

Words Speak Louder: Conforming to Preferences More Than Actions

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Whereas people generally conform to others' choices, this research documents that conformity decreases once others have acted on their chosen options. It suggests words speak louder than actions—people are more likely to conform to others' preferences than their actions. Specifically, people are less likely to follow another person's food choice if that person has already eaten his or her selected food (Study 1), and are less likely to follow others' choices of household items if these choices are framed in terms of action (others "want to have it") rather than preference (others "like it"; Study 2). People's tendency to mentally share others' actions causes the decrease in conformity. Indeed, people recall greater past consumption of items that others have had (Study 3), choose differently only when they can complement (vs. contradict) what others have (Study 4), and are more strongly affected by the choices of those close to them (vs. strangers; Study 5). Finally, even when information about others' actions and preferences are simultaneously available (e.g., in online shopping and the consumption of social media), people are more likely to follow what others prefer, rather than what others have (Study 6).

Keywords: conformity, social influence, mental sharing, preference, action

Information on what other people like and do is readily available across many situations, and tends to engender conformity (Asch, 1956; Cialdini & Goldstein, 2004; Milgram, Bickman, & Berkowitz, 1969). For example, other people's fashion choices may increase one's adherence to that new fashion, and others' endorsement of a new policy may increase one's support for that policy. Information on others' choices generally comes in (or is implied by) one of two forms: stated preference (what others say they like) and action (what others do or have). Whereas these two types of information can truly differ—for example, when only a handful of those who choose to buy something report their liking for it—they can also only appear to differ, such that the difference is in the choice framing rather than the objective information. For instance, the same popular item can be described as the "majority favorite," thus emphasizing others' preferences, or as a "best seller," thus emphasizing others' actions.

Given the general tendency to conform, this research seeks to explore which type of information on other people—stated preference or action—attenuates this tendency. We ask, for example,

whether a shopper would be less likely to conform to another shopper's choice upon learning that the other shopper bought a product (i.e., the action aspect of choice) versus said she liked that product (i.e., the preference aspect of choice). Conventional wisdom suggests actions speak louder than words, implying that the actions of others should engender greater conformity than stated preferences. Similarly, economic theory assumes that revealed preference (i.e., action) is closer to the "true preference" than stated preference; therefore, others' actions should be a better guide to one's own choices. By contrast, we predict—holding information on quality constant—lower conformity to others' actions than to their preferences.

We base our prediction on the notion that individuals mentally share (i.e., see as their own) others' preferences and actions. As a result, individuals feel compelled to express preferences similar to others', yet feel that they can enrich their experience by selecting different, complementary actions.

When People Conform Versus Make Complementary Choices

People make their choices within a social context in which information on others is readily available and highly influential (Bearden & Etzel, 1982; Cohen, 2003; Fishbach, Henderson, & Koo, 2011; Latane & Darley, 1968). Research in psychology, economics, business, and public policy show that information on others' behaviors and attitudes usually engenders conformity—that is, behavioral matching—such that actions and preferences positively reinforce each other (Asch, 1956; Goldstein, Cialdini, & Griskevicius, 2008; Hornstein, Fisch, & Holmes, 1968; Milgram et al., 1969; Sherif, 1936). For example, people conform to others' food choices (Cai, Chen, & Fang, 2009; McFerran, Dahl, Fitzsi-

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mons, & Morales, 2010), environmental decisions (Allcott, 2011; Goldstein et al., 2008), and prosocial behaviors (Frey & Meier, 2004; Gerber & Rogers, 2009). Whereas conformity is common between friends, people also conform to in-group members in large settings; for example, those in an online community (Chen, Wang, & Xie, 2011; Salganik, Dodds, & Watts, 2006).

