twelve (vs. six) instances in which one has been assertive evokes experiences of metacognitive difficulty. Even though people come up with objectively more instances of assertive behaviors when they recall twelve rather than six recent instances, because of the difficulty experienced, they infer that they must not be very assertive (Schwarz et al., 1991). Likewise, after people generate many versus few reasons to drive a BMW they indicate a lower likelihood of choosing the BMW (Wänke, Bohner, & Jurkowitsch, 1997). Despite listing more reasons to drive a BMW, they infer there must not be enough reasons to do so because listing reasons felt difficult. We posit that the difficulty in differentiating from a close other can lead to analogous inferences. That is, despite being more likely to generate differences from a close other when differentiating from (rather than assimilating with) the close other, people will infer from the experience of metacognitive difficulty that there must not be many differences between the self and the other. This inference might result in an ironic rebound effect such that differentiating from a close other will increase perceptions of similarity with the other.

If the difficulty in differentiating from close others is what increases perceptions of similarity, then one might expect that the relative difficulty of assimilating with (vs. differentiating from) distant others might further increase perceptions of differences. However, since the difficulty in assimilating with (or merely thinking about) a distant other comes from the fact that people are less likely to compare with distant others in the first place (e.g., Tesser & Campbell, 1982), any metacognitive difficulty experienced should not provide any additional information above and beyond what would be expected when trying to think about a distant other (Whittlesea & Williams, 2001a). In other words, the metacognitive difficulty experienced when

assimilating with or merely considering distant others is expected and is thus more likely to be attributed to the unusual act of thinking about the other rather than the belief that few similarities exist. In this way, we do not expect the metacognitive difficulty when assimilating with distant others to serve the same rebound function and increase perceptions of difference. Instead, we expect that the informational value of the thoughts people generate about distant others will determine perceptions: differentiating from distant others brings more differences to mind and ought to make them appear more different whereas assimilating with distant others brings more similarities to mind and ought to make them appear more similar. Formally:

> **H₂:** Differentiating from (vs. assimilating with or merely considering) close others increases perceived similarity with the close other. Assimilating with (vs. differentiating from or merely considering) distant others increases similarity with the other.

A Similarity Mindset

By fostering a heightened focus on similarity, differentiating from close others could further evoke a similarity mindset that carries through to subsequent tasks. In other words, the difficulty in differentiating might limit the ability to think about differences more generally, reducing the ability to think divergently in subsequent tasks. Mindset effects arise when a style of thinking in a first task persists into subsequent tasks (Xu & Wyer, 2007). For instance, Xu and Wyer (2007) found that comparing the relative attractiveness of wild animals in an initial task increased the likelihood of making comparative judgments in subsequent tasks. Similarly in the social comparison context, considering the differences between the self and distant others increases the likelihood of thinking about differences in a subsequent task (Ashton-James & Chartrand, 2009; Todd, Hanko, Galinsky, & Mussweiler, 2011). This differences mindset after considering the differences between the self and others can increase divergent – or creative –

thinking (Ashton-James & Chartrand, 2009), and the choice of the more unique option in a choice set (Berger & Heath, 2007). Notably, our proposition is the opposite: that differentiating from close others will create a *similarity* mindset that carries through to subsequent tasks. The proposed mechanism from previous research for why differentiating from distant others creates a differences mindset is that the act of differentiating brings many differences to mind and facilitates thinking about differences in subsequent tasks. Since divergent thinking requires having many diverse concepts available in memory (e.g., Meyers-Levy & Tybout, 1989; Moreau, Markman, & Lehmann, 2001), the act of differentiating, by creating a differences mindset, can also increase divergent thinking. If as we propose, however, differentiating from close others feels difficult, making similarities more salient than differences, then what ought to carry forward to subsequent tasks is a similarity, rather than differences, mindset. In other words, the difficulty in differentiating from close others ought to increase a similarity mindset and inhibit rather than facilitate divergent thinking. Formally:

> **H₃:** Differentiating from (vs. assimilating with or merely considering) close others will evoke a similarity mindset and reduce divergent thinking in subsequent tasks.

Our metacognitive account should be distinguished from an alternative motivational account proposed by Optimal Distinctiveness Theory (Brewer, 1991). According to that account, people are motivated to maintain an optimal level of distinctiveness from others. When they perceive they are too similar to others they seek uniqueness, but when they see themselves as too different from others, they seek to become more similar. The motivational perspective does not account for difficulty in differentiating. Thus, from the motivational account, differentiating from (vs. assimilating with) close others should make people feel more different. In contrast, if it is metacognitively difficult to differentiate from close others, as we propose, then differentiating

from close others ought to make them appear even more *similar*. From a motivational

perspective, if anything, making it easier to differentiate from others should further increase how

different the other feels. Thus, the easier it feels to differentiate from close others, the more

motivated a person should be to see the other as similar to the self, and this motivation might

increase perceptions of similarity. From our metacognitive difficulty perspective, however, the

metacognitive attribution of difficulty when differentiating is itself what makes the close other

appear more similar. In this way, making it easy to differentiate from close others or

misattributing the feeling of difficulty to something other than differentiation ought to *reduce*

rather than increase how similar the close other seems. We tease apart our perspective from

optimal distinctiveness in studies 1 and 3. While an examination of when each perspective might

be more predictive of outcomes is an interesting avenue for future research, it is outside of the

scope of this research wherein we focus on establishing the metacognitive effect. We discuss

potential moderators of each perspective in the general discussion.

Overview of Studies

We test our metacognitive account in four studies. In study 1, we first test whether

differentiating from (vs. assimilating with) close others feels difficult (H_1) and increases

judgements of self-other similarity (H_2). In study 2, we include a control condition to replicate

that differentiating from (vs. assimilating with or merely considering) a close other feels difficult

(H_1). We also test whether the increased focus on similarities carries through to a subsequent

unrelated task as a mindset (H_3). In study 3, we manipulate difficulty of differentiating by

altering whether the direction of comparison is from the self to the other or from the other to the

self. We expect that considering the other first would reduce the difficulty of differentiation by

allowing unique thoughts about the other to come to mind more readily, thus attenuating our

proposed effects. This manipulation also allows us to disentangle our account from a

motivational one in which the direction of comparison should matter less. Finally, in study 4, we test whether the similarity mindset induced by differentiating from close others also reduces divergent thinking in subsequent tasks (H_3). We determined sample sizes by using the rule of thumb of 50-75 participants per cell to detect a small effect size in the social sciences.

Experiment 1.1: Differentiating from Close Others Increases Self-Other Similarity

Study 1 was designed to test our basic proposition that differentiating from (vs. assimilating with) close others is difficult and doing so increases perceived similarity with the other. In contrast, we expect for distant others that differentiating will increase perceived differences whereas assimilating will increase perceived similarity. Participants were randomly assigned to either consider the differences or similarities between themselves and a close or distant other. They then indicated how difficult this task felt and how similar the other seemed. We also designed study 1 to rule out relationship threat. One alternative explanation for why differentiating from a close other might increase perceived similarity is that the act of differentiation feels threatening to the closeness in the relationship and motivates seeing the other as more similar. In study 1, we manipulate differentiation in a way that ought not feel threatening to relationships by telling participants that differentiating (assimilating) is a useful strategy for successful cooperation. In this way, the act of differentiating itself is in service of an activity (cooperation) that promotes rather than threatens relationships.

Method

We randomly assigned 307 participants recruited from Amazon's Mechanical Turk to a condition in a 2 (referent: close vs. distant other) by 2 (social comparison focus: differentiate vs. assimilate) between-subjects design. Participants first named either a person they were "extremely close to, such as a sibling or a very close friend. This person should be someone who you are very close with and have been close to for some time," or a person they were "distant

from, such as an acquaintance or someone you know in passing from the neighborhood or

college. This person should be someone who you are not close to but have known for some

time." We then asked participants to consider a time in the future that they might have to

cooperate with the named person. This cover story was developed to ensure that the task was

seen as benign and as strengthening the relationship for a common good. To manipulate whether

participants assimilated or differentiated with the named other, participants then read:

> "Research has shown that people achieve better and more fulfilling cooperation outcomes
>
> when partners focus on the [similarities/differences] between them. When you focus on
>
> the [similarities/differences] between you and [named person] (for example, the
>
> [similarities/differences] in your skills, strengths, and traits), you create a strong base that
>
> you can build off of while cooperating. In other words, focusing on
>
> [similarities/differences] improves your chances of fulfilling your goal. Please use the
>
> space below to discuss the [similarities/differences] between you and [named person]."

Following the writing task, participants completed a manipulation check indicating whether they

focused on similarities or differences while comparing with the named referent (1 = *Focused on*

Similarities to 7 = *Focused on Differences*). Of key interest, participants then reported how

difficult it felt to assimilate or differentiate from the named referent. Finally, as a measure of

perceived similarity with the other, participants completed an adapted version of Aron et al.

(1991) measure of self-other overlap. In this measure, participants are presented with six pairs of

circles, each with an increasing amount of overlap, where the overlap represents how similar the

participant feels to the person they had named. A higher number on this six-point scale indicates

greater perceived similarity. To conclude the study, participants provided demographics (e.g.,

age and gender), were thanked for their participation, and were debriefed.

Results

   Exclusion. Of the 307 participants collected, 40 did not name a person they were close to or did not discuss the proper focus. The data from the remaining participants ($N = 267$, $M_{age} = 38.6$, 61.4% female) were used in all subsequent analysis.

   Manipulation Check. A 2 (referent) × 2 (comparison) analysis of variance on the manipulation check revealed a significant main effect of focus such that participants in the similarities condition spoke more about the similarities between themselves and the named other ($M = 1.48$, $SD = 1.21$) than participants in the differences condition ($M = 6.20$, $SD = 2.92$), $F(1, 263) = 311.40$, $p < .001$. The referent and referent x focus interactions were not significant ($ps > .829$). Thus, regardless of referent, people assimilated with and differentiated from the referent to a similar extent.

   Experienced Difficulty. A 2 (referent) × 2 (comparison) ANOVA on the difficulty measure revealed a significant main effect of comparison focus, $F(1, 263) = 4.06$, $p = .045$. Participants indicated it was more difficult to generate differences ($M = 3.66$, $SD = 2.38$) than similarities ($M = 3.06$, $SD = 2.30$), consistent with the idea that cooperation might make similarities feel easier to generate (e.g., Colpaert et al., 2015). Importantly, we also observed a significant interaction, $F(1, 263) = 6.03$, $p = .015$. As predicted, when comparing with close others, it was significantly more difficult for participants to generate differences ($M = 3.94$, $SD = 2.38$) than similarities ($M = 2.67$, $SD = 2.06$), $F(1, 263) = 10.40$, $p = .001$. In line with our proposal that people do not have a default with distant others and further supporting that cooperation makes similarities easier to generate, it was equally difficult to generate differences ($M = 3.33$, $SD = 2.10$) and similarities ($M = 3.46$, $SD = 2.47$), $F < 1$, from distant others.

   Similarity. We predicted that because it was more difficult to generate differences from close others, participants might infer that the close other was even more similar to them when

they were asked to generate differences (vs. similarities). We further predicted that since people have no default for distant others, the information generated by the comparison would drive outcomes such that assimilating with distant others should increase perceived similarity, whereas differentiating from distant others should increase perceived difference. A significant referent × focus interaction on the similarity perception measure supported this hypothesis, $F(1, 263) = 7.79$, $p = .006$ (see Figure 1). Planned comparisons revealed that when participants considered a close other, thinking about differences led to marginally greater perceptions of similarity ($M = 4.21$, $SD = 1.00$) compared to thinking about similarities ($M = 3.94$, $SD = .82$), $F(1, 263) = 2.74$, $p = .099$. However, the reverse was true when considering distant others. In line with an informational account, thinking about differences led to judgment of greater difference ($M = 2.82$, $SD = 1.07$), and thinking about similarities led to judgment of greater similarity ($M = 3.21$, $SD = .92$) when considering distant others, $F(1, 263) = 5.20$, $p = .023$.

Figure 1. The Effect of Referent and Differentiation on Difficulty and Self-Other Similarity
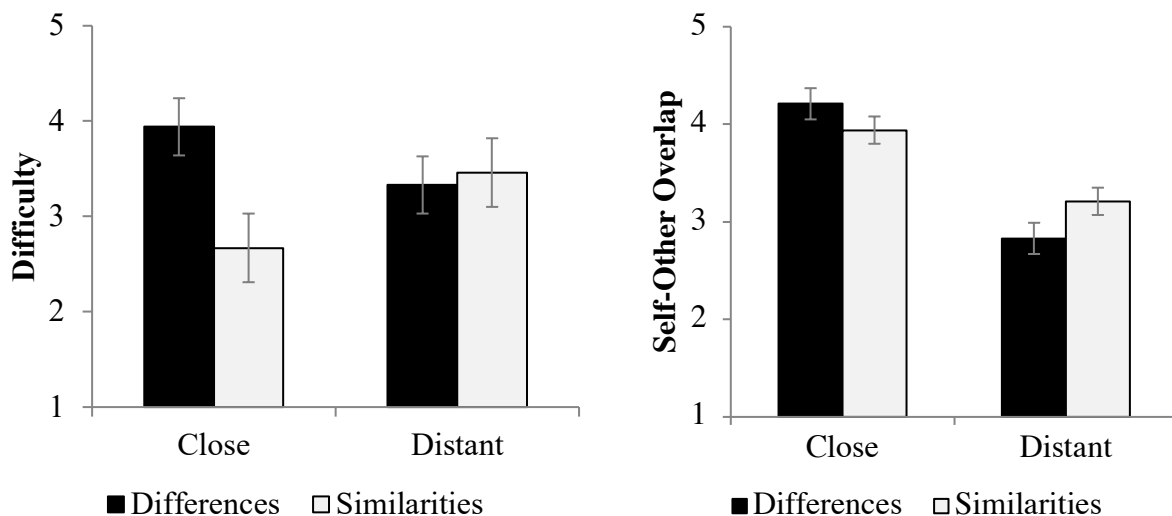
Discussion

Study 1 shows that differentiating from (vs. assimilating with) close others feels difficult and increases perceptions of self-other similarity. This finding, while predicted by our theorizing, is still surprising. Past research would have found it almost tautological that differentiating increases perception of differences whereas assimilating increases perceived similarity. For distant others, we found this was true. However, for close others, differentiating rather than assimilating led to greater perceived similarity. These results are not compatible with a purely informational account: thinking about differences between the self and close others should have brought to mind more differences than assimilating with them, as was the case for distant others. Likewise, these results are not compatible with an account based on relationship threat or optimal distinctiveness theory. In this study, all participants were engaging in an activity that ought to enhance relationships: namely, cooperation. Thus, differentiation was in service of building rather than threatening the relationship. Even so, differentiating from close others felt more difficult than assimilating, which led to an increase in how similar the other seemed. These data are therefore most consistent with our metacognitive account. It is not that differentiating from close others feels threatening to relationships and motivates perceiving the other as more similar, but rather that the default to assimilate with close others makes differentiation feel difficult and leads to a metacognitive rebound of perceiving the other as more similar.

One limitation of these data is that while differentiating from close others increased perceived similarity over assimilation, these results did not reach conventional levels of statistical significance. Notably, the fact that differentiating from a close other led to equivalent and marginally higher judgments of similarity is still surprising given past research but is consistent with our proposal. However, it is possible that the cooperation domain – which has been shown to enhance perceptions of similarity (e.g., Colpaert et al., 2015) might have further

increased baseline similarity, masking the metacognitive effects of difficulty. In study 2, we thus employ a social comparison task where we more directly manipulate assimilation and differentiation. A second limitation of study 1 is that we did not include a control, no social comparison condition. Thus, we do not know whether it is the difficulty in differentiating from close others or the ease in assimilating with close others that is producing the effect. We designed study 2 to overcome this limitation by including a control condition.

In addition to replicating the effect of differentiating from close others on experienced difficulty, study 2 also extends our investigation to a subsequent similarity mindset. In study 2, we measure how much people spontaneously think of similarities and differences in a subsequent, ostensibly unrelated painting comparison task. In line with prior research, if differentiating from distant others induces a differences mindset, then differentiating from distant others ought to increase thoughts about differences in a subsequent task. In contrast, if the difficulty in differentiating from close others increases thoughts about similarity and therefore induces a *similarity* mindset, then participants differentiating from close others ought to increase thoughts about similarities in a subsequent task.

Experiment 1.2: Differentiating from Close Others Evokes a Similarity Mindset

Method

Three hundred and one participants from Amazon's Mechanical Turk were randomly assigned to a condition in a 2 (referent: close vs. distant) × 3 (social comparison focus: differentiate vs. assimilate vs. control) between-subjects design. The dependent variables of interest were experienced difficulty and a similarity mindset.

In line with study 1, participants first named a close or distant other. The name participants entered was piped through to subsequent parts of the survey. As a manipulation

check to ensure participants had named a close (vs. distant) other, participants then indicated how close they were to the named person (1 = *not at all close*; 7 = *very close*).

To manipulate social comparison focus, in the differentiate condition, participants were asked to describe how their skills and personality traits were different from the person they had named. In the assimilate condition they described how their skills and personality traits were similar. In the control (default strategy) condition, participants elaborated on the daily routine of the person they had named. This control condition allows us to check that the default strategy when participants merely consider the other is to assimilate with close others by comparing responses in the control to the social comparison conditions. We ran a pretest ($N = 148$, $M_{age} =$ 38.77, 62.4% female) with participants similar to those in the main study to confirm that the social comparison focus instructions evoked the respective type of comparison. Participants in the pretest were exposed to one of the three primes and indicated the extent to which they were then thinking of similarities or differences (I am thinking of: 1 = *similarities*, 7 = *differences*). Simple t-tests confirmed that the assimilation condition increased thoughts about similarities (M = 2.94, SD = 1.66) relative to the control (M = 3.71, SD = 1.92), $t(145)$ = -2.28, p = .024, whereas differentiating (M = 5.00, SD = 1.43) increased thoughts about differences against the control condition, $t(145)$ = 3.83, p < .001.

Next, in the main study, to measure difficulty, participants indicated how difficult comparing with the other had felt (1 = *very easy*; 7 = *very difficult*). Then, we presented participants with two abstract artworks in a product comparison task. Participants were asked to examine the artworks and indicate "the first few things that come to mind when you look at the images." This task was designed to test whether the difficulty in differentiating from close others could heighten a focus on similarities and result in a similarity mindset, such that participants continued to focus on similarities in a subsequent ostensibly unrelated task. Central to our

hypothesizing is that cueing social comparison for *differentiation* (vs. assimilation vs.

baseline) will feel metacognitively difficult and increase thoughts about *similarities* when the

referent is a close other. We do not expect similar effects when comparing with distant others. In

line with past research, for distant others we expect that differentiation will evoke a differences

mindset. Thus, differentiating (vs. not) from close others ought to increase thoughts about

similarities, whereas differentiating (vs. not) from distant others ought to increase thoughts about

differences.

Results

  Data Exclusion. Thirty-two participants did not perform the writing task, either by not

naming a referent or engaging in social comparison; thus, their data were excluded from the

analyses (remaining $N = 269$, $M_{age} = 34.68$, 44.2% female).

  Manipulation Check. A referent × focus ANOVA on the manipulation check measure of

closeness revealed only the expected main effect of referent, $F(1, 263) = 293.49$, $p < .001$; close

others ($M = 6.36$, $SD = .79$) were rated as closer than distant others ($M = 3.16$, $SD = 2.03$).

  Experienced Difficulty. The referent × focus ANOVA on experienced difficulty

revealed only a significant interaction, $F(2, 263) = 9.95$, $p < .001$ (see Figure 2). As predicted,

participants considering a close other found differentiating more difficult ($M = 3.55$, $SD = 2.14$)

than merely thinking about ($M = 2.89$, $SD = 2.03$), $t(263) = 2.30$, $p = .022$, or assimilating with

the other ($M = 2.46$, $SD = 1.80$), $t(263) = 2.73$, $p = .007$. There were no significant differences

between the assimilation and baseline condition, $t < 1$. These data are consistent with our

proposal that assimilation is the default for comparing with close others, making differentiation

feel metacognitively difficult. In contrast, and unlike in study 1, participants considering a distant

other found it significantly *easier* to differentiate ($M = 2.57$, $SD = 1.65$) than to assimilate ($M =$

4.00, $SD = 2.04$), $t(264) = 3.48$, $p < .001$, or even merely consider the distant other ($M = 3.60$, SD

= 1.84), $t(263) = 2.51$, $p = .013$. There was no difference between participants assimilating with or merely considering distant others, $t(263) = 1.04$, $p = .300$.

In study 1 we found no difference between the difficulty of differentiating or assimilating with distant others, yet in study 2, participants indicated that it was significantly easier to differentiate than to assimilate with distant others. This finding in study 2 is consistent with past research showing that because people have more information about the self than distant others, differentiation might feel surprisingly easy. We might have failed to find this difference in study 1 because we employed the cooperation domain to rule out relationship threat. Cooperating with others increases the likelihood of focusing on similarities (e.g., Colpaert et al., 2015). Thus, even though differentiating from distant others might feel easier in general, the ease with which people generate similarities for the sake of cooperating might have masked this difference in study 1. In study 2, we merely directed participants to assimilate, differentiate, or think about the regular routine of distant others. As a result, we found that differentiating from distant others was significantly easier than assimilating with them.