Part of the reason that conformity is ubiquitous is that others' judgments and behaviors bear normative and informational social influence (Deutsch & Gerard, 1955). Normative social influence results from the benefits that conforming to others engenders (e.g., social approval and social affiliation, Lakin & Chartrand, 2003) and the penalties (e.g., disapproval) that not conforming engenders (Griskevicius, Goldstein, Mortensen, Cialdini, & Kenrick, 2006). Because conforming is normatively desirable, it is often a mindless, automatic response that requires minimal deliberation (Chartrand & Bargh, 1999). Informational social influence results from the perception that others' preferences and actions provide social proof to an individual that others' preferences and actions are the most appropriate ones (e.g., the wisdom of the crowd; Simmons, Nelson, Galak, & Frederick, 2011; Surowiecki, 2005). Individuals believe they can improve their decision accuracy by relying on information from others because others presumably have information on the true value of options (Baron, Vandello, & Brunzman, 1996; Levine, Higgins, & Choi, 2000). Indeed, cross-cultural research documented conformity as a dominant coordination pattern, in particular in collectivistic (vs. individualistic) societies (Bond & Smith, 1996; Kim & Markus, 1999; Markus & Kitayama, 1991).

However, social influence does not always take the form of conformity, and under some circumstances, conformity—or more generally, behavioral matching—might actually signal a lack of response to social influence (e.g., simultaneous speech or mutual periods of silence). In fact, social influence could result in different yet complementary actions, defined as actions that add to, rather than follow (mimic), what another person chooses (Fiske, 2000). Such motivation for complementarity in actions is evident, for example, when teammates coordinate to work on different segments of a project (i.e., the division of labor; Becker & Murphy, 1992; Sinha & Cusumano, 1991), couples coordinate by mastering complementary information (Wegner, Erber, & Raymond, 1991), and group members coordinate regulatory modes (Mauro, Pierro, Mannetti, Higgins, & Kruglanski, 2009). Beyond these examples, individuals are often motivated to pursue different actions, consume different products, or acquire different knowledge because they want to complement what others already do, possess, or know.

Mentally Sharing Others' Preferences and Actions

Beyond normative and informational influence, people are influenced by others because they mentally share what close others say and do. Indeed, the self–other boundary is often less than clear-cut (Aron, Aron, Tudor, & Nelson, 1991; Brewer & Gardner, 1996; Burger, Messian, Patel, del Prado, & Anderson, 2004; Cialdini, Brown, Lewis, Luce, & Neuberg, 1997; Kelley & Thibaut, 1978), and individuals can experience others' emotions, evaluations, and actions, as well as the consequences of these actions, as their own (Maner et al., 2002; Monin, Norton, Cooper, & Hogg, 2004). For example, people feel lonely upon seeing another person being socially excluded (i.e., vicarious ostracism; Wesselmann,

Bagg, & Williams, 2009), and fall prey to others' sunk costs (i.e., vicarious entrapment; Gunia, Sivanathan, & Galinsky, 2009). Further, people experience cognitive dissonance from others' inconsistencies (Norton, Monin, Cooper, & Hogg, 2003), feel depleted by others' efforts (Ackerman, Goldstein, Shapiro, & Bargh, 2009), satiated by others' goal completion (McCulloch, Fitzsimons, Chua, & Albarracín, 2011), and experience others' moral credentials as their own (Kouchaki, 2011). In addition, another form of mental sharing refers to "shared-reality"; people are motivated to share their reality with close others, by taking on close others' views of the world. For example, people incorporate their close others' perspective when forming a memory of an event such that they remember what they said about the event to their close others (i.e., their close others' memory of the event) more than what actually happened (Echterhoff, Higgins, & Levine, 2009; Thompson & Fine, 1999).

We suggest that people mentally share both others' preferences and actions. When sharing a preference, individuals adopt others' preferences as their own. When sharing an action, individuals adopt others' underlying preferences for the action, while also feeling they, in a way, acted, too. For example, information on others' actions, including what others own (e.g., furniture), have eaten (e.g., food), viewed (e.g., online videos), or listened to (e.g., music), leads individuals to develop a preference for these items, as well as feel they have had some vicarious experience with them.