Figure 2. Experienced Difficulty as a Function of Referent and Comparison
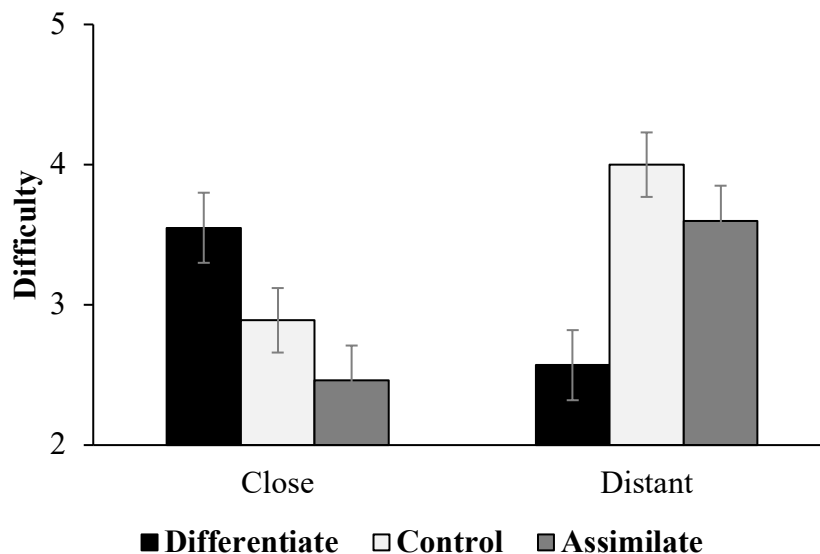
Similarity Mindset. We predicted that differentiation difficulty among participants considering close others would induce a similarity mindset and increase thoughts about similarities, but the information about differences when differentiating from distant others would induce a differences mindset and increase thoughts about differences. Two independent coders counted the number of thoughts participants had about the similarities and differences between the paintings. The coders were in 83% agreement, and any discrepancies were resolved through discussion. Thoughts such as "both are abstract," or "both use vibrant colors" were counted as similarity thoughts. Thoughts such as "one is bolder than the other," or "one uses cooler colors and one uses warmer colors," were counted as thoughts about differences. Furthermore, a 2 (referent) × 3 (focus) ANOVA on the total number of thoughts generated (including irrelevant and non-comparative thoughts; e.g., "I like it") revealed no significant effects of interest, ps > .11, indicating that the total number of thoughts listed during the product comparison task did not vary based on the type of referent or social comparison focus.

Pertinent to our main investigation regarding the specific types of thoughts participants generated, a 2 (referent) × 3 (comparison focus) × 2 (artwork thoughts: similarities vs. differences) mixed ANOVA on thoughts revealed only a significant three-way interaction, $F(2, 263) = 4.05$, $p = .019$ (see Figure 3). As we predicted, participants differentiating from close others listed significantly more thoughts about similarities ($M = .77$, $SD = 1.12$) than participants merely considering ($M = .37$, $SD = .65$), $t(263) = 3.67$, $p < .001$, or assimilating with close others ($M = .54$, $SD = 1.03$), $t(263) = 2.12$, $p = .035$. There were no significant differences between when participants assimilated with or merely considered close others, $t(263) = 1.54$, $p = .125$. In contrast, participants differentiating from distant others listed significantly *fewer* thoughts about similarities ($M = .35$, $SD = .58$) than participants merely considering ($M = .70$, $SD = .93$), $t(263) = -3.21$, $p = .002$, or assimilating with distant others ($M = .66$, $SD = .80$), t(263) = -2.84, $p =$

.005. There were no differences between participants assimilating with or merely considering distant others, $t(263) = .37$. These data support our proposal that differentiating from close others increases a similarity mindset, increasing similarity thoughts. These data also support that differentiating from distant others evokes a differences mindset, suppressing similarity thoughts.

The reverse pattern emerged for thoughts about differences. Participants differentiating from close others listed significantly *fewer* thoughts about differences ($M = .44$, $SD = .58$) than participants merely considering ($M = .74$, $SD = .85$), $t(263) = -2.80$, $p = .006$, or assimilating with close others ($M = .67$, $SD = 1.03$), $t(263) = -2.17$, $p = .031$; consider vs. assimilate: $t(263) = .63$, $p = .529$. Participants differentiating from distant others instead listed significantly *more* thoughts about differences ($M = 1.00$, $SD = 1.03$) than participants merely considering ($M = .40$, $SD = .53$), $t(263) = 5.51$, $p < .001$, or assimilating with distant others ($M = .42$, $SD = .67$), $t(263) = 5.32$, $p < .001$; assimilate vs. consider: $t(263) = .18$, $p = .857$. These data further support our proposal that differentiating from close others evokes a similarity mindset which suppresses thinking about differences. In line with past research, differentiating from distant others increased thoughts about differences.

Figure 3. Thoughts about Similarities and Differences as a Function of Referent and Comparison
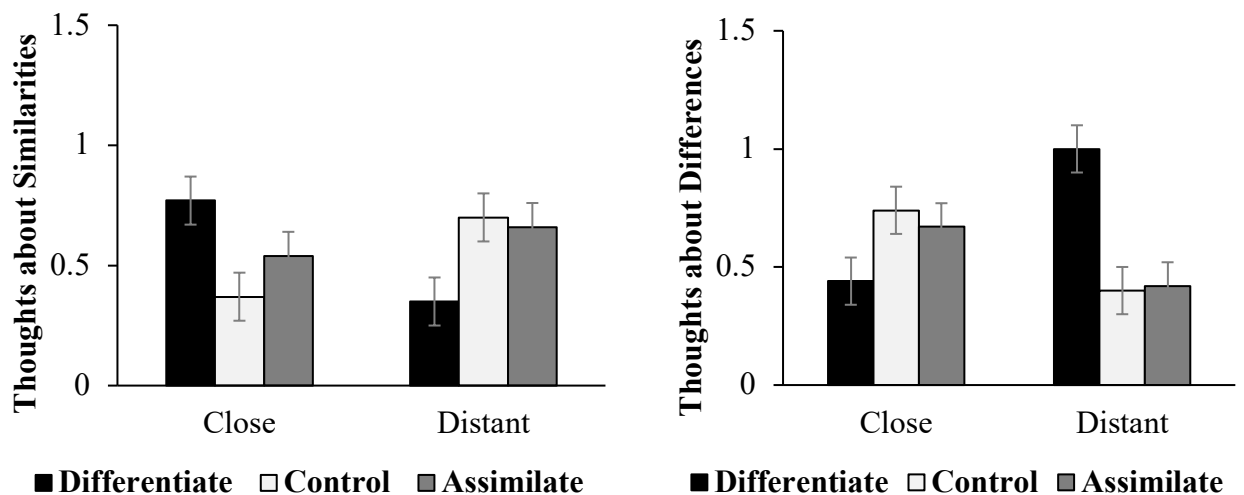
Discussion

  Study 2 replicates and extends the findings of study 1 by demonstrating that the difficulty in differentiating from close others not only makes close others appear more similar, but also induces a similarity mindset in general. Participants who differentiated from close others found the social comparison more difficult than when they assimilated or merely considered close others. As a result, participants who differentiated from close others were more likely to spontaneously generate thoughts about similarities and were less likely to generate thoughts about differences in the subsequent abstract paintings task. In contrast, the information about differences generated when participants differentiated from distant others led to the generation of more thoughts about *differences* in subsequent tasks, in line with prior research. By including a control condition, study 2 also provides evidence that the reason why differentiating from close others feels difficult is because people have a strong default to assimilate with close others. Indeed, participants found it equally as easy to assimilate with and merely think about close others, and the downstream consequences on thinking were similar between these two conditions, suggesting that people might have defaulted to thinking about similarities when merely considering close others. Likewise, the results of study 2 provide evidence that people do not generally think about, and therefore have no default with distant others. Both assimilating and merely thinking about distant were significantly difficult tasks. These results further support that even though people have no default, the wealth of information people have about themselves relative to distant others might make differences more apparent and make differentiation feel easier. Indeed, differentiating from distant others was significantly easier than assimilating with or merely thinking about them.

  These findings are important not only because they show that differentiating from close others can induce a similarity mindset, but also because they imply that the differences mindset

induced when differentiating from distant others found in prior research might be due in part to the ease with which participants differentiated from distant others. While the ease with which people generated differences in the social comparison task increased subsequent thoughts about differences and decreased subsequent thoughts about similarities, when it became difficult to generate differences (e.g., from close others), these effects reversed. Thus, while differentiating from distant others is easy, inducing a differences mindset that carries through into subsequent tasks, differentiating from close others is difficult, inducing a *similarity* mindset that carries through into subsequent tasks. This is important because past research did not consider how the metacognitive experience of difficulty in differentiating might impact the effect of differentiation on subsequent thought.

In study 3, our goal was to show evidence of our proposed process of metacognitive difficulty by manipulating how difficult it felt to differentiate from close others. If metacognitive difficulty in differentiating from close others is what causes increases in perceived similarity, then moderating the difficulty of differentiation should attenuate the effect. To do so, we capitalize on an asymmetry in the way in which people consider themselves and close others. We posit that considering how the self is different from close others is more difficult than considering how close others are different from the self. This is because while the traits and identities most salient about the self at any given time are dynamic and able to change (Desteno & Salovey, 1997; Markus & Kunda, 1986; Markus & Wurf, 1987), people tend to hold more independent and stable representations for the traits and identities of others (Andersen, Glassman, & Gold, 1998; Malle, 2006; Pronin, Kruger, Savitsky, Ross, & Joyce, 2001; Sande, Goethals, & Radloff, 1988). Thus, while the most salient traits and identities about the self are malleable, and therefore likely to become those that are shared with and similar to the close other, the most salient traits and identities about the other are simply those believed to be most

descriptive of the other and are not necessarily shared with the self. The implication here is that differentiating the self in the context of a close other may be more difficult than first thinking of the stable traits of the other and then considering how the self is different. In line with this possibility, research has shown that people are more likely to endorse that their own traits are shared with close others than they are to endorse that the traits of close others also belong to themselves (Mashek, Aron, & Boncimino, 2003). Applied to the present research, while the salience of similarities in one's own self-concept ought to make it feel difficult to think about how the self is different from close others, first making salient the stable traits of others ought to make it feel much easier to think about how close others are different from the self.

To confirm that differentiating the self from close others results in inferences of greater similarity with the other compared to differentiating the close other from the self, we ran a pretest ($N = 79$, $M_{age} = 36.61$, 58.2% female). Half of participants were asked to imagine that it had felt difficult to think about how they were unique from their best friend whereas the other half imagined that it had felt difficult to think about how their best friend was unique. All participants then chose one of three statements ("I must be very similar to my best friend," "I must not know myself as well as I thought," "I must not know my best friend as well as I thought,") that best captured what they would believe after the fact. As we expected, 81% of participants who imagined it was difficult to think of their own unique traits indicated they would infer they must be very similar to their best friend, whereas only 56% of participants who had imagined it was difficult to generate their best friend's unique traits made this inferences, $\chi^2(1) = 5.71$, $p = .017$. Furthermore, only 19% of participants who imagined it was difficult to generate their own unique traits indicated that they must not know their best friend as well as they thought compared to 40% of participants who imagined it was difficult to think of how their best friend was unique, $\chi^2(1) = 4.17$, $p = .041$. Thus, this pretest showed that the difficulty in

differentiating the self from close others led to greater perceptions of similarity compared to the difficulty in differentiating close others from the self. We thus expect that while it should be more difficult to differentiate the self from close others than to differentiate close others from the self, any experienced difficulty in generating how the self is different from close others should *increase* perceptions of self-other similarity, whereas difficulty in generating how close others are unique, because it might be attributed to a lack of knowing the other, might *reduce* perceptions of self-other similarity.

Experiment 1.3: Making it Easy to Differentiate from Close Others Attenuates the Effect

In study 3, we manipulate whether participants generate traits and identities that make themselves unique from a close other or the traits and identities that make the other unique from the self. We then measure how difficult this social comparison task felt and how similar participants perceive themselves to be with the other. We expect it to be more difficult to generate unique traits about the self than it is to generate unique traits about the other, and people will attribute this difficulty to a lack of differences between the self and close other, making the other appear more similar to the self. This manipulation allows us to establish our process by moderating difficulty and holding constant all other factors in the comparison task. This manipulation also allows us to establish our process as separate from motivational accounts like optimal distinctiveness theory. From a purely motivational perspective, the act of differentiating from close others – regardless of the direction of differentiation – ought to make people feel too different from the other and motivate a desire for similarity. In this way, both differentiating the self from others as well as differentiating others from the self should motivate a desire to feel that the other is more similar. In contrast, if the feeling of difficulty in differentiating the self from close others serves as information that one cannot be different and must therefore be

similar, then perceptions of difficulty in differentiating the self from close others (but not

differentiating close others from the self) ought to enhance judgements of self-other similarity.

Method

We recruited 153 participants from Amazon's Mechanical Turk and randomly assigned

them in a 2 (differentiation: own traits vs. close other traits) by continuous (measured difficulty)

design. To begin, we activated the shared self-concept by having all participants first think about

someone very close to them. To do so, all participants were first asked to name a person they

were close to. This name was piped through to all future questions about the close other. As a

baseline measure of perceived similarity, all participants indicated how similar they felt to the

person they had named.

As a manipulation of differentiation, participants were then asked to generate unique

personality traits. In the own traits condition, participants listed 5 skills, strengths, or traits that

made them unique as a person. In the close other traits condition, participants listed the 5 traits

that made the close other unique as a person. As a measure of difficulty, participants then

indicated how difficult it felt to generate their own (the close other's) unique traits on a scale

from 1 = "felt easy," to 7 = "felt difficult." We expected that it would feel more difficult to

generate one's own unique personality traits. Finally, to measure whether the difficulty in

generating one's own unique traits increased feelings of similarity with close others, participants

completed the self-other overlap measure used in study 1.

Results

Data Exclusion. Of the 153 participants collected, we excluded 2 participants for not

listing any traits. We used the data from the remaining participants ($N = 151$, $M_{age} = 38.47$,

49.7% female) in all analyses below.

Baseline Similarity. A simple t-test on the baseline similarity measure revealed there were no significant differences in baseline similarity between the own-traits ($M = 4.86$, $SD = 1.35$) and close other traits ($M = 5.17$, $SD = 1.38$) conditions, $t(149) = -1.43$, $p = .155$. Thus, any differences in self-other overlap after the differentiation manipulation are likely not due to baseline differences in how similar participants were to the person they had named.

Experienced Difficulty. We expected that naming and thinking about a close other would make the traits about the self that are shared with the close other salient, and that this salience of similarities would make listing one's own unique traits (but not listing the other's traits) feel difficult. An independent samples t-test on experienced difficulty confirmed this hypothesis, $t(149) = 5.41$, $p < .001$. Generating one's own unique traits felt more difficult ($M = 3.07$, $SD = 1.75$) than generating the unique traits of close others ($M = 1.73$, $SD = 1.22$).

Self-Other Overlap. We predicted that the difficulty in generating one's own unique traits would be attributed to a lack of differences between the self and other and would thus lead to greater perceptions of similarity; whereas the difficulty in generating the traits of close others might be attributed to a lack of knowing the other and reduce similarity perceptions. To test this hypothesis, we regressed condition, trait generation difficulty, and the condition × difficulty interaction on self-other overlap. The regression revealed the predicted condition × difficulty interaction, $\beta = .356$, $SE = .052$, $t(147) = 2.21$, $p = .028$ (see Figure 4). This interaction was such that the difficulty in generating one's own unique traits increased self-other overlap, $b = .11$, $SE = .059$, $t(147) = 1.94$, $p = .055$. In contrast, the difficulty in generating the unique traits of close others directionally decreased self-other overlap, $b = -.12$, $SE = .085$, $t(147) = -1.35$, $p = .178$. These data support our theorizing that the metacognitive difficulty in generating how the self is different from close others is attributed to a lack of available differences and increases how similar the other feels.

Figure 4. The Effect of Difficulty on Perceived Self-Other Similarity by Differentiation Type
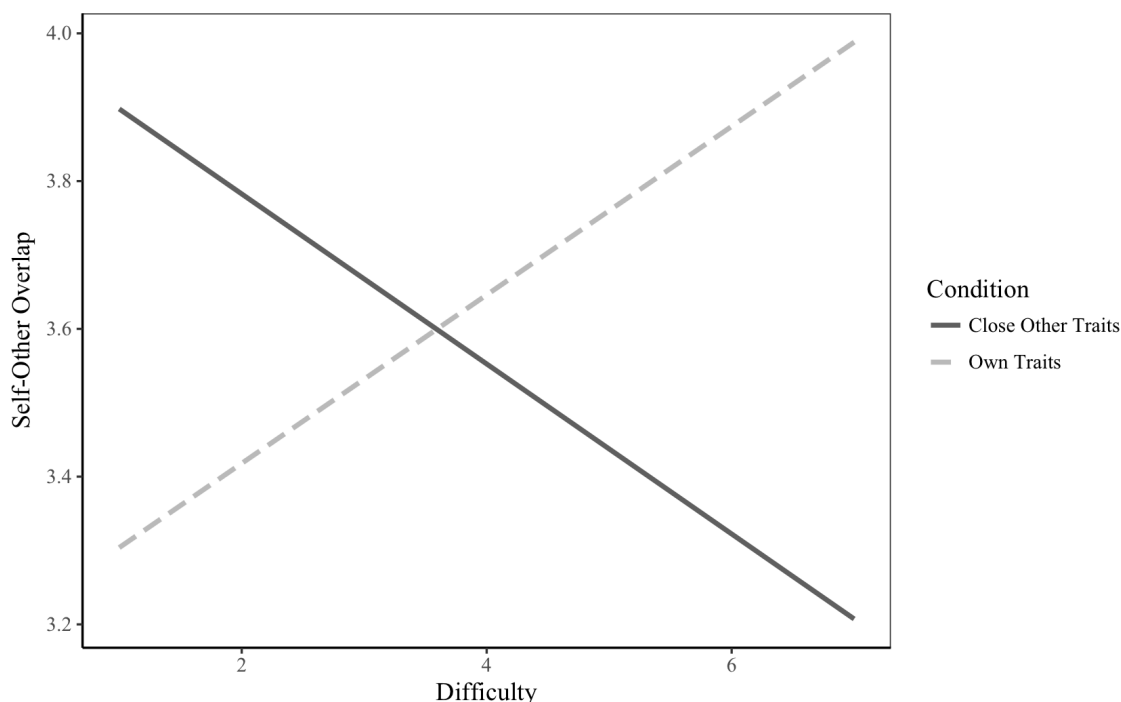
Discussion

The results of study 3 provide evidence that differentiating the self from close others feels difficult, which increases perceived similarity. Participants found it significantly more difficult to list how they were unique from close others than to list what made the close other unique. This difficulty led to perceptions that they were even more similar to the other person. These results also confirm our proposal that the reason why differentiating the self from close others might feel difficult is because thinking about close others brings similar traits to mind. These results are important because they highlight the role of metacognitive difficulty in social comparison. When people attributed difficulty to the lack of available differences between the self and close others (i.e., when generating how the self was unique from others), the experience of difficulty increased perceptions of self-other similarity. When people instead attributed difficulty to the lack of knowledge about the other (i.e., when generating how the other was unique), the

experience of difficulty decreased perceptions of self-other similarity. Thus, it is the metacognitive attribution of difficulty to the lack of available differences and the wealth of accessible similarities that causes the rebound effect and makes close others appear even more similar to the self.

Study 3 also rules out motivational processes such as optimal distinctiveness as complete explanations for increases in perceived similarity. From a motivational perspective, if people want to feel similar to close others, then the mere act of differentiating – regardless of whether people are differentiating the self from close others or close others from the self – should lead to a desire to see the other as more similar. If anything, making it easier to differentiate from close others should increase the need to feel more similar to the other by increasing how different the other feels. Instead, we found that the difficulty in differentiating the self from close others, specifically, led to inferences that differences did not exist and increased self-other similarity. This finding does not mean that motivational processes are not at play. For instance, since this study does not have a condition in which participants did not differentiate from the other, it is possible that the motivation to see the other as more similar to the self after differentiating increased the baseline level of similarity across both conditions. Nevertheless, study 3 demonstrates that the difficulty experienced specifically when differentiating the self from close others increases perceived similarity over and above what motivational processes might produce. Thus, metacognitive difficulty plays a role in determining the downstream consequences of social comparison on subsequent perceptions of self-other similarity.

By demonstrating that differentiating from close others feels difficult and induces a similarity rather than differences mindset, the results from studies 1 through 3 imply that differentiating from a close other, through the metacognitive difficulty it evokes, might also *reduce* rather than increase divergent thinking. We test this possibility further in study 4 by

employing a divergent thinking task as our dependent variable of interest. While we measure self-other overlap and divergent thinking in Study 4, we do not measure difficulty to rule out the possibility that drawing attention to difficulty is what is causing the downstream consequences. Finally, we rule out depletion as an alternative explanation in study 4. If differentiating from close others feels difficult, perhaps participants feel more depleted and are therefore thinking less overall in subsequent tasks. To rule out this possibility, we measure total ideas generated in study 4. Depletion should reduce total thoughts, but a similarity mindset should change the nature of thoughts from differences to similarities.

Experiment 1.4: Differentiating from Close Others can Reduce Divergent Thinking

Method

We randomly assigned 240 workers from MTurk to a condition in a 2 (referent: close vs. distant other) × 3 (social comparison focus: differentiate vs. control vs. assimilate) between-subjects study. Participants differentiated from (vs. considered vs. assimilated with) a close (vs. distant) other, then reported perceived similarity with the other, and completed an idea generation task.