Mental sharing implies that when people learn about others' preferences, they will like the target items more, but when they learn about others' actions, they will feel less compelled to perform the same actions "again." This response occurs because the expression of different preferences results in (undesirable) internal inconsistency, whereas the expression of different actions results in (desirable) variety. Consequently, mentally sharing others' actions would lead people to do something different to complement and enrich their own experiences; they would be less likely to conform to what others have materially consumed (e.g., owned) and experienced (e.g., watched, eaten). In other words, when others' actions are mentally shared, social influence is less likely to take the form of conformity and more likely to induce complementary decisions.

Research Hypotheses

Our main hypothesis is that individuals conform less to information on others' choices when these choices convey action, or are accompanied by action, than when these choices only convey preference. We limit our investigation to freely chosen actions, such that an action always implies a preference (i.e., no mandatory, imposed actions). In essence, we compare a choice that implies preference with a choice that implies preference plus action.

We study situations in which minimal objective difference exists between a choice to express a preference and a choice to act. In addition, neither preferences nor actions are normatively a better source of information, because neither provides a more reliable measure of the "wisdom of the crowd." For example, action information could cover a large sample (e.g., sales data), whereas preference information could come from a small and potentially biased sample of people who expressed their evaluation (e.g., people who rate products tend to have extreme views; Anderson, 1998; Bowman & Narayandas, 2001), and action could involve

higher personal cost than expressing preference; hence, action information could at times be objectively a stronger signal of value. On the other hand, situations exist in which preference could be more informative, for example, if people provide this information after they have had more experience with their choice compared with those expressing preference only.

To provide a clean test of our theory, we address situations in which preference and action convey similar objective information on the options, either because these are two framings of the same choice, or because respondents learn about a preference in both conditions and we vary whether it is followed by action (e.g., the chooser further consumed her choice).

We provide three types of evidence for mental sharing as the underlying cause for the words-speak-louder effect. First, we hypothesize that people will recall greater past consumption of items that others have had versus items that others have indicated they prefer. This hypothesis requires that the items are frequently consumed (e.g., breakfast foods) such that biased memories are likely. We predict, for example, that upon learning that others frequently consume (vs. strongly like) a specific breakfast food, individuals will remember consuming this food more recently and more frequently.

Second, we predict that people will only choose something different if the new option complements the option that others selected. Mental sharing implies that a person can enrich her experience by choosing differently; however, if the options contradict each other, she gains little from “owning” them both, and will choose to conform to others’ actions as much as she would conform to others’ preferences. We thus predict that individuals will conform less to others’ actions than to others’ preferences only when the options in the set complement (vs. contradict) each other.

Comparing conformity in complementary versus contradictory choice sets further helps us address a potential alternative explanation for our effect in terms of uniqueness seeking (i.e., that people choose differently to signal their unique identity, Brewer, 1991; Snyder & Fromkin, 1977). According to this alternative perspective, behavioral appeals (“everyone is doing it”) are less effective than attitudinal appeals (“everyone is talking about it”) among those who seek uniqueness, because conformity to actions is a stronger signal of a lack of uniqueness (Griskevicius et al., 2009). Whereas uniqueness seeking and mental sharing could, at times, produce a similar effect, uniqueness seeking implies less conformity to others’ actions than words when the items in a set contradict each other, because choosing differently from a contradicting set provides a greater signal of uniqueness. By contrast, the perspective of mental sharing predicts less conformity to actions than words when the items complement each other, because individuals choose differently whenever they can achieve a complementary experience.

Finally, people mentally share close others’ actions more than distant others’ actions; for example, people feel they share the traits of their significant others, in-group members, or those with whom they identify, more than distant others (Aron, Aron, & Smollan, 1992; Goldstein & Cialdini, 2007; Norton et al., 2003; Smith, Coats, & Walling, 1999; Smith & Henry, 1996). Because mental sharing underlies our effect, we predict a stronger effect for closer friends. We therefore hypothesize that individuals will conform less to the actions than the preferences of close others

(friends, in-group members) compared with distant others. We next report six studies that test these hypotheses.