The manipulation of referent was the same as prior studies where participants were asked to name a close or distant other. As a manipulation check, they then indicated how similar they were (1 = *not at all*, 7 = *very*) to this person. The name the participant chose was piped into all subsequent questions to ensure the referent was salient throughout the experiment. Participants were then assigned to a focus condition. In the differentiate condition, participants described a time when they competed with, and therefore had to attend to differences between the self and the named person (Colpaert et al., 2015). In the assimilate condition, participants described a time when they cooperated with, and therefore had to attend to the similarities between the self

and the person they had named. In the control condition, participants described what the named person's regular morning routine might be.

We posited that differentiating from (vs. assimilating with vs. considering) a close other feels difficult, evoking a similarity mindset and reducing divergent thinking. To assess this, participants first completed the self-other overlap measure from prior studies. Then, as a key dependent variable of interest, participants completed an idea-generation task listing as many creative uses as they could for a toothbrush and for a brick (order counterbalanced). If difficulty in differentiating induces a similarity mindset, people should become less divergent in their thinking and therefore less creative in the uses they list. Two independent coders blind to the hypothesis counted the total number of ideas generated for both products and coded each idea as creative (1) or not (0). Coders agreed on 82.6% of the listed uses and discrepancies were resolved through discussion. We then computed the total creative uses and the proportion of creative uses (out of total uses) for each participant across both product categories, and then averaged the proportion of creative uses of both products into an index.

Results

Data Exclusions. Of the original 240 participants, 22 did not perform the writing task and thus did not follow instructions. We excluded their responses from all analyses below (remaining $N = 218$, $M_{age} = 36.20$, 48.2% female).

Baseline Similarity. A 2 (referent) × 3 (focus) ANOVA on the baseline similarity measure revealed the expected main effect of referent, $F(1, 212) = 71.45$, $p < .001$; participants reported the referent to be more similar to them when they named a close ($M = 5.26$, $SD = 1.27$) versus distant other ($M = 3.62$, $SD = 1.55$). Importantly, the main effect of focus, and the referent × focus interaction, were both non-significant (Fs < 1), indicating no baseline differences in perceived similarity across these conditions prior to the focus manipulation.

Self-Other Overlap. Next, we ran a 2 (referent) × 3 (focus) ANOVA on the self-other overlap measure collected after the focus manipulation. This analysis revealed a significant main effect of referent, $F(1, 211) = 28.84$, $p < .001$; close others were perceived as more similar ($M = 3.91$, $SD = 1.01$) than distant others ($M = 3.06$, $SD = 1.36$). We also found a main effect of focus, $F(2, 211) = 4.65$, $p = .011$; unsurprisingly, elaborating about the other by differentiating ($M = 3.60$, $SD = 1.28$) or assimilating ($M = 3.75$, $SD = 1.30$) increased perceived similarity more than merely considering the other ($M = 3.19$, $SD = 1.18$), $ts > 2.05$, $ps < .041$. Importantly, these main effects were qualified by a significant referent × focus interaction, $F(2, 211) = 6.64$, $p = .002$. When the referent was a distant other, differentiating ($M = 2.90$, $SD = 1.24$) led to similar levels of perceived similarity as baseline ($M = 2.66$, $SD = 1.18$), consistent with past findings that thinking about unknown others leads to increased perceptions of difference. However, assimilation increased perceived similarity with the other ($M = 3.73$, $SD = 1.46$) both over differentiation, $t(211) = 2.87$, $p = .004$, and baseline, $t(211) = 4.05$, $p < .001$). In contrast, as we predicted, when the referent was a close other, assimilation ($M = 3.77$, $SD = 1.15$) resulted in similar levels of perceived similarity as baseline ($M = 3.76$, $SD = .88$), $t < 1$, in line with our proposal that assimilation is the default for close others. Importantly, differentiation *increased* perceived similarity with the other ($M = 4.30$, $SD = .87$) over assimilating, $t(211) = 1.91$, $p = .057$, and over baseline, $t(211) = 1.96$, $p = .05$.

Divergent Thinking. We predicted that if differentiating from a close other feels difficult because the default is to assimilate with them, and this difficulty leads to a similarity mindset, then this ought to reduce the effect of differentiation on divergent thinking. As we expected, a 2 (referent) × 3 (focus) ANOVA on the total creative uses generated revealed only the predicted interaction, $F(2, 212) = 11.50$, $p < .001$ (see Figure 5). Replicating past research, when the referent was a *distant* other, differentiating from the other increased the number of creative ideas

generated ($M = 1.95$, $SD = 1.93$) over assimilating with ($M = 1.06$, $SD = 1.03$) or merely

considering the other ($M = .81$, $SD = .72$), ts > 10.42, ps < .001. In contrast, and as we predicted,

when the referent was a *close* other, differentiating *reduced* the number of creative ideas

generated ($M = .87$, $SD = .86$) over assimilating with ($M = 1.58$, $SD = 1.23$) or merely

considering the other ($M = 1.57$, $SD = 1.24$), ts > 8.31, ps < .001[1]. In sum, differentiating from

(vs. assimilating with or merely considering) a close other *reduced* creative idea generation. This

result is in line with our view that differentiating from close others feels difficult and reduces

divergent thinking. Also replicating past research, differentiating from (vs. assimilating with vs.

considering) a *distant* other increased creative idea generation.

Figure 5. The Effect of Referent and Comparison Type on Perceived Self-Other Similarity and Divergent Thinking

---
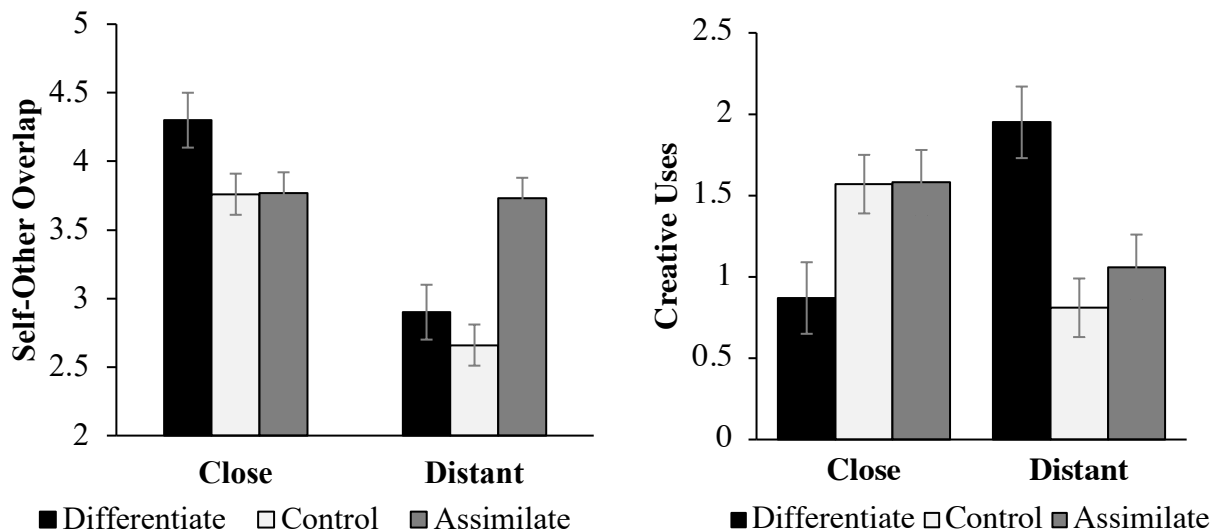
[1] These results are virtually unchanged when we run ANOVAs separately on creative ideas for toothbrushes (interaction: $F(2, 210) = 5.89$, $p = .003$) and for bricks (interaction: $F(2, 209) = 9.81$, $p < .001$). Moreover, they also are virtually unchanged when we run separate 2 (referent) × 3 (focus) ANOVA's on the proportion of creative to total uses (averaged for brick and brush; interaction: $F(2, 209) = 11.69$, $p < .001$), proportion of creative to total uses of brush (interaction: $F(2, 210) = 6.31$, $p = .002$) and of brick (interaction: $F(2, 207) = 7.56$, $p = .001$).

Ruling out depletion/distraction. One alternative account for these results could be that differentiating from a close other feels threatening and therefore participants are distracted. Alternatively, because differentiating from a close other is difficult, it might feel depleting (Schultz, Lamberton, & Nielsen, 2017). Both of these views imply that consumers might be less able to come up with ideas overall. To ensure against these possibilities, in this study we allowed participants to list as many uses as they wished. For a distraction or a depletion account to hold, we should find that participants who socially compare to differentiate (vs. assimilate or control) from a close other should generate significantly fewer overall uses. A 2 (referent) × 3 (focus) ANOVA on total uses generated (averaged for brick and toothbrush) revealed only a significant interaction, $F(2, 212) = 3.48$, $p < .04$. However, this interaction does not support a depletion or distraction account. When the referent was a distant other, differentiating ($M = 4.83$, $SD = 3.07$) increased the number of uses generated over assimilation ($M = 3.81$, $SD = 1.48$), $t(212) = 2.05$, $p = .04$, and over the control ($M = 3.61$, $SD = 1.27$), $t(212) = 2.44$, $p = .015$. Importantly, when the referent was a close other, differentiating (vs. assimilating or vs. control; $M = 4.02$ vs. 4.47 vs. 4.47; ps > .37) did not impact the total number of uses generated; implying that differentiation (vs. not) from a close other is not distracting or depleting. Almost these exact results are obtained if we run separate ANOVAs on overall uses generated for each of the two products separately.

Discussion

Study 4 demonstrates that differentiating (vs. assimilating with or merely thinking about) a close other increases how similar the other seems and reduces divergent thinking. These results are in line with the idea that the difficulty in differentiating from close others (studies 1-3) induces a similarity mindset in general, which can reduce divergent thinking. That the overall number of thoughts was not impacted rules out the possibility that the difficulty experienced when differentiating from a close other feels depleting, therefore reducing thinking in a

subsequent task. Instead, these data are consistent with our theorizing: if similarities are most salient when people think about close others, then the act of differentiating ought to feel difficult. This difficulty might result in a rebound effect wherein people believe that the close other is even more similar and induce a similarity mindset in general. This similarity mindset then reduces the impact of differentiation on divergent thinking.

General Discussion

Social comparison plays an important part in the development and maintenance of social structure, social relationships, and even the self-concept. Past research almost tautologically suggests that social comparison for differentiation ought to increase perceptions of difference with others whereas social comparison for assimilation ought to increase perceptions of similarities. By implicating metacognition in social comparison processes, however, we show instances in which differentiation can *increase* perceptions of similarities with others. We show that the effect of differentiation on perceptions of similarities and differences is moderated by referent – namely, from whom the person is differentiating. We show that people have different defaults for close and distant others. People engage in social comparison relatively infrequently with distant others, and therefore have no default when comparing with them. As a result, the act of differentiation feels easy. The ease with which people differentiate from distant others can facilitate a differentiation mindset which carries through to subsequent tasks and can increase divergent thinking. With respect to close others, however, social comparison is much more rampant, and people have a strong default to *assimilate* with close others. When in the presence of close others, similarities and shared identities become salient, and differentiation therefore feels difficult. The difficulty in differentiating from close others is attributed to a lack of differences between the self and other, therefore *increasing* perceptions of similarity. The

difficulty in differentiating from close others brings more similarities to mind, facilitating a similarity mindset, and reduces rather than increases divergent thinking.

We provide evidence for our theoretical account across 4 studies. In study 1, we showed that differentiating from (vs. assimilating with) close others feels difficult and increases perceptions of self-other similarity. Study 1 further ruled out relationship threat by examining our hypothesis in a context that is inherently unthreatening to relationships: cooperation. One alternative is that differentiating from close others threatens the closeness of the relationship, therefore motivating seeing the other as more similar to the self. In study 1, however, all participants were told that the act of differentiating (or assimilating) was in service of building and maintaining cooperation and was thus not a threat to the relationship. Nevertheless, we found that differentiating from close others felt difficult and increased perceptions of similarity. In line with past research and our proposal that this effect should not hold for distant others, differentiating from distant others increased perceptions of difference whereas assimilating with distant others increased perceptions of similarities. In study 2, we extended these results to a similarity mindset in general. We showed that differentiating from (vs. assimilating with or merely considering) close others felt difficult, and that this difficulty translated to a similarity mindset that increased thoughts about similarities and decreased thoughts about differences in a subsequent art comparison task. In contrast, and in line with past research showing that differentiating from distant others can evoke a differences mindset, differentiating from (vs. assimilating or merely considering) distant others felt easy, increasing thoughts about differences and decreasing thoughts about similarities in a subsequent task.

In study 3, we implicated the role of metacognitive difficulty by manipulating whether differentiating from a close other felt easy or difficult and the attribution people made about the difficulty using a direction of comparison task. A pretest showed that people attribute difficulty

in generating their own unique traits to increased similarity with close others, but attribute difficulty in generating the other's unique traits to a lack of knowledge about the other. As a result, we expected and found that the more difficult it felt to generate unique traits about close others, the less similar they seemed to the self. In contrast, it was more difficult to generate unique traits about the self in general, and the more difficult differentiation felt, the more similar close others seemed to the self. Thus, it is the attribution of difficulty to a lack of differences between the self and other that drives the increase in perceptions of similarity. Finally, in study 4 we found further support for our hypothesis that the difficulty in differentiating from close others would induce a similarity mindset and reduce, rather than increase, divergent thinking. Participants who had differentiated from close others not only perceived the other to be even more similar to the self but were also significantly less creative in a subsequent idea generation task. Study 4 also ruled out the possibility that people were more depleted after differentiating from close others by showing that people listed the same number of uses regardless of whether they differentiated from, assimilated with, or merely considered close others. Thus, across 4 studies, we showed that differentiation from close others feels difficult. This difficulty increases perceptions of similarity with the other and induces a similarity mindset which can carry through to reduce divergent thinking.

These findings shed many important theoretical insights into the processes of social comparison. First, we demonstrate that the default ways in which people engage in social comparison with particular referents can influence the downstream consequences of that comparison. Past research would have assumed that assimilative social comparison increases perceptions of similarities, whereas contrastive social comparison increases perceptions of differences. Instead, we show that the default way in which people engage in social comparison matters with respect to these outcomes. When the default conflicts with the type of comparison

in which people are engaging, it can lead to the opposite outcome. Differentiating from close others can, ironically, increase perceptions of similarity with the other. Second, these results suggest that past findings linking differentiation to a differences mindset and divergent thinking might be due in part to the metacognitive inferences people make during the act of differentiation. In particular, the finding in past research that differentiation increases a differences mindset and divergent thinking might be due in part to the fact that past research used distant others as referents where the act of differentiating felt easy. In showing that differentiation from close others feels difficult, we show an instance in which differentiating increases a similarity – rather than differences – mindset and therefore reduces – rather than increases – divergent thinking.

We further contribute to the interpersonal relationships literature by showing a metacognitive – rather than motivational – path through which close others might come to appear more similar to the self. From a motivational perspective, people might want to feel similar to close others and the act of differentiating might make people feel too different. As a result, people might be motivated to perceive the other as more similar to the self, sparking the increase in self-other similarity that we found across our studies. While this is an intriguing and well-established possibility, in studies 1 and 3 we show that the metacognitive difficulty experienced when differentiating from close others has an impact on perceived similarity above and beyond what the motivational account would predict. In particular, making it easier to differentiate from close others should make them feel even more different from the self, and from a motivational perspective, should therefore further increase the motivation to see the other as more similar. Instead, we find that because it is no longer metacognitively difficult to differentiate from close others, we attenuate the increase in perceptions of self-other similarity (study 3). Thus, above

and beyond the effect of the motivation to see others as more similar, the metacognitive difficulty in differentiating has an influence on how similar the other seems to the self.

We did not investigate moderators for when an optimal distinctiveness perspective would be more predictive of outcomes than our metacognitive account because our goal was to establish that metacognition plays a role in social comparison processes. Future research might seek to examine when metacognitive forces versus motivational forces are more influential for outcomes. One such moderator might be whether the act of differentiating is threatening to the relationship. All of our studies used relatively benign manipulations in which differentiation did not threaten the relationship. However, in cases where being too different from close others feels threatening, we might expect that the ease with which people differentiate from close others might further *increase* – rather than decrease – perceptions of similarity with the other out of a motivation to see the other as similar.

These findings also spark interesting questions for future research. One tested assumption we made is that the traits and identities made salient about the self when with close others are those which are shared and similar. However, there are many individual differences and situational factors that might moderate when and if people automatically think about their similarities with close others. One such individual difference might be how self-reliant or independent people are. Past research has shown that highly self-reliant people find cooperating with others to be difficult, and therefore suffer from self-regulation failures following cooperative tasks (Schultz et al., 2017). Thus, for highly self-reliant people, differentiating the self from others might be the default regardless of referent, and the act of assimilation, rather than differentiation, might feel difficult. An alternative possibility is that highly self-reliant and independent people are less likely to engage in social comparison at all. As a result, both differentiation and assimilation might feel difficult. Likewise, research has shown that people

with an interdependent (rather than independent) self-construal are more likely to include in-group members in their sense of self and are more likely to value relationships (Brewer & Gardner, 1996; Gardner, Gabriel, & Lee, 1999; White, Lehman, & Cohen, 2006). Thus, people with an interdependent self-construal are perhaps more likely to think of shared identities and traits when thinking about close others. In this way, our effects should be stronger when people have an interdependent rather than independent self-construal. Exploring when and for whom differentiation might feel difficult is an interesting avenue for future research.

In sum, at first glance, it might seem tautological that differentiating from others leads to perceptions of differences but that assimilating with others leads to perceptions of similarities. Instead, we show that referent – from whom people are differentiating – and the metacognitive inferences that referent provokes, matters with respect to this apparent tautology. By taking metacognition into account, we show an instance in which differentiation can ironically lead to perceptions of increased similarity. These results caution that researchers should consider from whom people are comparing when examining the downstream consequences of social comparison on outcomes.

What About Preferences for Innovative Products? An Introduction to Essay 2

In essay 1, I established that while differentiation increases perceptions of difference when comparing with distant others, the fact that differentiating from close others goes against the default and therefore feels metacognitively difficult reverses this effect. The metacognitive difficulty in differentiating from close others affords an assumption that differences between the self and other must not exist, increasing perceptions of *similarity*. I further showed that this increased focus on similarities can carry through to subsequent decision making as a mindset. While differentiating from distant others increases attention to differences, creating a differences mindset that carries through to subsequent tasks, differentiating from close others increases attention to similarities, creating a similarity mindset that carries through to subsequent tasks. In turn, differentiating from distant others increases divergent thinking, whereas differentiating from close others reduces divergent thinking.

These findings spark an interesting dilemma in the context of consumer preferences for innovative products. Innovation adoption has long been of interest to researchers because it is often really difficult to get consumers to understand the benefits of innovative product features. Research has shown that consumers are more likely to adopt innovative products when they can readily and easily integrate novel features into what they already know (e.g., Moreau, Lehmann & Markman, 2001). For example, when smartphones first came on the market, people were more willing to accept the smartphone when it was positioned within categories they already knew (e.g., a phone with added camera technology) rather than when positioned as a completely new category of product (Noseworthy, Wang, & Islam, 2012). Since integrating novel features into existing knowledge is an important way in which consumers come to accept innovative products, research has shown that the ability to think divergently and therefore access a broad range of existing knowledge can facilitate innovation adoption (Gregan-Paxton & John, 1997; Rietzschel,

Nijstad, & Stroebe, 2007). Thus, since differentiating from distant others increases divergent thinking, differentiation can increase preference for innovative products (e.g., Ashton-James & Chartrand, 2009; Berger & Heath, 2007). If differentiating from close others instead reduces divergent thinking, then essay 1 might suggest that differentiating ought to also reduce preferences for innovative products.

However, the findings of essay 1 can also predict the opposite effect – that differentiating from close others might *increase* preference for innovative products. In particular, the finding that differentiating from close others can evoke a similarity mindset and thus increase attention to similarities suggests that the act of differentiating from close others might also increase preferences for innovative products. If consumers are more likely to attend to the similarities between an innovative product and the products with which they are already familiar, then the novel product features of the innovative product ought to be more readily and easily integrated into existing knowledge. Thus, the similarity mindset elicited when differentiating from close others ought to make innovative products seem more similar to what is already known and therefore ought to increase preferences for innovative products.

In essay 2, I resolve this dilemma and show support for the former hypothesis that differentiating from close others reduces preferences for innovative products. One important feature of metacognition is that attributions of metacognitive difficulty are malleable, and people resolve disfluency by whatever means they have available (e.g., Schwarz, 2004). For example, people can either resolve disfluency by inferring that support for an argument is lacking (e.g., Schwarz, 2004) or that a product must be less desirable (e.g., Shen et al., 2010), depending on what resolution the decision context affords. In most experiments in essay 1, I explicitly drew participants' attention to their similarity with the referent of social comparison by asking them to indicate self-other overlap. As a result, I made interpersonal similarity a salient and reasonable

way to resolve disfluency. I thus expected and found that participants would resolve the difficulty in differentiating from close others by attributing it to a lack of available differences between the self and the other. This attribution increased attention to similarities, which led to the similarity mindset effects observed in studies 2 and 4. In essay 2, rather than explicitly drawing attention to interpersonal similarity, I instead asked participants to rate their preference for products. As a result, the decision context in essay 2 does not as easily afford resolving disfluency by inferring that differences between the self and other are lacking, and therefore might not elicit a similarity mindset.