Study 1: I Will Eat What You Like

To test whether people conform less to another person’s action versus preference, we had the participants in Study 1 watch another person choose between two flavors of chewing gum and either eat the selected option (action) or not (preference). Participants then made their choice among the same options. We predicted they would be less likely to conform (i.e., choose the option the person they observed selected) if the person ate his or her selection versus not.

Method

Participants. Our general rule of predetermining sample sizes in all studies was at least 20 participants per condition for lab studies, and increasing this number in noisier—field and online—settings. For Study 1, we predetermined a sample size of 35 natural dyadic groups (i.e., undergraduate students who sat with another person in a common university area; 70 people) per condition, because we ran the study in a field setting with a binary dependent variable. We ran the study throughout 1 week, returning a total of 66 dyads (61 males, 68 females, and 3 missing) that volunteered to participate in the study.

Procedure. The study employed a 2 (other’s response: preference vs. action) between-subjects design. Participants completed a survey on an evaluation of chewing gums. We used two flavors of Orbit gum (Wintermint and Sweetmint) that participants had, in past experiments, deemed similarly appealing.

We randomly assigned participants in each dyad to move first versus second. In the preference condition, the experimenter asked the first mover to indicate which flavor he or she liked better. The experimenter verbally repeated the first mover’s response (“So you like xx better”) and handed him/her a survey on which the participant evaluated the selected chewing gum without tasting it (how soft, sweet, refreshing, and delightful they thought this was). In the action condition, the experimenter asked the first mover to indicate which flavor he or she liked better and wanted to taste in this study. The experimenter verbally repeated the first mover’s response (“So you like xx better and want to taste it”) and handed him/her a different survey along with the selected chewing gum. The participants first tasted the chewing gum and then evaluated it (how soft, sweet, refreshing, and delightful it was).

Next, the experimenter handed the second mover a survey, which was similar across conditions, except the first question asked which chewing gum his or her study partner indicated they liked (preference condition) or liked and was currently having (action condition). The second mover then indicated the flavor he or she wanted to taste, first on the survey and then to the experimenter. The experimenter handed the second mover his or her selected flavor, which participants tasted before answering some questions on various product features (soft, sweet, refreshing, and delightful). Because we were only interested in the second mover’s choice, we did not analyze the product evaluation measures.

Results and Discussion

The choice share of both flavors was similar among the first movers (32 chose the Wintermint and 34 chose the Sweetmint), indicating that the options were similarly attractive. In support of our hypothesis, second movers were less likely to conform (i.e., choose similarly to their study partner) when their study partner tasted the gum (24%; 8/34) than when he or she merely indicated preference for a flavor (53%; 17/32), $\chi^2(1) = 6.14, p = .013$.

Using action (i.e., tasting the chewing gum) versus preference (i.e., indicating a preference for the chewing gum), Study 1 confirmed our basic hypothesis that people conform less to an acquaintance's actions than preferences. Interestingly, in this study (unlike the following ones), we find an overall low conformity across conditions, which we attribute to the external feature of the task. Because the task involved two people experiencing two flavors, it may have induced a perceived experimental demand to choose differently to "help" the experimenter cover all options in the experiment. We next test whether the difference in conformity level further depends on the second mover's response, and whether merely framing the choice as an action versus a preference is sufficient to induce different levels of conformity.

Study 2: I Will Get What You Like

We find that people conform less to information on others' actions versus preferences. A related question is whether people also conform less when they themselves act versus state their preferences in response to others. To test this possibility, Study 2 fully crossed the second mover's response (preference vs. action) with the information on the first mover (preference vs. action).

In addition, moving beyond actual consumption versus preference information as sources of social influence, Study 2 manipulated the framing of product choice as preference (choose what you like) versus action (choose what you want to have). This subtle framing manipulation encourages people to consider others' future consumption (in addition to existing preference) when deciding on their own future consumption (see Griskevicius et al., 2009, for a similar subtle manipulation). We predicted that an action framing of others' choice, in terms of future purchase intentions, would generate lower conformity compared to preference-only framing of others' choice because it activates the consideration that one's friend, with whom one mentally shares, will already have the product in the future. We further predicted no effect for second movers' responses.

Method

Participants. We predetermined a sample size of 50 natural dyadic groups per condition (i.e., undergraduate students who sat with another person in a common university area; 100 people). Because we ran the study in a field setting and used a subtle manipulation, we suspected it could yield a smaller effect compared with Study 1. We ran this study throughout 1 week, returning a total of 190 dyads (186 males, 194 females). Participants completed the study for candy prizes.

Procedure. The study employed a 2 (other's response: preference vs. action) \times 2 (participant's response: preference vs. action) between-subjects design.

Dyadic groups completed a study on products. The experimental survey presented 12 pairs of household items for each of the following categories: (a) hangers, (b) drinking glasses, (c) bookshelves, (d) laptop sleeves, (e) clocks, (f) desks, (g) bookends, (h) side tables, (i) office lamps, (j) water bottles, (k) photo frames, and (l) chairs. We used only low-cost, affordable items that were within reach of our participants' budgets. A stated interest in high-cost products can imply wishful thinking rather than actual purchase intention (e.g., "I'd like to have a Lexus if I could afford it"). Thus, using products our participants could presumably afford to purchase was important. For each product pair, the survey displayed photos of the two products. We created two versions of surveys, one for products 1–6 (Version 1) and one for products 7–12 (Version 2). Each survey had space for two responders under each product (Responder 1 and Responder 2). We manipulated the question for Responder 1: "Which one do you like?" (i.e., preference) or "Which one do you want to have?" (i.e., desire for future action). We independently manipulated the question for Responder 2 (again, based on either preference or action). Using this paradigm, all participants indicated their choices, which we framed in the survey as preference or desire for action.

We gave one person in each dyadic group one version of the survey with product sets 1–6; the other person received a survey with product sets 7–12. Both participants completed their part of the survey as Responder 1. Upon completion, participants switched their surveys. At that point, each participant could see the first responder's responses under Responder 1, and completed the second part of the survey as Responder 2.

We did not allow any verbal interaction within the dyad. Using this paradigm, we were interested in each participant's responses when they went second, which we coded as either "the same as" or "different from" Responder 1's choices. As a measure of conformity, we counted the number of times the second responders' answers coincided with the first responders'. Because we used six pairs of products on each version of the survey, the conformity score ranged from 0 to 6.

Results and Discussion

A 2 (other's response framing: preference vs. action) \times 2 (target participant's response framing: preference vs. action) \times 2 (survey version: 1 vs. 2) ANOVA yielded the predicted main effect of others' response framing, $F(1, 182) = 11.77, p = .001$, indicating greater conformity to others' choices when they were framed as preferences versus actions. We found no effect for participants' responses, the survey version, or interactions involving these variables ($F_s < 1.02$).

Specifically, regardless of their own response mode, participants followed the first responders' preferences more than their actions. Thus, when we framed second responders' choices as actions (i.e., "Which one do you want to have?"), second responders followed first responders' choices more when these choices were framed as preferences ($M = 3.76, SD = .77$) versus actions ($M = 3.32, SD = 1.24$), $t(94) = 2.08, p = .04$, Cohen's $d = .43$. Similarly, when we framed second responders' choices as preferences (i.e., "Which one do you like better?"), second responders followed first responders' choices more when we framed these choices as preferences ($M = 3.85, SD = 1.10$) versus actions ($M = 3.19, SD = 1.20$), $t(92) = 2.79, p = .006$, Cohen's $d = .57$ (see Figure 1).