Instead, in essay 2 I demonstrate that since unexpected and unresolved disfluency can increase the need for familiarity (Litt, Reich, Maymin, & Shiv, 2011; Whittlesea & Williams, 1998; 2001a; 2001b), when the context affords resolving disfluency in the product domain, consumers ought to reduce their preference for innovative (and therefore unfamiliar) products. In other words, if differentiating from close others goes against the default to assimilate and therefore feels disfluent, then this disfluency ought to increase the need for familiarity. This increased need for familiarity should reduce preferences for novel, innovative products and drive people toward conventional, familiar ones. Importantly, the finding in essay 1 that differentiating from close others reduces divergent thinking should be observed both when people have a similarity mindset (essay 1), but also when people have a heightened need for familiarity. If conventional uses for products are more familiar than creative ones, then the need for familiarity arising from the disfluency in differentiating from close others ought to also reduce the likelihood of generating divergent thoughts. Across the 4 studies and pilot in essay 2, I demonstrate that in the product domain, differentiating from close others indeed evokes a need for familiarity, which can reduce divergent thinking, and reduce – rather than increase – preference for innovative products.

ESSAY 2: WHEN DIFFERENTIATION REDUCES DESIRE FOR INNOVATION

Launching innovative products successfully can be vital for a firm's growth (Bayus, Erickson, & Jacobson, 2003; G. C. Lee, 2000). Accordingly, firms spend billions of dollars every year developing and launching innovative products (Sheth & Stellner, 1979). Yet most innovative products fail to generate consumer acceptance (Cierpicki, Wright, & Sharp, 2000), because consumers often do not understand their benefits (Noseworthy & Trudel, 2011). Firms therefore encourage consumers to think differently from others to increase the appeal and acceptance of innovative products. Thinking differently can bring more ideas to mind that allow consumers to better make sense of and understand the benefits that innovative products have to offer (Dahl & Moreau, 2002; Desrochers, 2001; Todd et al., 2011). One way to encourage consumers to think differently has been to direct consumers to differentiate or think about how they are different from others. These strategies appear to be successful: consider for instance Apple's famous and long running "Think Different," campaign that generated considerable enthusiasm for the innovative products offered by Apple. However, in this research, we posit that encouraging consumers to "think different" can sometimes backfire, reducing their preferences for innovative products.

An important, unacknowledged consideration is that tactics encouraging consumers to "think different" also often include an explicit, implied, or assumed referent. In other words, when encouraged to differentiate, a consumer must first answer the question "from whom?" Consumers may look to various others - including their friends or family members, coworkers, competitors, or to society at large - when deciding where and how to differentiate from others. However, research showing that differentiation encourages acceptance of innovative products generally cues distant, unknown, or hypothetical referents. For example, when consumers are encouraged to differentiate from out-group members or unknown experimenters, they choose

more unique products (Berger & Heath, 2007), and they generate more innovative ideas (Ashton-James & Chartrand, 2009). In observational data, regional diversity, which can make different others salient, has been found to correspond with increased technological innovativeness in the region (Desrochers, 2001). However, consumers sometimes also differentiate from close others (Pleban & Tesser, 1981; Tesser, 1988), on social media and elsewhere (Wilcox & Stephen, 2013). Unlike the increased preferences for innovative products that arise after consumers differentiate from distant others, we propose that differentiating from close others might instead narrow thinking and reduce preferences for innovative products. Such an effect would be surprising considering that the prevalent belief is that differentiation increases preference for innovation regardless of referent.

We propose a metacognitive account for this reversal. While people generally do not think about distant others and therefore do not hold a default strategy for comparing with them, people spend a considerable amount of time thinking about close others and assimilating is likely to be the default because close others shape and inform consumer identities (Chen, Boucher, & Tapias, 2006; McFarland, Buehler, & MacKay, 2001). Thus, while all social comparison with distant others might feel disfluent, differentiating from, rather than assimilating with, a close other could therefore feel disfluent. Consumers tend to attribute disfluency to whatever they infer caused the disfluency, and in this situation of social comparison, the disfluency is likely to be attributed to the close or distant other. While feeling some level of disfluency around distant others is expected, feeling disfluency around close others is unexpected and unwanted. This unexpected sense that a close other caused disfluency is likely to increase a need for the comfort of familiarity, and thereby reduce consumer preferences for innovative products.

In showing that a fit between comparison referent and a "think different" strategy matters when promoting innovative products, and the role that disfluency might play in determining

these preferences, we show when differentiation can reduce preferences for innovative products. This proposition has important implications for marketers considering where and how to position innovative products especially on social media where referents may often be close others. When a potential customer has a larger network of close rather than distant others, and thus assimilation may be more natural, marketers touting innovative products might ironically be better off reminding consumers to "Think Similar," rather than different. In what follows, we review the literature and develop our theoretical model.

Conceptual Development

Why Differentiating Increases Preference for Innovative Products

Differentiating can increase preference for innovative products because the act of differentiation can broaden thinking among consumers. The act of differentiating cues a broader range of ideas (Dahl & Moreau, 2002; Wang, Fussell, & Cosley, 2011), and understanding innovative products requires having access to a broad range of concepts and their novel combinations (Gregan-Paxton & John, 1997; Rietzschel, Nijstad, & Stroebe, 2007). Having access to a broad range of concepts can facilitate understanding the benefits offered by innovative product features (Meyers-Levy & Tybout, 1989; Noseworthy, Wang, & Islam, 2012), whereas narrow thinking can reduce understanding of the benefits of innovative products (Bettman & Park, 1980; Moreau, Lehmann, & Markman, 2001; Olshavsky & Spreng, 1996). For example, at a time when digital cameras were considered innovative, Moreau et al. (2001) found that consumers preferred these cameras less when they narrowly classified them either as "cameras" or as "scanners" rather than when they had broad access to both categories.

The effect of differentiation on broadened thinking and preference for innovation also holds in the interpersonal domain. Differentiating the self from others has been shown to encourage innovative ideas for new products (Ashton-James and Chartrand 2009), innovative

solutions to organizational and classroom problems (Ames, 1981; Wang et al., 2011), and preference for unique products (Berger and Heath 2007).

Notably, however, the research showing that differentiating from others increases innovative thinking and preference for innovative products almost always employed distant colleagues and workmates (Desrochers, 2001; Wang et al., 2011), unknown experimenters (Ashton-James & Chartrand, 2009), and unknown or hypothetical others (Boudreau, Lacetera, & Lakhani, 2011). Consumers have little or no shared experiences with distant others, and as a result, consumers are significantly less likely to think about or engage in social comparison with distant others because the outcome of the comparison is seen as less diagnostic for the purpose of self-evaluation (e.g., Festinger, 1954; Tesser & Campbell, 1982). Since consumers do not often think about distant others and therefore do not have a well-established way in which they engage in social comparison, the goal the consumer has for the social interaction (e.g., to establish a unique identity from or to build rapport with) the distant other is what determines the direction the social comparison will take (i.e., differentiation or assimilation). Thus, when encouraged to differentiate from distant others, consumers may be more likely to think about differences. In line with past research, this increased focus on differences is what broadens thinking and increases preference for innovative products.

A Metacognitive Route to Product Preferences

While consumers do not have a default way of thinking about distant others, differentiating from distant others might still feel easier than assimilating. This is because people have an underlying desire to see themselves as different from others (e.g., Dunning & Beauregard, 2000; Dunning & Cohen, 1992) and the lack of information people have about distant others facilitates confirming beliefs that the consumer is indeed different. When comparing with distant others about whom consumers have little information, the beliefs

consumers hold about the traits that make themselves unique come to mind readily and easily, and very few of those beliefs map on to what is known about distant others (Catrambone, Beike, & Niedenthal, 1996; Tversky, 1977). This lack of available mapping, along with the desire to maintain a sense of personal identity, allows people to assume that the other does not share the trait and makes the other seem surprisingly different from the self. Thus, even though people do not have a pre-established way of engaging in social comparison with distant others, the fact that consumers have the desire to see themselves as different from others and that they know more about themselves than the other might make the act of differentiation feel surprisingly easy.

If differentiating from distant others feels surprisingly easy, it is possible that messages encouraging differentiation (vs. non-differentiation) from a distant other also increase preferences for innovative products because these messages are more fluent to process. Indeed, in other contexts, research shows that the ease with which people process a message influences how much they like the target of the message (Shen, Jiang, & Adaval, 2010; Wänke et al., 1997). For instance, since generating 1 reason to drive a BMW feels easier than generating 10 reasons, consumers like a BMW more when they generate 1 (vs. 10) reasons (Wänke et al., 1997). Similarly, if messages encouraging consumers to differentiate from (vs. assimilate with) distant others are also processed more fluently, this feeling of fluency, when attributed to the advertised innovative product, might further increase preference for the product above and beyond the benefits of differentiation on broadened thinking. Thus, in past research, the increased preference for innovative products when consumers were encouraged to "Think Different," may have had an added benefit of processing fluency because the referent happened to be a person from whom differentiation felt surprisingly easy.

Unique Predictions from a Processing Fluency Account

Close others, unlike distant others, are personally relevant, and they shape and inform a consumer's identity. Thinking about close others tends to bring shared identities and similarities to mind because these thoughts facilitate positive interactions with close others (Chen et al., 2006a; Corcoran et al., 2011; Markus & Kunda, 1986; Rusbult, Finkel, & Kumashiro, 2009). Because consumers have considerable knowledge about close others, and because consumers often access knowledge about the similarities between the self and close others to interact meaningfully and effectively with them, the default strategy when thinking of close others is likely to be to assimilate. Much research also supports this possibility that assimilation is likely to be a default when considering close others (Chen et al., 2006; Corcoran et al., 2011; McFarland, Buehler, & MacKay, 2001; Mussweiler & Rüter, 2003). If assimilation is the default strategy among consumers when they consider close others, then cueing differentiation (vs. assimilation) would require thinking beyond salient similarities to instead consider differences, and this processing experience could feel disfluent.

Indeed, in other contexts, research shows that disfluency can arise from processing experiences that accompany the act of thinking (Schwarz, 2004). For example, processing fluency arises when generating thoughts is easy rather than difficult (Wänke et al., 1997), when information is simple and clear rather than complex or blurry (Shen, Jiang, & Adaval, 2010), or when relevant thoughts are highly accessible in memory than not (Labroo et al., 2008). Furthermore, cueing consumers to think in a manner that is inconsistent with their default strategy can also evoke disfluency (Aaker & Lee, 2006; Hong & Sternthal, 2010; Labroo & Lee, 2006; A. Y. Lee & Aaker, 2004). For example, consumers who are chronically advancement-oriented experience disfluency when ad-messages demand vigilance, because their default strategy of advancement conflicts with the one that requires vigilance (Hong & Sternthal, 2010;

A. Y. Lee & Aaker, 2004). Labroo and Lee (2006) also found disfluency effects across advertisements—after consumers viewed a gain (vs. loss)-framed ad, processing of the next advertisement was inhibited when it employed a mismatched loss (vs. gain) frame. Thus, a match (vs. mismatch) between a consumer's default processing strategy and the processing cued by a message could evoke experiences of fluency (vs. disfluency). In this way, if the default strategy when considering close others is to assimilate, then differentiating goes against this default and is likely to feel disfluent. Thus, messages that cue a comparison (differentiation vs. assimilation) that goes against the default processing strategy for the referent is likely to evoke disfluency. More formally:

> **H₁:** If the default when considering a close other is to assimilate, then differentiating may feel disfluent.

Consumers who experience disfluency when differentiating from close others are likely to seek the comfort of familiarity because familiar products feel safe and are comforting. Research has shown that consumers seek the comfort of familiar products when they experience discomfort arising from stress (Litt, Reich, Maymin, & Shiv, 2011) or when they wish to reduce uncertainty (A. Y. Lee, 2002). While unfamiliar, innovative products are exciting and evoke interest from consumers, familiar products are pleasant and considering them evokes positive affective responses (Labroo & Pocheptsova, 2016; Pocheptsova, Labroo, & Dhar, 2010). Thus, it is reasonable that considering familiar rather than innovative products and thinking about familiar rather than innovative ideas could feel reassuring and might even help regulate feelings of disfluency. If it is neither expected nor wanted to feel disfluent when differentiating from a close other, this experience of disfluency could heighten the need for the comfort of familiarity, thus reducing preferences for innovative products.

Importantly, while feeling disfluency when differentiating from a close other is likely to heighten the need for familiarity and reduce preference for innovative products, the disfluency that arises when thinking about a distant other ought not have this effect. Unlike with close others, consumers expect to feel somewhat uncomfortable and disfluent around distant others. Research has shown that expectations about feelings of disfluency can reduce their effect on outcomes such that when people expect to feel disfluent, the feeling is no long diagnostic toward subsequent attributions (Whittlesea & Williams, 1998; 2001a; 2001b). For example, Pocheptsova, Labroo and Dhar (2010) found that feeling disfluent when evaluating an everyday product (where disfluency was unexpected) reduced preferences, but when consumers wanted to try something unique – and therefore expected to feel disfluent– feeling disfluent when evaluating the product no longer decreased preferences. Thus, while the feeling of disfluency when differentiating from close others is not expected and ought to increase the need for familiarity, feeling disfluency when thinking about distant others is expected and ought to have less of an impact on subsequent need for familiarity. Formally:

> **H$_2$:** While differentiating (vs. assimilating) from a distant other will increase preferences for innovative products, differentiating (vs. assimilating) from a close other will reduce preferences for innovative products.

An important aspect of disfluency is that these feelings can be misattributed to something other than what caused them to arise. For example, reading a disfluent ad can result in consumers inferring the product is of poor quality, but informing the consumer that the font in the ad is unclear and might cause disfluency can reverse these negative inferences by allowing consumers to correct for their negative inferences (Shen et al., 2010). If attributing an unexpected feeling of processing disfluency to close others underlies the preference for familiarity, then attributing

disfluency to something other than the referent should attenuate or even reverse these reduced

preferences for innovative products. Thus:

> **H₃:** If disfluency from differentiating from a close other is what decreases preference for
>
> innovation, then attributing disfluency to a contextual factor other than the referent will
>
> reestablish preference for innovation.

While the idea that differentiation could feel disfluent and *reduce* preferences for

innovative products when the referent is a close other has not been investigated before,

predictions made by a related stream of research on optimal distinctiveness should be

distinguished from our perspective. Those findings posit a motivational account that if

consumers differentiate too much from a close other, they feel too different and isolated, which

increases their desire for *affiliation* and reduces preferences for unique products (Brewer, 1991;

White & Argo, 2011). If unique products are also innovative, feeling too different could reduce

preferences for innovative products, as our disfluency account predicts, though for a different

reason. Notably, a finding that differentiation reduces preference for innovation based on referent

would still be novel because, as discussed, the literature overwhelmingly argues that

differentiating *increases* preferences for innovative products. But our disfluency attribution

argument helps tease apart these two accounts. Attributing difficulty to something other than

differentiating should result in differentiating feeling easier. Pertinent to the optimal

distinctiveness account, if differentiating feels easier, then consumers should infer they are even

more different from close others, because they could think of differences so easily. Attribution of

disfluency to something other than differentiation should thus further increase the desire to

affiliate and reduce preferences for innovative products. Pertinent to our account, if

differentiating feels fluent, then consumers should no longer seek the comfort of familiarity,

reversing our original effect, and reinstating preference for innovative products. Furthermore, the optimal distinctiveness account also predicts that assimilating too much with a distant other should increase the need for uniqueness and thus, assimilating (vs. differentiating) from a distant other would increase preferences for innovative products. Instead, according to our account, differentiating from (vs. assimilating with) a distant other feels surprisingly easy, and the ease with which differences come to mind facilitates thinking broadly. As a result, differentiating from (vs. assimilating with) distant others increases preferences for innovative products.

The Current Research

In sum, we posit that the referent—namely, from whom consumers differentiate— moderates the effect of differentiation on preference for innovative products. While differentiation (vs. not) from distant others is known to broaden thinking, and as a result, increases preferences for innovative products, differentiation (vs. not) from close others is likely to backfire, and reduce preferences for innovative products. We conducted four studies to test our theorizing. First, in study 1, we tested whether differentiating (vs. assimilating) from close others but assimilating (vs. differentiating) from distant others feels more disfluent (H_1). Participants read a "Think Different" or "Think Similar" advertisement for an innovative product while considering close or distant referents, indicated how fluent the message felt, and indicated their preferences for the innovative product. In study 2, we replicated study 1 in the context of social media and measured rather than manipulated the extent of differentiation from the referent. We also included a second cognitive performance measure designed to see whether differentiating from close others can narrow rather than broaden thinking (H_2). Study 3 tested our disfluency account through moderation. We manipulated whether participants attributed the disfluency to the referent or elsewhere and showed that when disfluency is attributed elsewhere, preference for innovative products was restored (H_3). Finally, in study 4 we tested whether

differentiating from a close other reduces preferences only for innovative products rather than all products. If, as we propose, disfluency in differentiating from close others increases the need for familiarity, then reduction in preferences should be limited to the innovative products and should not apply to conventional ones.

<div align="center">**Experiment 2.1: Differentiating from Close Others Feels Disfluent**</div>

To begin, we wanted to test whether advertising messages that encourage consumers to differentiate might backfire and reduce preference for innovative products when the referent is a close other. To do so, participants saw an advertisement for an innovative product that encouraged them to either differentiate or assimilate with close or distant others. Participants then indicated how disfluent processing the message felt, and finally indicated their preferences for the innovative product. We show that the same ad for an innovative product can backfire and reduce preference when consumers are considering close others as the referent.

Method

Three hundred and one participants recruited from Amazon's Mechanical Turk were randomly assigned to a condition in a 2 (referent: close vs. distant) × 2 (strategy: differentiate vs. assimilate) between-subjects study. Participants read an ad that encouraged them to either differentiate or assimilate from close or distant others, indicated how fluent/disfluent processing the message was, and indicated their preferences for the advertised innovative product.

First, all participants were shown an ad for Nura headphones. These headphones were described as "new and innovative headphones that won the 2018 CES "Best of Innovation" award." To manipulate ad positioning, the ad encouraged participants to think different and "Be Different" from others or to think similar and "Join the Movement" by using these headphones. To manipulate referent, the messages specifically encouraged participants to be different from

(or join the movement with) their closest friends (close referent) or the general population (distant referent). Thus, participants were assigned at random to view one of these four ad types.

After viewing one of the four advertisements, participants rated how disfluent/fluent processing the ad felt (The advertisement was… 1 = *difficult to process*, *difficult to understand, felt wrong* to 7 = *easy to process*, *easy to understand, felt right*; 3-item scale adapted from Lee & Aaker, 2004). Participants also indicated their preferences for the headphones (4-item scale: 1 = *Dislike very much*, *Very negative*, *Definitely not buy*, *Not at all interested* to 7 = *Like very much*, *Very positive*, *Definitely would buy*, *Very interested*). Participants then completed an attention check question asking them to identify the brand name of the headphones they just reviewed the advertisement for, some control questions pertaining to demographics (e.g., gender and age) and were then thanked and debriefed. We predicted that if the default strategy when considering close others is to assimilate and it feels surprisingly easy to differentiate from distant others, then consumers will report more disfluency after reading the "Join the Movement" (assimilate) ad versus the "Be Different" (differentiate) ad when the referent is a distant other, but the reverse when the referent is a close other. In addition, we expect disfluency to reduce preferences for the innovative product.

Results and Discussion

Data exclusions. Of the 301 participants, 26 failed our attention check item as they could not correctly identify the brand name of the advertised product. Their data were excluded from the analysis, resulting in a final $N = 275$ ($M_{age} = 35.61$, 52% female).

Product preferences. A 2 (referent) × 2 (strategy) ANOVA on product preference revealed a significant interaction, $F(1, 271) = 10.79$, $p = .001$. As predicted, when the referent was a distant other, participants preferred the innovative headphones more when the ad strategy encouraged them to be different ($M = 4.80$, $SD = 1.04$) than when it encouraged them to

assimilate ($M = 4.32$, $SD = 1.51$), $F(1, 271) = 4.78$, $p = .030$. In contrast, when the referent was a close other, participants preferred the headphones less when the ad strategy encouraged them to be different ($M = 4.40$, $SD = 1.27$) than when it encouraged assimilation ($M = 4.94$, $SD = 1.19$), $F(1, 271) = 6.04$, $p = .015$. Furthermore, there was no main effect of ad strategy on preferences, $F < 1$, indicating that differentiation does not directly increase preferences for innovative products. Instead, this effect depends on the referent consumers consider at the time they differentiate, as we posit. Consumers prefer innovative products more when ads encourage consumers to differentiate from distant others and assimilate with close others.

Disfluency. A 2 (referent) × 2 (strategy) ANOVA on fluency also revealed a significant interaction, $F(1, 271) = 7.36$, $p = .007$. When the referent was a distant other, the ad was evaluated as less fluent when it encouraged participants to assimilate ($M = 4.82$, $SD = 1.47$) rather than differentiate ($M = 5.49$, $SD = 1.33$), $F(1, 271) = 7.39$, $p = .007$. In contrast, when the referent was a close other, the ad was less fluent when it encouraged participants to differentiate ($M = 4.75$, $SD = 1.53$) rather than assimilate ($M = 5.02$, $SD = 1.41$), $F(1, 271) = 1.25$, $p = .264$, though this difference failed to reach significance. Notably, the ad was quite simple, and headphones are a familiar product despite being pitched as innovative. As a result, the fluency of the ad was generally high, and additionally, differentiating from a close other in the familiar "headphones" product category may have attenuated the disfluency effects somewhat because of the reassurance of the familiar category. Thus, we may have observed a directional but non-significant effect. However, it is still worth noting that product preferences were higher when the referent was a close other and the ad encouraged assimilation rather than differentiation, implying that assimilating with close others could provide consumers the reassurance needed to purchase a product advertised as innovative.

Moderated mediation. We conducted a moderated mediation analysis (Hayes 2012; model 8) to check whether referent moderated the effect of ad strategy on fluency (H$_1$), and whether this effect impacted preferences for the innovative product after controlling for any direct effect of referent × ad on preferences. This analysis revealed a significant index of moderated mediation, 95% CI [-.85; -.14] (see Figure 6), indicating that assimilating with a distant other and differentiating from a close other felt disfluent (H$_1$), and that disfluency corresponds with reduced preferences for innovative products (H$_2$) even after controlling for any direct effects of referent × ad on preferences.

Figure 6. Fluency Mediates the Relationship Between Ad Positioning and Product Preference
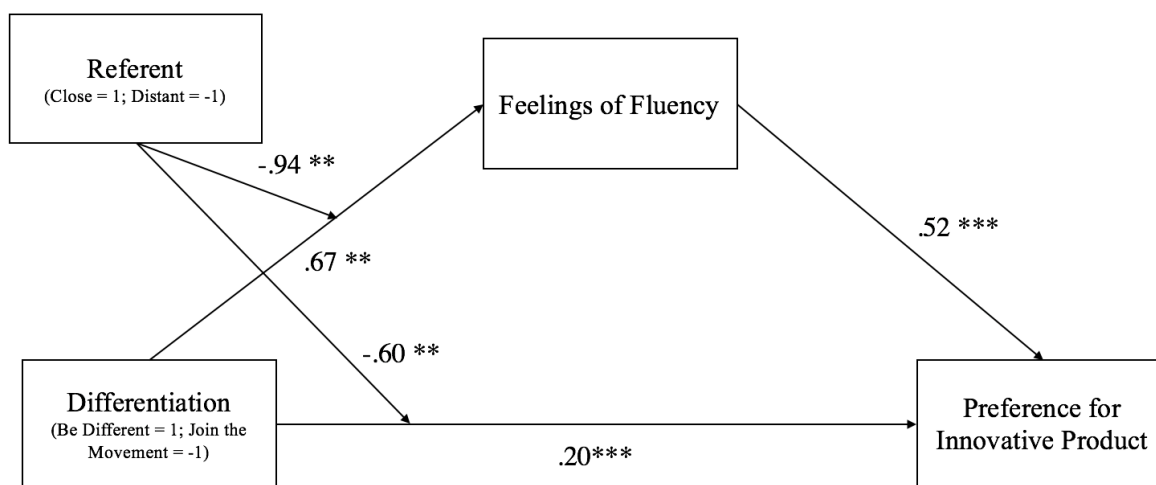
Index of Moderated Mediation: -.46; 95% CI [-.85; -.14]

Study 1 provided partial support for our theorizing. It demonstrated that ads encouraging consumers to differentiate can backfire and reduce preference for innovative products when the referent is a close other. While in line with past research, participants liked the headphones more when the ad encouraged them to differentiate from distant others, participants liked the headphones *less* when the ad encouraged them to differentiate from close others. This effect was

mediated through experienced disfluency, and the effect of disfluency on reduced preferences for innovative products held even after controlling for the direct effects of ad strategy × referent on preferences.

While this study is important in showing an effect of differentiation in reducing preferences for innovative products and an underlying role of disfluency, two significant limitations should be noted. First, this study did not include a baseline condition without differentiation/assimilation or a close/distant referent because such an ad would have been strange as it likely would have lacked sufficient context. As a result, we were unable to affirm whether disfluency reduced preference or whether fluency increased preference for the innovative product. Notably, this effect is important even if it is driven by fluency of assimilation rather than disfluency of differentiation, because this study is the first to show an effect of processing experiences on preferences for innovative products and the role that social comparison (differentiation vs. assimilation) plays in evoking these processing experiences. Still, to ensure that it is the disfluency evoked from differentiating from close others that reduces preference for innovative products, we conducted study 2. In study 2, we selected a context that naturally encourages differentiation – namely, social media – and subtly measured the extent of differentiation before soliciting preferences for an innovative product.

A second limitation of study 1 is that we did not observe a disfluency effect from differentiating from a close other. One possibility is that the headphones category is a very familiar one, and familiarity with the product category may fit with the processing style people employ for close others. It is possible that when considering close referents, fluency may have arisen from a fit between processing a familiar category and thinking about close others, and this fluency may have reduced the impact of the disfluency experienced when differentiating from a close other. In contrast, considering familiar product categories might not fit with the processing

style people use when considering distant others, and these two sources of disfluency may

have resulted in our observation of disfluency effects for distant others. Thus, to calibrate better,

in study 2 we employed a different product category that can include both familiar and

unfamiliar designs (pants). In addition, while advertising is a managerially relevant context

within which to test our effects, to add external validity, we extended our investigation to a

different context—social media.

Experiment 2.2: Differentiating on Social Media and Preference for Innovative Products

Our goal in study 2 was to assess whether the differentiation that occurs on social media

can have a real effect on preference for innovative products. In this study, we asked participants

to log into their social media accounts and directed them to browse the feeds of either a close or

a distant other. We did not direct them to differentiate, but instead measured the extent to which

browsing social media cued the participant to differentiate from the other. We then used this

continuous measure to predict preferences for an innovative product. We expected that the more

participants differentiated from close others, the narrower their thinking would be and the less

they would prefer innovative products.

Before examining our effect of interest, we ran a small pilot to establish: (a) social media

is an important source of product information for consumers, (b) social media allows consumers

to differentiate from others, and (c) consumers follow both close and distant others when

browsing social media. MTurk workers ($N = 202$, $M_{age} = 36$, 43% female) answered a survey

about their social media habits. Participants indicated (a) how many hours a day they use social

media, (b) which social media platforms they use, (c) whom they follow, (d) the extent they

differentiate from others on social media (1 = *focus on similarities*, 7 = *focus on differences*), (e)

if differentiating from close others on social media threatens their relationships, identity, and

feelings (all 1 = *strongly disagree*, 7 = *strongly agree*), and (f) if they had ever bought something

as a result of social media posts. We found 99.5% of our sample (all but 1 person) were active

on social media, and 87.06% were on two or more platforms. They spent an average of 6.73

hours ($SD = 4.15$) hours online every day, of which 2.20 hours ($SD = 2.11$) or 34.54% of time

online was on social media. 85.6% of our sample was on Facebook, 75.7% on YouTube, 54.5%

on Reddit, 51% on Instagram, 49% on Twitter. Also, 95.44% of our respondents followed close

others, 87.62% followed distant others, 83.58% followed both close and distant others. In sum,

people were equally likely to follow close and distant others, and a majority followed both close

and distant others. Participants indicated they were also more likely to differentiate from others

on social media than look for similarities ($M = 4.54$, $SD = 1.66$ vs. scale midpoint = 4.00; $t(194)$

= 4.54, $p < .001$), and 67.5% of our sample had been influenced by social media to buy

something. Purchased items included clothes, shoes, accessories, motorcycles, travel, foods,

cookware, a dog, video games, etc. Finally, differentiating from close others did not threaten

relationships ($M = 3.02$, $SD = 1.86$; vs. midpoint = 4.00; $t(199) = -7.48$, $p < .001$), identity ($M =$

2.93, $SD = 1.85$; vs. midpoint = 4.00), $t(199) = -8.23$, $p < .001$, or mood ($M = 3.91$, $SD = 1.97$;

vs. midpoint = 4.00), $t(199) < 1$, $p > .52$. In sum, social media is an important part of consumers'

lives, most consumers are on multiple platforms, most follow both close *and* distant others, and

social media often facilitates differentiating from others.

Method

For the main study, 156 students recruited through the behavioral lab participated.

Students first named a close or distant other they had on social media. The name of this referent

was piped through to subsequent parts of the survey. Participants then actually logged into their

Facebook page and browsed the feed of the named person pertaining to a product, service or

event that the person liked and was interested in. After browsing the post, participants returned to

the survey. To check participants had selected to browse the posts of a close (vs. distant) other, they indicated similarity with the person (1 = *very dissimilar*, 7 = *very similar*).

In the survey, participants then described the post, and indicated the extent the post cued them to differentiate from the referent (Seeing the post made me … want to be different from the person, think of differences from the person, compare in an attempt to differentiate, and express my own differentiated identity; all 1 = *strongly disagree* to 7 = *strongly agree*; α = .64). To capture that differentiating more from a close (but not distant) other feels disfluent, participants also indicated how fluent/difficult it felt to differentiate from the other (1 = *very easy*, 7 = *very difficult*). As control items, to ensure differentiating is not threatening, participants indicated whether the post made them feel threatened and bad (both items: 1 = *disagree* to 7 = *agree*).

Finally, we collected two dependent variables. The first dependent variable was designed to replicate study 1 findings by measuring preferences for an innovative product. Participants read they were shopping for a new pair of pants and had narrowed their choice to two very similar in price and in quality. One pair was familiar and conventional in terms of being of the style they usually buy. The other was novel and innovative in cut and not what they normally buy. Both pairs fit with the participants' sense of style, and they felt they would wear both pairs of pants equally often, but they had to decide on a single pair to buy. They then indicated which style they would buy (1 = *definitely buy familiar style*, 7 = *definitely buy innovative style*), and how likely they would buy the familiar style (1 = *definitely not buy*, 7 = *definitely buy*; reverse coded and items averaged; $r = .71$, $p < .001$).

The second dependent measure was designed to provide process insight by measuring broad vs. narrow thinking. One way to assess broad vs. narrow thinking is to employ a creativity measure where participants generate uses for an everyday product. The more creative the uses are, the more broadly consumers are thinking. In this way, if differentiating from a close other

feels disfluent and results in a preference for familiarity, as we claim, then we expect that the more participants differentiated from a close other the *less* creative their thinking would become. In contrast, the more participants differentiated from a distant other the *more* creative their thinking would become. Participants completed an idea generation task, generating the three most creative uses they could think of for a toothbrush. Two coders blind to condition coded each idea for whether it was creative and represented broad thinking (1; e.g., use as a mic to sing, use as a handle for a kite) or not (0; e.g., brush teeth, clean toilet). Coders agreed on 439 of 468 classifications, and disagreements were resolved through discussion. We created a divergent thinking index for each participant by averaging the three scores for each of the three uses. The survey concluded with demographics.

Results

Data exclusions. Of the 156 participants, three refused to log into their social media, and one indicated they did not participate in social media. These responses could not be included in our analyses, resulting in $N = 152$ ($M_{age} = 27.80$, 59% female).

Manipulation checks. Reflecting that our manipulation of assigning participants to a close (vs. distant) referent condition was successful, a one-way ANOVA predicting perceived similarity revealed that the referent was evaluated as more similar to the self when close rather than distant ($M = 5.18$, $SD = 1.27$ vs. $M = 3.84$, $SD = 1.39$), $F(1, 151) = 38.42$, $p < .001$. Also, reflecting that social media encouraged participants to differentiate to the same extent from close and distant others, a one-way ANOVA predicting the differentiation index from referent revealed a non-significant effect of referent ($M = 3.64$, $SD = 1.24$ vs. $M = 3.39$, $SD = 1.18$), $F(1, 151) = 1.62$, $p > .20$.

Preferences for innovatively-styled products. To test our hypothesis that differentiating more from a close other can reduce preferences for innovative products, we ran a regression

predicting preference for the innovatively-styled pants from referent (distant = -1, close = 1), the differentiation index, and their interaction. We observed a main effect of referent (b = .86, SE = .38), $t(149)$ = 2.28, p = .024, indicating that browsing the posts from close (vs. distant) others increased preferences for innovative styles. Importantly, this effect was qualified by a significant interaction (b = -.26, SE = .10), $t(149)$ = -2.59, p = .011. As we expected, the more participants differentiated from distant others, the more they preferred the innovatively styled product (b = .24, SE = .14, $t(151)$ = 1.67, p = .098). In contrast, the more participants differentiated from close others, the *less* they preferred the innovatively styled product (b = -.28, SE = .14), $t(151)$ = -1.99, p = .048.

Disfluency. To test whether differentiating from a close other is disfluent, we ran a regression predicting disfluency from referent (distant = -1, close = 1), the differentiation index, and their interaction. We observed only the predicted interaction, (b = .218, SE = .016), $t(148)$ = 2.06, p = .041. Spotlight analyses showed, as expected, that participants experienced increased disfluency the more they differentiated from a close other, (b = .30, SE = .15), $t(151)$ = 2.04, p = .043. This effect was reversed when they differentiated from a distant other, (b = -.13, SE = .15, $t(151)$ = -.89, p = .378, though this difference did not reach significance. Considering our theory is that people do not have a default for distant others, but that differentiation might feel surprisingly easy, and this study employed only the extent to which participants differentiated (but not assimilated), this non-significant effect is consistent with our theorizing.

Narrow thinking. To test our hypothesis that increased differentiation can narrow thinking when the referent is a close other, we ran a regression predicting the creative thinking index from referent (distant = -1, close = 1), the differentiation index, and their interaction. We observed a significant effect of referent, b = .16, SE = .07, $t(148)$ = 2.39, p = .018, but this main effect was qualified by a significant interaction, b = -.057, SE = .019, $t(148)$ = -3.02, p = .003.

Similar to our findings with the disfluency measure, spotlight analyses showed that differentiating more from a close other reduced how creative participants were, $b = -.08$, $SE = .03$, $t(151) = -2.82$, $p = .006$. Differentiating more from a distant other somewhat increased how creative participants were ($b = .04$, $SE = .03$, $t(151) = 1.42$, $p = .157$), though this effect was not significant. Considering our theory is that people do not have a default when considering distant others, this non-significant effect is unsurprising.

Supplementary analysis. We ran mediation analyses testing whether disfluency mediated the reduction in preference for innovative products among participants who had previously browsed the posts of close others. Unlike in study 1, this mediation was not significant. It would have been strange if extent of disfluency experienced in one domain (social media) had mediated preferences in a completely different domain (pants). Furthermore, to rule out a possibility that differentiating from a close other is threatening to the relationship, we ran a regression predicting threat from referent (distant = -1, close = 1), the differentiation index, and their interaction. Only a main effect of differentiation was observed ($b = .355$, $SE = .09$), $t(148) = 3.94$, $p < .001$, indicating that *regardless* of whom the referent was, differentiating increased threat. A regression predicting feeling bad from referent (distant = -1, close = 1), the differentiation index, and their interaction also showed only a main effect of differentiation ($b = .654$, $SE = .104$), $t(148) = 6.31$, $p < .001$, indicating differentiation also increased feeling bad.

Discussion

Study 2 is important because it shows that more (vs. less) differentiation from a close other can feel disfluent, narrowing thinking and reducing preferences for innovative products. Only when the referent is a distant other does increased differentiation somewhat increase preferences for innovative products and broaden thinking, though we found these effects to not be significant. These non-significant effects are in line with our theorizing that people do not

have a default way of comparing with distant others, but that differentiation feels surprisingly easy. Since differentiation feels surprisingly easy, differentiating from distant others should feel fluent in general. Instead, we would have expected that the more participants assimilated with distant others, the more disfluent it would have felt. Nevertheless, we further expect that since consumers somewhat expect to feel disfluency from distant others, the feeling of disfluency when assimilating with distant others should not increase the need for familiarity. We test this proposal further in study 4.

We also found that mood or relationship threat did not account for our effects. Importantly, we ensured through the instructions that the innovative product was not more identity-relevant than the familiar one, and it could not signal identity more. Thus, the choice of a less innovative product does not reflect a reduced preference to signal an identity that is distinct from others. Additionally, we employed a natural prime for differentiation—social media—and measured individual differences in the extent to which participants differentiated. Also, participants actually logged into their social media accounts and selected a post to browse, enhancing realism in this study. Furthermore, referent—close vs. distant—did not impact the extent to which social media cued participants to differentiate. Given that social media use is extensive, our findings strike a cautionary note for marketers who wish to promote innovative products on social media—they may be wise to associate their products with distant others or, if their target consumers are more likely to share posts with close others, the messaging should be to "think similar" rather than "think different."

An important finding also emerges when we consider studies 1 and 2 in combination. In study 1, we employed a familiar product category (headphones) which may better fit the default processing strategy people employ with close others. It is possible that this fit between familiar category and familiar close others may have heightened fluency and somewhat overridden the

disfluency arising from the instructed strategy to differentiate. In study 2, we instead employed a context (social media) where the default strategy to differentiate does not fit with the default strategy consumers employ for close others. This mismatch between the context itself and referent type may have further enhanced the effect of differentiation disfluency on reduced preference for innovative products. It thus seems that fluency can arise from a match between referent type and contextual factors such as the category to which the product belongs or the domain where consumers engage in social comparison. These experiences of fluency may mitigate or enhance the effect of the disfluency caused by a mismatch between the instructed strategy and the referent. Thus, marketers and researchers should carefully consider how the default processing styles of the referent, context, and message might interact to influence fluency and downstream decision making.

One limitation of study 2 is, unlike in study 1, disfluency did not mediate preferences. This non-mediation is not surprising given that fluency is an affective experience and may be difficult to self-report; also, while fluency may mediate preferences for the target (ad) from which it arises, as it did in study 1, that disfluency in one domain (social media) mediates something completely different (subsequent preferences) would be unusual. Notably, we did find that more (vs. less) differentiation increased self-reports of disfluency, and it reduced divergent thinking. This finding is consistent with our proposed process that attribution of disfluency to the close referent increased the need for familiarity. In study 3, however, we look for process evidence through moderation of this mediator (disfluency attribution). We lead participants to misattribute differentiation disfluency to something other than close others. If disfluency is attributed to something other than close others, then consumers should no longer seek the comfort of familiarity, and their preferences for innovative products should be reinstated. Also, in study 3, we not only collected measures that reflect accessibility of divergent thoughts as we

did in study 2, but additionally measured the need for familiarity. If differentiating from close others feels disfluent and leads to a need for the comfort of familiarity, then we expect both a narrowing of thinking, but also an increase in preference for things that are familiar. Attributing disfluency to something other than the close referent would attenuate the need for familiarity and reinstate preference for innovation.

<div align="center">**Experiment 2.3: Attributing Disfluency Away from the Referent**</div>

Method

Three-hundred three students recruited through the behavioral lab were randomly assigned to a condition in a 2 (referent: close vs. distant) × 2 (disfluency attribution: referent vs. font) between-subjects study. As in study 2, the context was social media, but unlike study 2 where participants were free to choose any post, in this study we presented participants with a specific post.

To manipulate referent, we first asked participants to name either a close or distant other they follow on Facebook. Participants were asked to imagine they had been thinking about buying an Apple watch for some time and the person they had named recently bought this watch and posted about it on Facebook. We then logged them into a faux Facebook post that had this person's name piped through such that the post appeared to be from this person. In the post, the named person talked about his or her own new Apple Watch and showed its picture. This context of social media was chosen again in study 3 because the pretest conducted prior to study 2 had already shown that this context encourages differentiation. Likewise, by showing a post in which the other person had an Apple Watch the participant did not have, we presented the participants with a post that highlighted a difference between themselves and the named other. In the baseline condition where participants attributed their disfluency to the referent, participants read the Facebook post with no additional instruction, a procedure similar to that employed in study 2. In

the condition where participants attributed their disfluency to font, before viewing the post, participants read "Keep in mind that the post is a screen shot and the font may be difficult to read." This attribution manipulation followed past research (Shen et al., 2010) and was designed to direct participants to attribute any disfluency to font rather than the referent.

As a dependent variable measuring preferences for innovation, participants indicated how much they wanted an Apple Watch (which was an innovative product at the time; 1 = *not at all*, 9 = *very much*). This dependent variable also helped us tease apart an optimal distinctiveness account from that of disfluency reducing preference for innovation. Because the other person owns the Apple Watch, a higher preference for the Apple Watch would signal greater affiliation but also less comfort of familiarity. Then in the next task, we measured preference for familiarity using a recall measure. Participants were presented with two advertisements for Tide Pods. One ad described the product as familiar and conventional, the other described the same product as an innovative breakthrough. The ads were presented side-by-side and participants were asked to read the messages so they could express their opinions about them later. Instead, after a short delay, participants were presented with a surprise memory test where they were asked to recall what they could from the messages. Their responses were coded for whether they mentioned innovativeness (0 = no, 1 = yes) and/or familiarity (0 = no, 1 = yes). If disfluency in differentiating increases preference for familiarity, participants' attention should be directed more to the ad touting familiarity and they should elaborate more about familiarity rather than innovativeness. As a result, they should be more likely to recall content from the familiar ad over the innovativeness ad. Only when they attribute differentiation difficulty to font should this effect be attenuated or even reverse.

Results

  Data exclusions. Of the 303 participants, 11 did not name a referent and/or did not provide responses to any of the key dependent variables. These responses could not be included in the analysis, leaving us with an, $N = 292$, $M_{age} = 30.23$, 53.8% female.