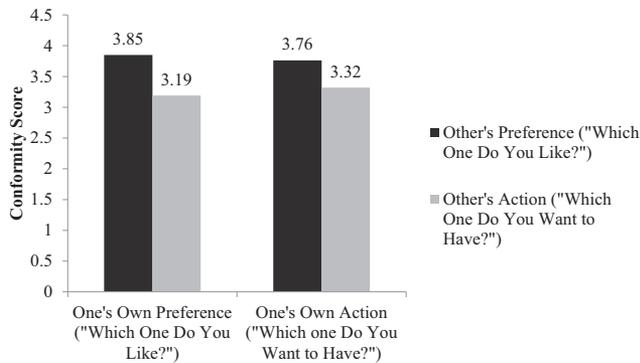


Figure 1. Conformity to a study partner's stated preference versus action intentions among participants stating their own preference versus action intentions (Study 2).

Results of Study 2 suggest that people follow others' preferences more than others' actions, even if the objective information is identical and the difference is only in the framing of the choice. In other words, it was not the case that a subset of those who preferred an item further purchased it, or that the purchase is subject to budgeting consideration. Moreover, we document the effect for intended consumption, which suggests people mentally share others' intended actions. Interestingly, people conform at about the same rate when stating their own preferences versus their own intended actions; thus, people do not experience their own actions as something others would mentally share (i.e., second responders do not expect their behavior will influence first responders' experience), which would lead them to conform less when indicating action in order to enrich the other person's experience. Instead, people experience others' actions as something they share, and therefore conform less to others' actions to enrich their own experience.

We predict that the underlying mechanism for the decrease in conformity in the first two studies is mental sharing. Hence, in the following studies we test for indicators of mental sharing (i.e., whether people vicariously share actions and preferences) and whether such mental sharing underlies our effect.

Study 3: Mediation by Recalled Recent Consumption

In Study 3, we moved from conformity to an individual acquaintance to conformity to in-group members, and we used frequently consumed low-cost grocery items. These changes allowed us to test a marker of mental sharing: whether information on others' actions (vs. preferences) makes people recall having these items (i.e., acting) more recently and frequently. In this experiment, we used a purchase-intention scale to assess conformity to food items that we framed as items the majority of people "frequently consume" or "like." We predicted that participants would recall having some items more recently and frequently upon learning others have had them, compared with learning that others like them. We predicted that, in turn, this difference in recall would lead to lower purchase intention of the items.

Specifically, participants in Study 3 received information on several grocery items (e.g., granola bars) that the majority of people presumably either "consume" (action) or "like" (prefer-

ence). Participants then indicated their purchase intentions along with how recently and frequently they had the products. We predicted that those who learned about others' actions would recall having the grocery items more recently and frequently, and would therefore report lower purchase intentions than those who learned about others' preferences.

Method

Participants. We predetermined a sample size of 40 MTurk workers per condition. We ran this study on 1 day, returning a total of 160 completed responses. Fifteen participants failed the attention-check question and, therefore, quit the experiment early (see Procedure for details), leaving us 145 valid responses (63 males, 82 females; mean age = 33).

Procedure. This study employed a 2 (information type: majority's preference vs. majority's action) between-subjects design. Participants read that the study was part of a large consumer research project, that we had previously gathered information about some grocery items from a large group of people, and that this survey was interested in collecting the participants' purchase intentions. Participants viewed images of eight grocery items: (a) Nature Valley Granola Bars, (b) Quaker Oatmeal, (c) Reese's Dark Chocolate, (d) Swiss Miss Hot Chocolate, (e) Old Dutch Pretzels, (f) Special K Cereals, (g) Lay's Chips, and (h) Orville Redenbacher Popcorn. They further read that these items were selected based on a previous survey in which a large sample of consumers indicated either their preference ("checked the items that they liked best") or, depending on condition, action ("checked the items that they had consumed"). They also read that the survey presented them with the eight "most-liked" or, depending on condition, "most-consumed" products.

The participants' task was to indicate their purchase intentions with regard to each of the eight previously "most-liked" or "most-consumed" items. Specifically, they rated whether they would buy each of these items on a grocery trip (1 = *definitely no*, 9 = *definitely yes*).