  Product preferences. If disfluency increases preferences for familiarity, as we posit, then participants' preferences for the innovative Apple Watch should be lower in the baseline condition when they can attribute disfluency to referent versus when they have the opportunity to attribute disfluency to the font. A 2 (referent) × 2 (attribution) ANOVA on preference for the Apple Watch revealed only the predicted interaction, $F(1, 288) = 4.05$, $p = .045$ (see Figure 7; main effects: $ps > .90$). Supporting our theorizing, when the referent was a close other, participants preferred the innovative Apple Watch *less* in the baseline condition when disfluency could be attributed to the referent ($M = 4.53$, $SD = 2.69$) than when it could be attributed to the font ($M = 5.11$, $SD = 2.91$), $t(288) = -1.90$, $p = .058$. When the referent was a distant other, participants instead preferred the innovative Watch more in the baseline condition when fluency could be attributed to the referent ($M = 5.12$, $SD = 2.48$) than when it could be attributed to the font ($M = 4.45$, $SD = 2.51$), $t(288) = -2.15$, $p = .032$. Thus, the disfluency experienced when differentiating from close others reduced preference for the Apple Watch whereas the fluency experienced when differentiating from distant others increased preferences for the watch.

  Recall. A 2 (referent) × 2 (attribution) × 2 (ad recall: innovation vs. familiarity) mixed ANOVA with the first two factors as between-subjects and the last as within revealed a significant three-way interaction, $F(1, 288) = 11.45$, $p < .001$ (see Figure 7). As we predicted, when the referent was a close other, recall of familiar content was higher when disfluency could be attributed to the referent ($M = .25$, $SD = .44$) than when it was attributed to the font ($M = .11$, $SD = .32$), $t(288) = 3.10$, $p = .002$. Furthermore, recall of innovative content was lower when

disfluency could be attributed to the close referent than when attributed to the font ($M = .13$, $SD = .34$ vs. $M = .23$, $SD = .43$), $t(288) = 2.22$, $p = .027$. However, when the referent was a distant other, recall of innovative content was higher when fluency was attributed to the referent ($M = .26$, $SD = .44$) than when attributed to the font ($M = .12$, $SD = .33$), $t(288) = 3.10$, $p = .002$. These differences were non-significant for recall of familiar content ($M = .13$, $SD = .34$ vs. $M = .16$, $SD = .37$), $t(288) = .67$, *ns*. Thus, disfluency attributed to differentiating from a close other facilitated recall of familiarity content and reduced recall of innovative content. While the fluency in differentiation facilitated recall of innovative content for distant others, it did not inhibit recall of familiarity content, consistent with the notion that people do not have a default for distant others, but that differentiation feels surprisingly easy and fluent.

Figure 7. Preference for Innovative Products and Recall of Familiar and Innovative Messages as a Function of Referent and Attribution
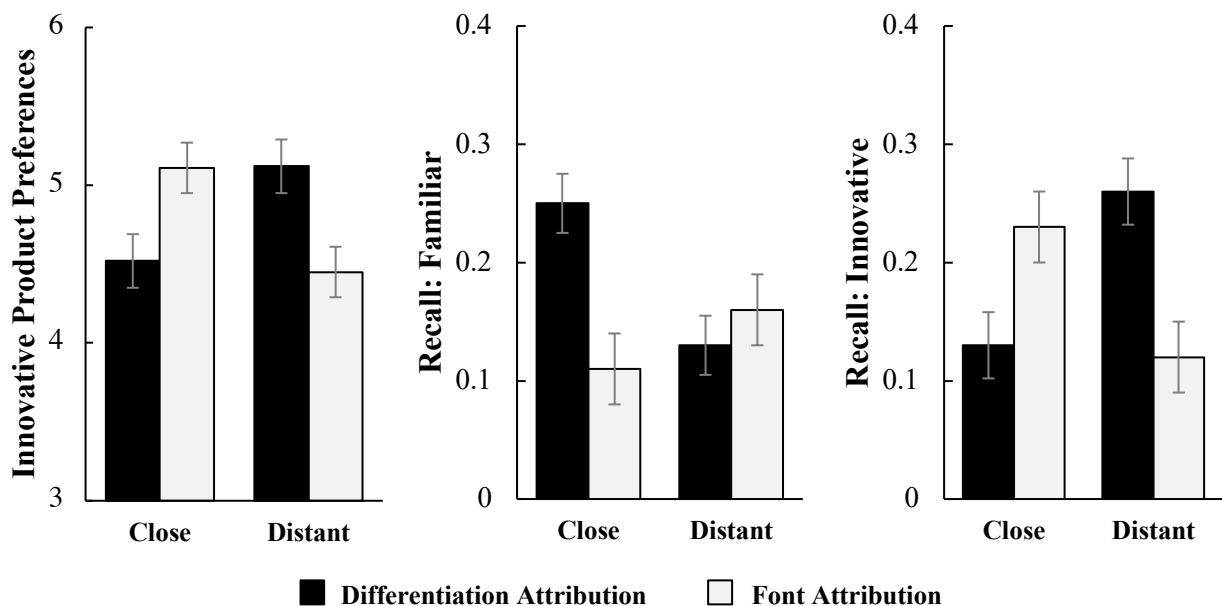
Discussion

Study 3 is important because it suggests that disfluency attributed to differentiating from a close other is the underlying mechanism that reduces preferences for innovative products. When disfluency is attributed to something other than the referent, our predicted effects are attenuated. Furthermore, this reduction in preferences for the Apple Watch showed an instance in which the preference for familiarity can override a preference for affiliation. When participants attributed disfluency to differentiating from a close referent, they preferred the innovative product less even though it offered them the opportunity to affiliate with the other (who owned the watch). This result also substantiates a role of disfluency in creating a preference for familiarity, which in turn reduces preference for innovative products. When participants attributed disfluency to differentiating from a close other, they were much more likely to recall familiar content and much less likely to remember innovative content, in line with our theorizing that the disfluency in differentiating from close others increases the need for familiarity. Likewise, the fluency in differentiating from distant others increased attention to innovative content but did not influence attention to familiar content.

In study 4, we extend these results from an advertising context (study 1) and a social media context (studies 2 and 3) to one that is self-generated by participants. This manipulation allows us to ensure that differentiating in general, and not differentiating on social media or in an advertisement specifically, produces our effect. We also extend the results of studies 1-3 by measuring preferences for not just innovative products, but also for conventional ones. This measure allows us to test our account that the reason why differentiating from close others reduces preference for innovative products is because it increases the need for familiarity. If consumers have a heightened need for familiarity, this ought to reduce preference for innovative products, as our previous studies have found, but *increase* preference for conventional products

because these products satisfy the need for familiarity. This manipulation also allows us to rule out an alternative account that the disfluency in differentiating from close others reduces preference for products, overall. This alternative account would not be able to explain why we observed that differentiating from a close other can narrow thinking and also reduces recall of innovative content. Still, this test allows us to establish that disfluency does not generally reduce liking of all products; rather, it creates a need for familiarity, thereby lowering preference for innovative products and increasing preference for conventional ones.

Experiment 2.4: Preference for Conventional vs. Innovative Products

Method

Three hundred and fifty-six participants recruited from Amazon's Mechanical Turk were randomly assigned to a condition in a 2 (referent: close vs. distant) × 2 (comparison: differentiate vs. assimilate) × 2 (product: conventional vs. innovative) between-subjects design. Participants first differentiated or assimilated with a close or distant other and then evaluated products that were either conventional or innovative.

First, all participants named a person either close to or distant from them. The name the participant chose was piped into all subsequent questions to ensure the referent was salient throughout the experiment. Participants were then assigned to a comparison condition. In the differentiate condition, participants described a time when they competed with, and therefore had to attend to differences between the self and the named person (Colpaert et al., 2015). In the assimilate condition, participants described a time when they cooperated with, and therefore had to attend to the similarities between the self and the person they had named. Coding the open-ended responses confirmed all participants followed directions.

Participants then evaluated each of three products (3 items: This product is…likeable desirable, and something I would try, anchored 1 = "Strongly Disagree" to 7 = "Strongly Agree;"

adapted from Noseworthy, Di Muro, & Murray, 2014). Each of the products highlighted one

product attribute (black, vitamin-fortified, or carbonated). To manipulate product innovativeness,

the product categories to which the attributes were applied varied on how much they are

commonly associated with the attribute. In the conventional products condition, participants

rated products that are very commonly matched with the attributes (black tea, vitamin-fortified

orange juice, and carbonated water). In contrast, participants in the innovative products

conditions saw these attributes matched with categories that are not conventionally associated

with these attributes (black toilet paper, vitamin-fortified vodka, and carbonated milk). These

stimuli have been validated in past research (Noseworthy et al., 2014). Thus, all participants

evaluated three products, each associated with one attribute that makes the product appear

conventional in its category or as innovative to the category. We expected that differentiating

from (vs. assimilating with) close others would increase preferences for the conventional

product-attribute pairs and decrease preferences for the innovative product-attribute pairs. In

contrast, we expected that differentiating from (vs. assimilating with) distant others would

increase preference for the innovative pairs.

Results

Data exclusions. Of the 356 participants, 3 submitted blank responses, 30 did not name a

referent and/or complete the writing task, and 15 failed to correctly identify the product-attribute

pairs. Data of the remaining participants ($N = 308$, $M_{age} = 35.50$, 60.9% female) were analyzed.

Product preferences. We averaged the 3 items measuring preferences for each of the

three products to form a preference index ($\alpha = .96$). A 2 (referent) × 2 (comparison) × 2 (product

innovativeness) ANOVA revealed a three-way interaction, $F(1, 300) = 7.55$, p = .006 (see Figure

8). Planned comparisons revealed that when the referent was a close other, differentiating (vs.

assimilating) increased preferences for the conventional products ($M = 5.66$, $SD = .84$ vs. $M =$

4.88, $SD = 1.06$), $F(1, 300) = 9.68$, $p = .002$, and reduced preferences for the innovative

products ($M = 3.61$, $SD = 1.36$ vs. $M = 4.16$, $SD = 1.53$), $F(1, 300) = 4.40$, $p = .037$. In contrast,

when the referent was a distant other, differentiation (vs. assimilation) increased preferences for

the innovative products ($M = 3.62$, $SD = 1.09$ vs. $M = 3.14$, $SD = 1.15$), $F(1, 300) = 3.08$, $p = $

.081. There were no differences in preferences for conventional products based on differentiating

($M = 5.29$, $SD = .94$) or assimilating ($M = 4.92$, $SD = .90$) with distant others, $F(1, 300) = 2.00$, p

$= .158$. Thus, we found support for our hypothesis that differentiation (vs. assimilation) with a

close other reduces preferences for innovative products, but *increases* preferences for

conventional products, in line with our theorizing that differentiating from close others increases

the need for familiarity. Importantly, when the referent was a distant other, we found that

differentiation (vs. assimilation) increased preferences for the innovative product, in line with

our theorizing that differentiating from distant others feels surprisingly easy, and that the fluency

of differentiating can increase preferences for innovative products.

Figure 8. Preference for Conventional and Innovative Products as a Function of Referent and Comparison Focus
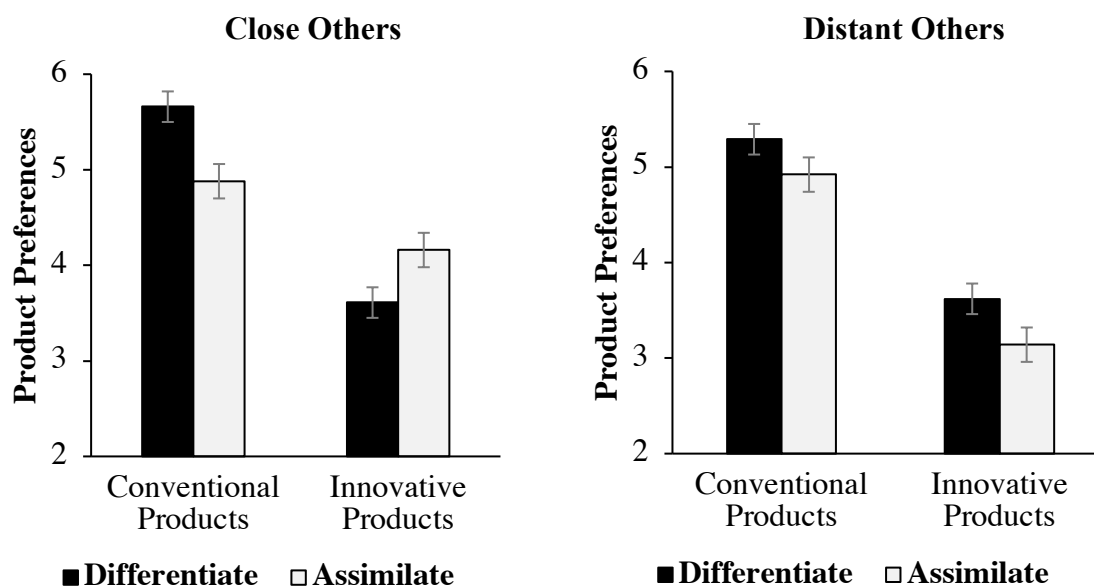
Discussion

Study 4 provided several important insights. First, we found that differentiating (vs. assimilating) with a close other not only reduces preferences for innovative products but it increases preferences for conventional products. This finding is consistent with the position that the default strategy when considering close others is to assimilate and thus differentiation feels disfluent. Feeling disfluency when differentiating from close others increases the need for familiarity, thereby impacting preferences for products accordingly. Furthermore, disfluency in differentiating from close others only reduces preferences for innovative products and not for all products. Second, we found in parallel that the ease of differentiation from distant others increases preferences for innovative products, in line with prior research.

General Discussion

Consumers often differentiate from others, both on and off social media. Past research suggests that differentiation plays to a firm's advantage because it facilitates acceptance of innovative products by broadening thinking among consumers. Indeed, many firms such as Apple successfully promoted innovative products by employing a "think different" strategy in their advertising. In this research, we instead show that differentiation, surprisingly, can narrow thinking and reduce preferences for innovative products. We show that the effect of differentiation on innovation preferences is moderated by from whom the consumer seeks to differentiate. While differentiating from distant others is surprisingly easy, people have a strong default to assimilate with close others, making differentiating feel disfluent and difficult. These feelings of disfluency are unexpected and lead to an increase in the need for familiarity. Thus, differentiating from a close other can have the surprising rebound effect of narrowing thinking and reducing preferences for innovative products. This finding applies when firms promote

products on and off social media but is especially important in social media contexts where the referent—unlike in traditional print or television advertising—may more likely be a close other.

In support of our theorizing, in study 1 we showed that differentiation (vs. assimilation) with a close other is disfluent but that differentiating from a distant other is fluent in an advertising context. The disfluency experienced from ad messages that encouraged differentiating from close others or assimilating with distant others reduced preferences for an innovative pair of headphones. In study 2, we extended these results to the social media context where a pilot study showed that differentiation is the default. We showed that differentiating from close others on social media felt difficult, and that the more participants spontaneously differentiated from close others, the less creative their ideas became and the less they preferred an innovatively styled pair of pants. Increased differentiation from distant others instead increased preferences for the innovatively styled products. In study 3 we implicated the role of disfluency on preferences for innovative products by providing participants with the opportunity to misattribute feelings of disfluency to the font of the task rather than the referent. We found that when differentiation disfluency is attributed to contextual factors other than the referent, the effect of disfluency on thinking and preferences is attenuated. Additionally, study 3 showed that the disfluency from differentiating from close others increased the need for familiarity by employing a memory measure that assessed whether participants attended to innovative versus familiar content in subsequent tasks. We found that participants who attributed their disfluency to differentiating from close others were more likely to recall familiar content and less likely to recall innovative content compared to when they were able to attribute their disfluency to contextual factors. Finally, in study 4, we showed the disfluency in differentiating from close referents not only reduces preferences for innovative products but also enhances preferences for conventional products. This finding is consistent with our theorizing that disfluency in

differentiating from close others increases the need for familiarity, which reduces preferences for innovation and increases preference for convention.

We collected data across four studies that employed 1,229 participants, including the general population of adults and students. We showed these effects using three different contexts (advertising, social media, and self-generated instances), and multiple product categories (headphones, pants, smartwatch, toilet paper, milk, vodka, tea, water, juice). We also employed multiple operationalizations of differentiation disfluency (advertising positioning, measured self-reports, spontaneous, misattributed, experimenter directed), and we employed different sources of referents (implied by an ad, self-selected by participants in a social media or a general context). We also provided insights about process through mediation (study 1), through moderation (study 3), and through the use of supplementary measures that support a disfluency attribution increases the need for familiarity account (studies 2-4). To boost realism, participants evaluated a professional looking advertisement in study 1, actually logged into their own social media account in study 2 and browsed a faux social media account in study 3. Importantly, in addition to ruling in our process account, we also ruled out several alternative possibilities. For example, we showed in study 2 that mood and relationship threat did not account for our findings, and in study 3 we ruled out a possibility that differentiation from a close other increased the desire for affiliation by showing instead it reduced this desire when the affiliative product was innovative. In study 4 we also ruled out the possibility that the disfluency in differentiating from a close referent reduces preferences for products overall by showing that these effects are restricted to innovative products. In support of our theorizing, we showed that preferences for conventional products *increase* when consumers differentiate from close others. Thus, we provided robust and convergent evidence supporting our theorizing in multiple ways.

In sum, we showed: (a) differentiation can reduce preferences for innovative products when the referent is a close other, something past research had not systematically considered, (b) we implicated a role of processing disfluency attributed toward close referents in narrowing thinking, again not previously documented, and (c) that any reductions in preferences reflect a reduced desire for innovative products rather than an increased desire for products that afford affiliation with close others. These effects are theoretically novel and important for a number of reasons. In particular, researchers generally presume that differentiation increases preference for innovative products, and we show this effect is moderated by referent. Likewise, we show an instance in which the desire for familiarity can sometimes outweigh the desire for affiliation when consumers feel too different from close others. Finally, we show that the effects of disfluency attributed to close others is different from the effect of disfluency attributed to distant others because consumers do not expect to feel disfluency in the presence of close others. Thus, we provide convergent evidence with the literature (e.g., Pocheptsova et al., 2010) that the effects of disfluency on preferences depend on the expectations consumers have about how they ought to feel. We extend this literature by showing that the reactions to disfluency with close and distant others have divergent consequences on consumer preferences.

Our findings also contribute to the innovation and new product adoption literatures by showing that differentiation can sometimes reduce preferences for innovative products. We show that the referent matters when consumers engage in differentiation. Differentiation from a close other can be disfluent, and this feeling of disfluency attributed to close others increases a need for familiarity, reducing preferences for innovative products. Importantly, we focused our investigation on the disfluency arising from a mismatch in the strategy consumers employ by default when thinking of close others (assimilation) against one cued by marketers of innovative products (think different). This research is therefore the first step in showing that differentiation

strategies can reduce preferences for innovative products, an effect that goes against prior literature on the effect of interpersonal differentiation on innovativeness (Ashton-James & Chartrand, 2009; Desrochers, 2001; Wang et al., 2011), and shows that metacognitive experiences matter when considering the downstream consequences of social comparison on consumer preferences.

A second important contribution of this research is to the metacognitive experiences and fluency literature. Of course, applying a fluency account to interpersonal contexts is a novel contribution. But more than just an application, we offer several novel theoretical insights to the research on fluency. First, we showed fluency experiences can arise based on a fit between the default strategy consumers employ when considering close others and what marketers cue. These default strategies or fit effects in this context had not been shown before. Second, we showed an effect of disfluency on preferences in an unrelated domain. Typically disfluency effects have been found to impact only the target that caused disfluency to arise (e.g., an advertised product which employs a positioning that is in conflict with a consumers default processing strategy; Labroo & Lee, 2006), though a small number of studies have suggested that disfluency that is defined more broadly as something other than arising from processing experiences, such as buzzing in the room, can increase divergent thinking (Mehta, Zhu, & Cheema, 2012). Instead, we showed that disfluency that arises from social comparison processes is very different from these other types of disfluency because it results in an attribution of the disfluency to the referent. Attributing disfluency to a close other is unexpected and leads to an increase in the need for familiarity that carries over to what consumers attend to and what products they seek. This finding that disfluency experiences can carry over cross domain to impact preferences for innovative (vs. conventional) products when disfluency arises from social comparison by impacting need for familiarity is novel.

Our findings also contribute to the interpersonal relationships literature by demonstrating that preference for convention is not the same as affiliation. Specifically, in study 3, we demonstrated that students who differentiated from a close other preferred an innovative watch less even though its choice provided an opportunity to affiliate with a close other. This is an instance in which the need for familiarity outweighed the need for affiliation after consumers differentiated from close others. We also contribute to the interpersonal relationships literature by showing that metacognitive processes can play a role in social comparison. We provided convergent evidence with the literature that assimilating with close others serves as a default thinking style and extend the literature by showing that cues to the opposite strategy can feel disfluent. Future research may consider factors that influence when the default for close others might be to differentiate. For instance, a close other who has done a bad thing might afford a different default for comparison and have downstream consequences on preferences for innovative products opposite to those we observed. Furthermore, in study 3 we found that when disfluency from differentiation is attributed elsewhere, preferences for innovative products are reinstated. Future research may wish to consider other factors that can influence whether consumers prefer convention or innovation.

Our findings also have important practical considerations. We found these effects off and on social media, when consumers actually logged into their accounts. While in the past, firms might have employed distant or unknown others in their advertising, with social media the referent could often be a close other. As marketers increasingly use social media to promote innovative products, assuming that word of mouth will improve acceptance of their innovative products, their efforts may backfire if they employ "think different" positioning. Instead, marketers may wish to consider from whom consumers are likely to differentiate when deciding how to position their innovative products. Our findings show when consumers spontaneously

consider close others, adoption of innovative products may improve when product messaging

encourages consumers to "think similar" rather than to "think different."

CONCLUDING REMARKS AND FUTURE DIRECTIONS

Social comparison is a rampant psychological process that serves many critical functions in social life. Understanding the consequences of social comparison is therefore an important and diverse field of study. Across 2 essays, I provide insight into the processes of social comparison by implicating referent – from whom people are comparing – and the metacognitions that the referent might evoke on some of the downstream consequences uncovered in past research. Past research focused on how differentiation can increase divergent thinking and preference for innovation. Here, I highlight that one overlooked aspect is that participants were differentiating from distant, hypothetical or unknown others. By implicating referent and the metacognitions that differentiation from the referent evoke, I showed that while differentiating from distant others feels fluent and easy, differentiating from close others feels disfluent and difficult. As a result, while differentiating from distant others increases divergent thinking and preference for innovation, differentiating from close others reduces divergent thinking (essay 1) and preferences for innovative products (essay 2).

These findings are important because they implicate metacognition in social comparison processes. While past research might have assumed that assimilation and contrast were easy or at least both equally difficult processes, we show instead that a fit or misfit between the natural ways in which people engage in social comparison and present behavior can influence how social comparison impacts subsequent decision making. Likewise, these findings contribute to the interpersonal relationships literature by providing additional evidence that people have different defaults when engaging in social comparison with close and distant others. I show an additional way in which how people naturally think about close and distant others impacts how social comparison with them influences subsequent thought. Likewise, these results shed insight into the creative process and innovation acceptance literatures by implicating referent. While

differentiating from distant others might increase divergent thinking and preference for innovative products, differentiating from close others can backfire, reducing divergent thinking and preference for innovative products.

Our results also suggest that one potential area for future research would be to look at how the different ways in which people think about close and distant others at baseline (e.g., with no social comparison) might influence how innovative and creative consumers are. We did not compare across close and distant others because we were interested in how social comparison type within referent influenced subsequent outcomes. However, one consistent finding across both essays is that at baseline (e.g., the control conditions wherein participants did not engage in social comparison with the other), merely thinking about close others led to greater divergent thinking (essay 1) and innovation acceptance (essay 2) than merely thinking about distant others. In essay 1 study 2, we found that participants merely considering close others were significantly more likely to think about differences between two pieces of abstract art than participants merely considering distant others. In essay 1 study 4, we found that participants merely considering close others were more divergent and creative in their thinking than participants merely considering distant others. Finally, in essay 2 study 2, we found a main effect such that close others increased preference for the innovatively styled pair of pants overall. Thus, at baseline, thinking about close others led to greater innovativeness and creativity than thinking about distant others.

This is surprising because if the default is to assimilate with close others and assimilation reduces creativity (e.g., Colpaert et al., 2015), then we would expect that at baseline, people considering close others would be less innovative than people considering distant others. However, close others evoke a lot of psychological processes above and beyond thoughts about similarities. One potential explanation for this effect is that thinking divergently and accepting

innovative products also requires a certain level of comfort that close others provide and distant others do not. Past research has shown that people are more creative when they are given boundaries or constraints within which to think creatively (Mehta & Zhu, 2016; Sellier & Dahl, 2011). The proposed mechanism for this finding is that creativity without boundaries is daunting and leads consumers to choose the path of least resistant rather than thinking outside of the box. What this suggests is that people might need a certain level of comfort to be creative. Applied to a social context, if close others provide a level of comfort and support that distant others do not, then at baseline people should be more creative when considering close rather than distant others. A second possibility is that people are more open with close rather than distant others, and this openness facilitates thinking divergently in subsequent tasks (McCrae, 1987).

A second avenue that might be interesting for future research is to examine under which contexts the defaults for close and distant others are strong. While across both essays, I propose that people have a strong default to assimilate with close others and a no default with distant others, the ease with which people differentiate from distant others was stronger in some studies than others. For example, in essay 1 study 1, I found that differentiating and assimilating were equally difficult tasks for distant others. In contrast, essay 1 study 2 and essay 2 study 1 showed that differentiating from distant others felt easier and more fluent than assimilating. While this inconsistency across studies is consistent with the notion that people have no defaults for distant others, but that differentiation might feel surprisingly easy, it is also possible that differentiation is the default for distant others, and the different manipulations across studies influenced how strongly the default might present itself. For example, essay 1 study 1 had people differentiate in service of promoting cooperation outcomes. If cooperation does not fit with the default way in which people think about distant others, then perhaps this further increased how difficult any type of social comparison felt. Likewise, differentiating from distant others consistently

increased divergent thinking (essay 1) and preference for innovative products (essay 2) over assimilating even when the act of differentiation did not feel easier than assimilating. Thus, above and beyond our finding that metacognitive ease might increase a differences mindset, differentiating from distant others itself also increased a focus on differences, in line with past research. Future research might wish to examine other moderators as to when differentiating from distant others might increase divergent thinking and preference for innovation.

A final interesting avenue for future research is to examine how differences in the ways in which people construe themselves and their relationships might influence the downstream consequences of social comparison on behavior. In the general discussion of essay 1, I discussed how certain individual differences such as a person's high self-reliance or independence might influence how likely they are to include close others in their self-concept, and therefore how difficult they might find the act of differentiating. If highly independent people do not include others in their self-concept, then the presence of the other ought to not evoke shared traits and identities. Thus, regardless of whether people are differentiating from close or distant others the task should feel easy and increase a differences mindset. However, a second intriguing difference is in how people think about their relationships in general. Of particular interest, I have started to examine how a person's relational orientation – namely, whether they consider their relationships with others in a communal or relational way – shapes whether people habitually use close or distant referents when building and referencing the self-concept. People with a communal orientation think dichotomously about group membership and interpersonal relationships wherein people either are part of the group or not. I thus argue that to a person with a communal orientation, the *group* serves as the habitual reference point to which others either belong or do not belong, and members of the same group are believed to largely share the same traits. As a result, individual in-group members (e.g., close others) are not diagnostic of one's

own unique traits or abilities because they are assumed to be more or less identical to the self. In turn, people with a communal orientation are more likely to look to individual out-group members (e.g., distant others) when engaging in social comparison and out-group (rather than in-group) members are more likely to spark thoughts about identity.

In contrast, people with a relational orientation think more continuously about group membership and interpersonal relationships. To a person with a relational orientation, the *self* serves as the habitual reference point wherein other people are judged to be either more or less like the self. As a result, the people closest to the self are the most diagnostic of one's own traits or abilities because they are assumed to share a base level of similarity against which any differences are meaningful and personally relevant (Festinger, 1954; Tesser & Campbell, 1982). In turn, people with a relational orientation are more likely to look to close others when engaging in social comparison, and close others are more likely to spark thoughts about personal identity. Three pretests support this possibility, showing that for people with a communal orientation (both measured and manipulated), distant others are more likely to spur thought about identity and encourage consumers to categorize choice sets on the basis of the identity (rather than function) each object in the choice set serves. In contrast, for people with a relational orientation, close others are more likely to evoke thoughts about and categorization on the basis of identity.

These results are interesting when taken in the context of the present research. First, they suggest that people with a relational orientation ought to be more sensitive to social comparison with close others because these comparisons are more meaningful and personally relevant. However, they also suggest that people with a relational orientation ought to have an easier time differentiating from close others than people with a communal orientation because close others are assumed to be more similar to but not identical to the self. People with a communal orientation ought to have the hardest time differentiating from close others because they assume

close others to be part of, not merely similar to, the self. One potential outcome of this difference, applied to the current research, is that the difficulty in differentiating from close others might have been enhanced in part by participants with a communal orientation, but that the downstream consequences on subsequent behavior might have been enhanced in part by the sensitivity to the social comparison by participants with a relational orientation. This is not an issue for the present research since participants were randomly assigned across conditions, but this possibility is an interesting avenue for future research.

In sum, across 2 essays, 8 studies, 3 pretests, and over 2,300 participants, I showed that the referent – from whom people are comparing – matters when determining how social comparison will influence subsequent decision making. These results shed insight into the processes of social comparison and interpersonal relationships, and together suggest that marketers and researchers ought to consider how the metacognitive implications of how referent, context, and focus of social comparison interact when predicting how social comparison will affect consumption outcomes.

REFERENCES

Aaker, J. L., & Lee, A. Y. (2006). Understanding Regulatory Fit. *Journal of Marketing Research*, *43*(1), 15–19.

Ames, C. (1981). Competitive Versus Cooperative Reward Structures: The Influence of Individual and Group Performance Factors on Achievement Attributions and Affect. *American Educational Research Journal*, *18*(3), 273–287.

Aron, A., Aron, E. N., Tudor, M., & Nelson, G. (1991). Close relationships as including other in the self. *Journal of Personality and Social Psychology*, *60*(2), 241–253.

Aron, A., Lewandowski Jr, G. W., Mashek, D. J., & Aron, E. N. (2013). *Th Self-Expansion Model of Motivation and Cognition in Close Relationships*.

Ashton-James, C. E., & Chartrand, T. L. (2009). Social cues for creativity: The impact of behavioral mimicry on convergent and divergent thinking. *Journal of Experimental Social Psychology*, *45*(4), 1036–1040.

Baldwin, M. W. (1992). Relational Schemas and the Processing of Social Information. *Psychological Bulletin*, *112*(3), 461–484.

Bayus, B. L., Erickson, G., & Jacobson, R. (2003). The Financial Rewards of New Product Introductions in the Personal Computer Industry. *Management Science*, *49*(2), 197–210.

Berger, J., & Heath, C. (2007). Where Consumers Diverge from Others : Identity Signaling and Product Domains. *Journal of Consumer Research*, *34*(August), 121–135.

Bettman, J. R., & Park, C. W. (1980). Effects of prior knowledge and experience and phase of the choice process on consumer decision making process: A protocol analysis. *Journal of Consumer Research*, *7*(3), 234–248.

Bless, H., & Schwarz, N. (2010). Mental construal and the emergence of assimilation and

contrast effects: The inclusion/exclusion model. *Advances in Experimental Social Psychology*, *42*(December 2010), 319–373.

Boudreau, K. J., Lacetera, N., & Lakhani, K. R. (2011). Incentives and Problem Uncertainty in Innovation Contests: An Empirical Analysis. *Management Science*, *57*(5), 843–863.

Brewer, M. B. (1991). The Social Self: On Being the Same and Different at the Same Time. *Personality and Social Psychology Bulletin*, *17*(5), 475–482.

Brewer, M. B. (1996). When Contact is Not Enough: Social identity and intergroup cooperation. *International Journal of Intercultural Relations*, *20*(3–4), 291–303.

Brewer, M. B., & Gardner, W. L. (1996). Who Is This "we"? Levels of Collective Identity and Self Representations. *Journal of Personality and Social Psychology*, *71*(1), 83–93.

Brewer, M. B., & Weber, J. G. (1994). Self-evaluation effects of interpersonal versus intergroup social comparison. *Journal of Personality and Social Psychology*, *66*(2), 268–275.

Brown, J. D., Novick, N. J., Lord, K. A., & Richards, J. M. (1992). When Gulliver Travels: Social Context, Psychological Closeness, and Self-Appraisals. *Journal of Personality and Social Psychology*, *62*(5), 717–727.

Catrambone, R., Beike, D., & Niedenthal, P. (1996). Is the Self-Concept a Habitual Referent in Judgments of Similarity? *Psychological Science*, *7*(3), 158–163.

Chen, S., Boucher, H. C., & Tapias, M. P. (2006). The Relational Self Revealed: Integrative Conceptualization and Implications for Interpersonal Life. *Psychological Bulletin*, *132*(2), 151–179.

Cierpicki, S., Wright, M., & Sharp, B. (2000). Managers'Know Ledge of Marketing Principles: the Case of New Product Development. *Journal of Empirical Generalisations in Marketing Science*, *5*, 771–790. Retrieved from

http://members.byronsharp.com/empgens/ManagersKnowledge.pdf

Clement, R. W., & Krueger, J. I. (2002). Social Categorization Moderates Social Projection. *Journal of Experimental Social Psychology*, *38*(3), 219–231.

Colpaert, L., Muller, D., Fayant, M. P., & Butera, F. (2015). A mindset of competition versus cooperation moderates the impact of social comparison on self-evaluation. *Frontiers in Psychology*, *6*(September), 1–10.

Cooley, C. H. (1902). The Looking-Glass Self, 1–2.

Corcoran, K., Epstude, K., Damisch, L., & Mussweiler, T. (2011). Fast Similarities: Efficiency advantages of similarity-focused comparisons. *Journal of Experimental Psychology. Learning, Memory, and Cognition*, *37*(5), 1280–1286.

Dahl, D. W., & Moreau, C. P. (2002). The Influence and Value of Analogical Thinking During New Product Ideation. *Journal of Marketing Research*, *39*(February), 47–60.

Desrochers, P. (2001). Local Diversity, Human Creativity, and Technological Innovation. *Growth and Change*, *32*(3), 369–394.

Dunning, D., & Beauregard, K. S. (2000). Regulating Impressions of Others to Affirm Images of the Self. *Social Cognition*, *18*(2), 198–222.

Dunning, D., & Cohen, G. L. (1992). Egocentric Definitions of Traits and Abilities in Social Judgment. *Journal of Personality and Social Psychology*, *63*(3), 341–355.

Fazio, R. H. (1979). Motives for social comparison: The construction-validation distinction. *Journal of Personality and Social Psychology*, *37*(10), 1683–1698.

Festinger, L. (1954). A Theory of Social Comparison Processes. *Human Relations*, *7*(2), 117–140.

Garcia, S. M., Tor, A., & Gonzalez, R. (2006). Ranks and rivals: A theory of competition.

Personality and Social Psychology Bulletin, *32*(7), 970–982.

Garcia, S. M., Tor, A., & Schiff, T. M. (2013). The Psychology of Competition: A Social Comparison Perspective. *Perspectives on Psychological Science*, *8*(6), 634–650.

Goldstein, N. J., & Cialdini, R. B. (2007). The Spyglass Self: A Model of Vicarious Self-perception. *Journal of Personality and Social Psychology*, *92*(3), 402–417.

Gregan-Paxton, J., & John, D. R. (1997). Consumer Learning by Analogy: A Model of Internal Knowledge Transfer. *Journal of Consumer Research*, *24*(3), 266–284.

Haddock, G., Rothman, A. J., Reber, R., & Schwarz, N. (1999). Forming judgments of attitude certainty, intensity, and importance: The role of subjective experiences. *Personality and Social Psychology Bulletin*, *25*(7), 771–782.

Hinkley, K., Andersen, S. M., Reznik, I., & Glassman, N. (1996). The Working Self-Concept in Transference : Significant-Other Activation and Self Change, *71*(6), 1279–1295.

Hong, J., & Sternthal, B. (2010). The Effects of Consumer Prior Knowledge and Processing Strategies on Judgments. *Journal of Marketing Research*, *47*(2), 301–311.

Labroo, A. A., Dhar, R., & Schwarz, N. (2008). Of Frog Wines and Frowning Watches: Semantic Priming, Perceptual Fluency, and Brand Evaluation. *Journal of Consumer Research*, *34*(6), 819–831.

Labroo, A. A., & Lee, A. Y. (2006). Between Two Brands: A Goal Fluency Account of Brand Evaluation. *Journal of Marketing Research*, *43*(3), 374–385.

Labroo, A. A., & Pocheptsova, A. (2016). Metacognition and Consumer Judgment: Fluency is pleasant but disfluency ignites interest. *Current Opinion in Psychology*, *10*(c), 154–159.

Landwehr, J., Labroo, A. A., & Herrmann, A. (2011). Gut liking for the ordinary: Incorporating design fluency improves automobile sales forecasts. *Marketing Science*, (May 2011).

Lee, A. Y. (2002). Effects of Implicit Memory on Memory-Based versus Stimulus-Based Brand Choice. *Journal of Marketing Research*, *39*(4), 440–454.

Lee, A. Y., & Aaker, J. L. (2004). Bringing the Frame into Focus: The Influence of Regulatory Fit on Processing Fluency and Persuasion. *Journal of Personality and Social Psychology*, *86*(2), 205–218.

Lee, G. C. (2000). Strategic marketing planning for radically new products. *Journal of Marketing*, *64*(January), 1.

Litt, A., Reich, T., Maymin, S., & Shiv, B. (2011). Pressure and Perverse Flights to Familiarity. *Psychological Science*, *22*(4), 523–531.

Locke, K. D. (2007). Personalized and Generalized Comparisons: Causes and consequences of variations in the focus of social comparisons. *Personality and Social Psychology Bulletin*, *33*(2), 213–225.

Markus, H. R., & Kunda, Z. (1986). Stability and malleability of the self-concept. *Journal of Personality and Social Psychology*, *51*(4), 858–66.

McCrae, R. R. (1987). Creativity, Divergent Thinking, and Openness to Experience. *Journal of Personality and Social Psychology*, *52*(6), 1258–1265.

McFarland, C., Buehler, R., & MacKay, L. (2001). Affective Responses To Social Comparisons With Extremely Close Others. *Social Cognition*, *19*(5), 547–586.

Mead, G. H. (1934). *Self and Society. Chicago: University of Chicago.* Retrieved from http://wps.pearsoncustom.com/wps/media/objects/6714/6875653/readings/MSL_Mead_Self _Society.pdf

Mehta, R., & Zhu, M. (2016). Creating when you have less: The impact of resource scarcity on product use creativity. *Journal of Consumer Research*, *42*(5), 767–782.

Mehta, R., Zhu, R. (Juliet), & Cheema, A. (2012). Is Noise Always Bad ? Exploring the Effects of Ambient Noise on Creative Cognition. *Journal of Consumer Research*, *39*(4), 784–799.

Meyers-Levy, J., & Tybout, A. M. (1989). Schema Congruity as a Basis for Product Evaluation. *Journal of Consumer Research*, *16*(1), 39–54.

Moreau, C. P., Lehmann, D. R., & Markman, A. B. (2001). Entrenched knowledge structures and consumer response to new products. *Journal of Marketing Research*, *38*(1), 14–29. Retrieved from http://journals.ama.org/doi/abs/10.1509/jmkr.38.1.14.18836

Moreau, C. P., Markman, A. B., & Lehmann, D. R. (2001). "What is it?" categorization flexibility and consumers' responses to really new products. *Journal of Consumer Research*, *27*(4), 489–498.

Mussweiler, T. (2003). Comparison processes in social judgment: mechanisms and consequences. *Psychological Review*, *110*(3), 472–489.

Mussweiler, T. (2007). Assimilation and Contrast as Comparison Effects: A Selective Accessibility Model. In D. A. Stapel & J. Suls (Eds.), *Assimilation and contrast in social psychology* (pp. 165–185). New York, NY: Psychology Press.

Mussweiler, T., & Rüter, K. (2003). What Friends are For! The use of routine standards in social comparison. *Journal of Personality and Social Psychology*, *85*(3), 467–481.

Mussweiler, T., Rüter, K., & Epstude, K. (2004). The Ups and Downs of Social Comparison: Mechanisms of Assimilation and Contrast. *Journal of Personality and Social Psychology*, *87*(6), 832–844.

Noseworthy, T. J., Di Muro, F., & Murray, K. B. (2014). The Role of Arousal in Congruity-Based Product Evaluation. *Journal of Consumer Research*, *41*(December), 1108–1126.

Noseworthy, T. J., & Trudel, R. (2011). Looks Interesting, but What Does It Do?? Evaluation of Incongruent Product Form Depends on Positioning. *Journal of Marketing Research*, *48*(6), 1008–1019.

Noseworthy, T. J., Wang, J., & Islam, T. (2012). How Context Shapes Category Inferences and Attribute Preference for New Ambiguous Products. *Journal of Consumer Psychology*, *22*(4), 529–544.

Olshavsky, R. W., & Spreng, R. A. (1996). An Exploratory Study of the Innovation Evaluation Process. *Journal of Product Innovation Management*, *13*(6), 512–529.

Pavelchak, M. A. (1989). Piecemeal and Category-Based Evaluation: An idiographic analysis. *Journal of Personality and Social Psychology*, *56*(3), 354–363.

Pleban, R., & Tesser, A. (1981). The Effects of Relevance and Quality of Another's Performance on Interpersonal Closeness. *Social Psychology Quarterly*, *44*(3), 278–285.

Pocheptsova, A., Labroo, A. A., & Dhar, R. (2010). Making Products Feel Special: When Metacognitive Difficulty Enhances Evaluation. *Journal of Marketing Research*, *47*(6), 1059–1069.

Rietzschel, E. F., Nijstad, B. A., & Stroebe, W. (2007). Relative Accessibility of Domain Knowledge and Creativity: The effects of knowledge activation on the quantity and originality of generated ideas. *Journal of Experimental Social Psychology*, *43*(6), 933–946.

Rusbult, C. E., Finkel, E. J., & Kumashiro, M. (2009). The Michelangelo Phenomenon. *Current Directions in Psychological Science*, *18*(6), 305–309.

Schwarz, N. (2004). Metacognitive Experiences in Consumer Judgment and Decision Making. *Journal of Consumer Psychology*, *14*(4), 332–348.

Schwarz, N., Bless, H., Strack, F., Klumpp, G., Rittenauer-Schatka, H., & Simons, A. (1991).

Ease of Retrieval as Information: Another Look at the Availability Heuristic. *Journal of Personality and Social Psychology*, *61*(2), 195–202.

Schwarz, N., & Clore, G. L. (2007). Feelings and Phenomenal Experiences. *Social Psychology: Handbook of Basic Principles*, 385–407.

Sellier, A.-L., & Dahl, D. W. (2011). Focus! Creative Success Is Enjoyed Through Restricted Choice. *Journal of Marketing Research*, *48*(6), 996–1007.

Shen, H., Jiang, Y., & Adaval, R. (2010). Contrast and Assimilation Effects of Processing Fluency. *Journal of Consumer Research*, *36*(5), 876–889.

Sheth, J. N., & Stellner, W. (1979). Psychology of innovation resistance: the less developed concept (LDC) in diffusion research. *Research in Marketing*. Retrieved from http://www.researchgate.net/publication/237065197_Psychology_of_Innovation_Resistance _The_Less_Developed_Concept_in_Diffusion_Research/file/5046351b1f0eb33955.pdf

Slotter, E. B., & Gardner, W. L. (2009). Where do you end and I begin? Evidence for anticipatory, motivated self-other integration between relationship partners. *Journal of Personality and Social Psychology*, *96*(6), 1137–1151.

Stayman, D. M., Alden, D. L., & Smith, K. H. (1992). Some Effects of Schematic Processing on Consumer Expectations and Disconfirmation Judgments. *Journal of Consumer Research*, *19*(2), 240–255.

Tajfel, H. (1982). Social Psychology of Intergroup Relations. *Annual Review of Psychology*, *33*, 1–39.

Tajfel, H., & John, T. (2016). An Integrative Theory of Intergroup Conflict. *The Social Psychology of Intergroup Relations*, (January 1979), 33–47.

Tajfel, H., & Turner, J. C. (1986). The Social Identity Theory of Intergroup Behavior. In S.

Worchel & W. G. Austin (Eds.), *Psychology of Intergroup Relations* (2nd ed., pp. 7–24). Chicago, IL: Nelson-Hall Publishers.

Tesser, A. (1988). Toward a Self-Evaluation Maintenance Model of Social Behavior. *Advances in Experimental Social Psychology*, *21*, 181–227.

Tesser, A., & Campbell, J. D. (1982). Self-Evaluation Maintenance and the Perception of Friends and Strangers. *Journal of Personality*, *50*(3), 261–279.

Todd, A. R., Hanko, K., Galinsky, A. D., & Mussweiler, T. (2011). When Focusing on Differences Leads to Similar Perspectives. *Psychological Science*, *22*(1), 134–141.

Tversky, A. (1977). Features of Similarity. *Psychological Review*, *84*(4), 327–352.

Walton, G. M., Cohen, G. L., Cwir, D., & Spencer, S. J. (2011). Mere Belonging: The power of social connections. *Journal of Personality and Social Psychology*, *102*(3), 1–20.

Wang, H.-C., Fussell, S. R., & Cosley, D. (2011). From Diversity to Creativity: Stimulating Group Brainstorming with Cultural Differences and Conversationally-Retrieved Pictures. *Human Factors*, 265–274.

Wänke, M., Bohner, G., & Jurkowitsch, A. (1997). There Are Many Reasons to Drive a BMW: Does Imagined Ease of Argument Generation Influence Attitudes? *Journal of Consumer Research*, *24*(2), 170–178.

White, K., & Argo, J. J. (2011). When Imitation Doesn't Flatter: The Role of Consumer Distinctiveness in Responses to Mimicry. *Journal of Consumer Research*, *38*(4), 667–680.

Whittlesea, B. W. A., & Williams, L. D. (1998). Why do strangers feel familiar, but friends don't? A discrepancy-attribution account of feelings of familiarity, *98*, 141–165.

Whittlesea, B. W. A., & Williams, L. D. (2001a). The Discrepancy-Attribution Hypothesis I: The Heuristic Basis of Feelings of Familiarity, *27*(1), 3–13.

Whittlesea, B. W. A., & Williams, L. D. (2001b). The Discrepancy-Attribution Hypothesis

    II: Expectation, Uncertainty, Surprise, and Feelings of Familiarity, *27*(1), 14–33.

Wilcox, K., & Stephen, A. T. (2013). Are Close Friends the Enemy? Online Social Networks,

    Self-Esteem, and Self-Control. *Journal of Consumer Research*, *40*(November), 90–103.

Xu, A. J., & Wyer, R. S. (2007). The Effect of Mind-Sets on Consumer Decision Strategies.

    Journal of Consumer Research, *34*(4), 556–566.

Zajonc, R. B. (1984). On the Primacy of Affect. *American Psychologist*, *39*(2), 117–123.

APPENDIX A: ESSAY 1 MANIPULATIONS AND MEASURES

Experiment 1.1 Manipulations and Measures

Referent Manipulation in All Studies that Ask Participants to Name a Referent

Close: To begin, please think of a person you are extremely close to, such as a sibling or a very close friend. This person should be someone who you are very close with and have been close to for some time. What is this person's name?

Distant: To begin, please think of a person you are distant from, such as an acquaintance or someone you know in passing from the neighborhood or college. This person should be someone you are not close to but have known for some time. What is this person's name?

Social Comparison Focus Manipulation

Research has shown that people achieve better and more fulfilling cooperation outcomes when partners focus on the [similarities/differences] between them. When you focus on the [similarities/differences] between you and [piped name] (for example, the [similarities/differences] in your skills, strengths, and traits), you create a strong base that you can build off of while cooperating. In other words, focusing on [similarities/differences] improves your chances of fulfilling your goal.

Please use the space below to discuss your relationship with [piped name] and the [similarities/differences] between you and [piped name]. What skills, strengths, and traits do you and [piped name] have that will help you achieve your goals together?

Difficulty Measure

It was difficult to think of [similarities/differences] between me and [piped name]. 1 = "Strongly Disagree" to 7 = "Strongly Agree"

Self-Other Overlap Measure (used in all subsequent studies that measure overlap)

Think about the important characteristics that make you who you are now and those that [piped name] exemplifies. Choose the one diagram out of the six below that best reflects your opinion about how similar you think you and [piped name] are, where no overlap means "completely different" and complete overlap means "exactly the same."

Experiment 1.2 Manipulations and Measures

Social Comparison Focus Manipulation

Differentiate: Please describe how you and [piped name] are different from each other. For example, what different skills and personality traits do you each have that make you different from each other?

Control: Please describe what [piped name] might do in a regular day. For instance, what time might this person wake up? What does this person do for a living? What might this person do on their days off?

Assimilate: Please describe how you and [piped name] are similar to each other. For example, what similar skills and personality traits do you both have that make you similar to each other?

Difficulty Measure

How difficult was it to think of the [similarities/differences/daily routine] of [piped name]. 1 = "Very Easy" to 7 = "Very Difficult"

Art Comparison Task Instructions

Please compare the two images in the picture above. What are the first few things that come to mind when you compare these images?

Experiment 1.3 Manipulations and Measures

Pretest Manipulation

Please imagine vividly that you were thinking about what makes [you/your best friend] different and unique from [your best friend/you]. After a lot of thinking, you find you cannot think of many differences and find it difficult to think about how [you are/your best friend is] unique and different from [your best friend/you].

Which of the following statements would you most likely believe after finding it difficult to think about what made [you/your best friend] unique?

Options (presentation order randomized)

I must be very similar to my best friend
I must not know myself as well as I thought
I must not know my best friend as well as I thought

Generating Own vs. Other's Traits Manipulation

All participants first named a close other.

Own Traits: Please take a moment to reflect on your skills, strengths, weaknesses, and traits that make you the unique person you are. List below the top 5 personality traits that define who you are as a person.

Close-Other Traits: Please take a moment to reflect on [piped name]'s skills, strengths, weaknesses, and traits that make them the unique person they are. List below the top 5 personality traits that define who [piped name] is as a person.

Difficulty Measure

Listing [my/piped name's] traits... 1 = "felt easy" to 7 = "felt difficult"

Self-Other Overlap Measure

See Experiment 1.1 measure

Experiment 1.4 Manipulations and Measures

Social Comparison Focus Manipulation

Differentiation/Assimilation: Please describe a time that you and [piped name] competed (cooperated) with each other toward a goal. For example, you may have wanted to get a seat in the same course in college, work for the same company, and so on. What was this goal? What was the situation that led to this competition (cooperation)? How did the competition (cooperation) make you feel? What thoughts went through your mind?

Please try to imagine this situation as vividly as possible and how you felt competing (cooperating). What did you try to do, what did you think? Please try to relive the experience as you describe it here:

Control: Please describe what [piped name] might do in a regular day. For instance, what time might this person wake up? What does this person do for a living? What might this person do on their days off?

Divergent Thinking Measure (order counterbalanced)

Please list as many creative uses you can think of for a TOOTHBRUSH

Please list as many creative uses you can think of for a BRICK

APPENDIX B: ESSAY 2 MANIPULATIONS AND MEASURES

Experiment 2.1 Manipulation and Measures

Advertisements (each participant saw 1)

Disfluency Measure

Item 1: This advertisement was: 1 = "Difficult to Process" to 7 = "Easy to Process
Item 2: This advertisement was: 1 = "Difficult to Understand" to 7 = "Easy to Understand"
Item 3: The message in the advertisement: 1 = "Felt Wrong" to 7 = "Felt Right"

Product Preference Measure

Item 1: How much do you like nura headphones? 1 = "Dislike very much" to 7 = "Like very much"
Item 2: How do you feel about nura headphones? 1 = "Very Negative" to 7 = "Very Positive"
Item 3: Would you buy nura headphones? 1 = "Definitely would NOT buy" to 7 = "Definitely WOULD buy"
Item 4: How interested are you in learning more about nura headphones? 1 = "Not At All Interested" to 7 = "Very Interested"

Experiment 2.2 Pretest Manipulation and Measures

Social Media Usage:

Platform	% Say they use it	Frequency: Used Most	% Used Most
Facebook	85.6	105	52.2
Twitter	49	21	10.4
Instagram	51	18	9
LinkedIn	24.8	4	2
Snapchat	25.2	4	2
YouTube	75.7	14	7
Tumblr	11.9	1	.5
Grindr	1.5	0	0
Weibo	1.5	0	0
Reddit	54.5	31	15.4
Pinterest	30.2	3	1.5

Average media usage sample: "Relative to other people like you, how much time do you spend on social media? 1 = Much less than average, 7 = Much more than average

M = 4.05, SD = 1.548, SE = .110

T-test against scale midpoint (4) is not significant $t(198) = .412$, $p = .681$

Of the 202 participants collected, only 1 person said they did not use social media at all.

"On average, how many hours per day do you spend online?" M = 6.37, SD = 4.15, SE = .29

"Of the hours spent online, how many are spent actively browsing or posting on social media?" M = 2.20, SD = 2.11, SE = .15

Percentage of total online time spent on social media: 2.20/6.37 = 34.54%

What People Find Important on Social Media:

Interacting with close family and friends (1) was significantly more important than any of the other listed uses:

2 = Networking; 3 = News; 4 = Celebs; 5 = Distant; 6 = Entertainment

2. Activity

Measure: MEASURE_1

Activity	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	2.200	.096	2.011	2.389
2	3.910	.107	3.699	4.121
3	3.120	.113	2.898	3.342
4	4.865	.095	4.678	5.052
5	3.950	.099	3.754	4.146
6	2.955	.117	2.723	3.187

Other reasons listed for using Social Media:

(35 people listed other reasons)
Blogging: 1
Boredom: 4
Business/Work: 7
Connecting: 8
Discovering/Learning: 12
Sales/Promotions: 1
Photos: 2

Tests of Within–Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
Activity	Sphericity Assumed	873.050	5	174.610	66.136	.000
	Greenhouse–Geisser	873.050	4.439	196.699	66.136	.000
	Huynh–Feldt	873.050	4.552	191.782	66.136	.000
	Lower–bound	873.050	1.000	873.050	66.136	.000
Error(Activity)	Sphericity Assumed	2626.950	995	2.640		
	Greenhouse–Geisser	2626.950	883.265	2.974		
	Huynh–Feldt	2626.950	905.909	2.900		
	Lower–bound	2626.950	199.000	13.201		

Tests of Within–Subjects Contrasts

Measure: MEASURE_1

Source	Activity	Type III Sum of Squares	df	Mean Square	F	Sig.
Activity	Level 2 vs. Level 1	584.820	1	584.820	125.249	.000
	Level 3 vs. Level 1	169.280	1	169.280	27.778	.000
	Level 4 vs. Level 1	1420.445	1	1420.445	316.696	.000
	Level 5 vs. Level 1	612.500	1	612.500	202.639	.000
	Level 6 vs. Level 1	114.005	1	114.005	19.113	.000
Error(Activity)	Level 2 vs. Level 1	929.180	199	4.669		
	Level 3 vs. Level 1	1212.720	199	6.094		
	Level 4 vs. Level 1	892.555	199	4.485		
	Level 5 vs. Level 1	601.500	199	3.023		
	Level 6 vs. Level 1	1186.995	199	5.965		

Social Comparison on Social Media

Repeated Measures: (1 = Never; 7 = All the time)

"When you are on social media, how often do you find yourself comparing yourself to other people"
Vs.
"When you are NOT on social media, how often do you find yourself comparing yourself to other people"

M= 3.73, SD = 1.73, SE = .12
M = 3.16, SD = 1.60, SE = .11
Between subject's contrast: $F(1,198) = 1045.05$, $p < .001$

Compared against midpoint of scale (4)

"Where do you find yourself comparing to other people the most?" 1 – Off to 7 = On
M = 4.34, SD = 1.88, SE = .13, $t(200) = 2.59$, $p = .010$

"When I compare myself to other people on SM, I usually focus on…" 1 = Sims; 7 = Difs
M = 4.54, SD = 1.66, SE = .12, $t(194) = 4.54$, $p < .001$

All 1 = Strongly Disagree to 7 = Strongly Agree

"When I compare myself to other people on SM, I often think about how I am better than them…"
M = 2.96, SD = 1.59, SE = .11, t(199) = -9.30, p < .001

"When I compare myself to other people on SM, I often think about the differences in what we have…"
M = 4.48, SD = 1.57, SE = .11, t(199) = 4.29, p < .001

"When I compare myself to other people on SM, I often think about our different skills and strengths…"
M = 4.72, SD = 1.43, SE = .10, t(200) = 7.14, p < .001

"Comparing myself to other people on social media makes me feel bad"
M = 3.91, SD = 1.98, SE = .14, t(200) = -.642, p = .522

"Comparing myself to other people on social media hurts my relationship with that person"
M = 3.02, SD = 1.86, SE = .13, t(199) = -7.48, p < .001

"Comparing myself to other people on social media threatens my identity as an individual"
M = 2.93, SD = 1.85, SE = .13, t(199) = -8.23, p < .001

Shopping:

How often do you buy something because someone on social media posted about it? 1 = Never to 5 = Always

M = 2.10, SD = 1.01, SE = .07

Experiment 2.2 Main Study Manipulations and Measures

Close and Distant Other Manipulation (Used in all subsequent experiments)

Close: To begin, please think of a person you are extremely close to, such as a sibling or a very close friend. This person should be someone who you are very close with and have been close to for some time. What is this person's name?

Distant: To begin, please think of a person you are distant from, such as an acquaintance or someone you know in passing from the neighborhood or college. This person should be someone you are not close to but have known for some time. What is this person's name?

Social Media Manipulation

Next, please browse [piped name]'s social media or recall one of [piped name]'s recent posts that captured your attention. For example, a post about a product, service, or event they recently purchased that you like and are interested in. What was [piped name]'s post about? What were your main thoughts about the post? How did the post make you feel?

Differentiation Index Items (All 1 = "Strongly Disagree" to 7 = "Strongly Agree")

Seeing [piped name]'s post made me compare myself to [piped name].
Seeing [piped name]'s post made me want to be different from them.
Seeing [piped name]'s post made me want to express how I am as an individual.
Seeing [piped name]'s post made me think about the differences between us.

Difficulty Measure

When I think about the differences between me and [piped name], it feels… 1 = "Easy" to 7 = "Difficult"

Preference for Innovation Measure

Please imagine that you are at a store shopping for a new pair of pants. You narrow your choice to two pairs that are similar in price and quality. One pair of pants is familiar and very similar to the style of clothes you would usually wear and buy. The other pair is very novel and has an unusual cut - it could be considered quite innovative. The pants are not the kind of fashion you would normally wear.

No matter which pair you buy, you feel you would wear them equally often. The style you would normally buy calls to you, but so does the innovative pair that you typically would not associate with yourself.

How likely are you to choose the familiar style? (7-pt scale, 1 = not at all likely; 7 = very likely)

Between the two styles, which one would you be more likely to buy? (7-pt scale, 1 = would definitely buy the familiar style; 7 = would definitely buy the innovative style)

Narrow Thinking Measure

Please list below 3 creative things you could do with a TOOTHBRUSH

Additional Methodological Details: This study originally had a third condition in which people were asked to browse the social media of a close other to look for a post that was neither relevant nor interesting. This condition was excluded because it was decided to be irrelevant and distracting after we formulated the theorizing for the essay. The results for this condition on preference for innovation fell in between those of the close and distant other conditions reported in text.

Experiment 2.3 Manipulation and Measures

Manipulation

Next, we will ask you to consider interacting with [piped name] on social media and viewing their posts. Please imagine the scenario as vividly as possible as if you actually saw their post the next time you log into your own Facebook account.

Shown to Font Attribution Condition. Keep in mind that the post is a screen shot and may be hard to read. This may make it difficult to imagine the scenario vividly.

ON NEXT PAGE: [piped name] posts exactly what you have been wanting on social media

You have been wanting an Apple Watch for a really long time. The features that track your fitness will help you keep motivated at the gym, will help you walk more, and will keep you looking young and attractive. You think it would be a really cool gadget to own and would help you improve your fitness and overall health.

You log in to Facebook... and see a post from [piped name] talking about their new Apple Watch! [piped name] is really excited with the purchase and is boasting about having access to all the features that you really wanted.

Preference for Innovative Product Measure

How much do you want an Apple Watch? 1 = "Not At All" to 7 = "Very Much"

Familiarity Recall Measure

Your Favorite Detergent in a Pod

A

An Innovative Approach to Laundry

B

Please take a moment to remember the product and messages on the last page. Please write below what first comes to mind when you think about that page.

Experiment 2.4 Manipulations and Measures

Differentiation (Assimilation) Conditions

Please describe a time that you and [piped name] competed (cooperated) with each other toward a goal. For example, you may have wanted to get a seat in the same course in college, work for the same company, and so on. What was this goal? What was the situation that led to this competition (cooperation)? How did the competition (cooperation) make you feel? What thoughts went through your mind?

Please try to imagine this situation as vividly as possible and how you felt competing (cooperating). What did you try to do, what did you think? Please try to relive the experience as you describe it here:

Conventional Products and Descriptions

Product Picture	Product Name	Product Description
	Hoogveld Black Tea	Made from a choice blend of leaves and herbs, this black tea will delight your senses. Hoogveld Black Tea is produced by a company that prides itself on its decades-old reputation for quality. Enjoy this product's brisk and bright character as an exciting change of pace.
	Degas Carbonated Water	Add sparkling fizz to the humdrum with Degas carbonated water. Degas starts by filtering spring water and bottles the water at the peak of purity. For even more refreshing excitement, try strawberry-, lemon-, and kiwi-enhanced carbonated water.
	Vitamin-Fortified Orange Juice	Founded over half a century ago, this respected company follows an uncompromised passion for the highest quality. The company is introducing a specially-formulated beverage. This enhanced orange juice is fortified with extra vitamins and omega-3. Made from the freshest oranges, this juice maintains world class taste while including vitamins A and D and is a rich source of omega-3 EPA and DHA.

Innovative Products and Descriptions

Product Picture	Product Name	Product Description
	Hoogveld Black Toilet Paper	Made with biodegradable cotton and natural dyes, this black toilet paper will delight your senses. Hoogveld Black Toilet Paper is produced by a company that prides itself on its decades-old reputation for quality. Enjoy this product as a distinctive addition to your bathroom and as an exciting change of pace.
	Degas Carbonated Milk	Add sparkling fizz to the humdrum with Degas carbonated milk. Degas starts by using milk from hormone-free cows, carbonating and bottling the milk at the peak of freshness. For even more refreshing excitement, try strawberry-, lemon-, and kiwi-enhanced carbonated milk.
	Vitamin-Fortified Vodka	Founded over half a century ago, this respected company follows an uncompromised passion for the highest quality. The company is introducing a specially-formulated beverage. This enhanced vodka is fortified with extra vitamins and omega-3. Made from European potatoes, this vodka maintains world-class taste while including vitamins A and D and is a rich source of omega-3 EPA and DHA.

Liking Measure (All 1 = "Strongly Disagree" to 7 = "Strongly Agree")

This product is likeable
This product is desirable
I would like to try this product

Additional Study Details: Responses for close and distant others were collected in different study postings. The surveys were otherwise identical and participants from the close other survey were excluded from taking the distant others survey. Since we do not compare across close and distant others, we joined the data into one full study. Significant contrasts hold when we analyze the data separately for close and distant others. Responses for close others were collected April 12 – 28th, 2016. Responses for distant others were collected June 20 – 29th, 2016.