Because we ran the study online, in order to ensure that participants paid attention to the manipulation, we next asked them to recall whether the products they had evaluated were (a) the most frequently consumed items among surveyed consumers, (b) the most-liked items among surveyed consumers, or (c) they did not know. Participants who answered this question incorrectly ($n = 15$) ended the study there, and we excluded their partial data from the analyses. Finally, to assess mental sharing (i.e., recalled recent consumption), we asked participants to rate each item on (a) how often they consumed it (1 = *never*, 7 = *very often*) and (b) how recently they consumed it (1 = *a long time ago*, 7 = *very recently*).

Results and Discussion

We averaged participants' purchase intentions for each of the eight grocery items. Consistent with our prediction, participants reported higher purchase intention for products described as most liked (preference condition; $M = 3.48$, $SD = 1.11$) than for products described as most frequently consumed (action condition; $M = 3.03$, $SD = 1.17$), $t(143) = 2.35$, $p = .020$, Cohen's $d = .39$. We further collapsed participants' responses to the questions on

perceived frequency and recency of consuming each of the eight products, $r = .82$, $p < .001$ into an index of recalled recent consumption. Consistent with our prediction, participants reported they had consumed items described as most liked less frequently and recently ($M = 2.60$, $SD = .93$) than items described as most consumed ($M = 2.97$, $SD = .91$), $t(143) = 2.37$, $p = .019$, Cohen's $d = .40$.

We next tested whether recalled past consumption mediated the effect of information type on purchase intention. We find that information on others' actions versus preferences decreased purchase intention ($\beta = -.45$), $t(145) = -2.35$, $p = .020$, and increased perceived past consumption ($\beta = .36$), $t(145) = 2.37$, $p = .019$; perceived past consumption, in turn, lowered purchase intention ($\beta = -.87$), $t(145) = -11.73$, $p < .001$. A bootstrap analysis revealed that the 95% bias-corrected confidence interval for the size of the indirect effect excluded zero ($-.59$, $-.05$), suggesting a significant indirect effect (Preacher & Hayes, 2004). Thus, recalled recent consumption mediated the effect of social information (others' action vs. preference) on purchase intention.

Results from Study 3 confirm our hypothesis: using a new paradigm that compares purchase intentions in response to "best sellers" versus "most-liked" information on in-group members (i.e., fellow respondents), people conform to information on others' actions less than others' preferences. We further documented that these two types of information on others differ in the degree to which they give people the sense that they have acted too. Participants recalled greater recent consumption of the items that others consume (vs. prefer); this indicator of mental sharing mediated the effect of information-on-others on purchase-intentions. We next test for another marker of mentally sharing others' actions, namely, that people choose differently to complement what others have rather than contradict it.

Study 4: Moderation by Complementary Versus Contradictory Choice Sets

Study 4 tested for another marker of mental sharing as the underlying cause of lower conformity to others' actions: if people experience others' possessions as partially their own, they should choose items that complement (go with) rather than contradict (go against) what others have. The documented effect should therefore hold as long as the "set" (items owned by others and self) is desired (i.e., consists of complementary items).

Accordingly, participants in Study 4 chose between a green luggage tag and a blue luggage tag, which we presented as either complementary or contradictory colors, after they learned about the choice their partner in the experiment made, and which we framed either as action ("have it," as compensation for taking this study) or preference ("like it"). We predicted that for complementary items, participants would conform more to another person's choices that are framed as preference rather than action. This pattern should not hold for contradictory items, because in choosing differently, a person does not improve the overall experience from owning both.

Method

Participants. We predetermined a sample size of 35 natural dyadic groups (i.e., undergraduate students who sat with another

person in a common university area; 70 people) per condition. We used the same sample size as in Study 1, because the choice paradigm in both studies was similar. We ran this study throughout 2 weeks, returning a total of 150 dyads (300 participants, 120 males, 177 females, 3 missing). Participants completed this study for candy prizes.

Materials and procedure. This study used a 2 (choice framing: action vs. preference) \times 2 (relationship between items: complementary vs. contradictory) between-subjects design.

Participants read, "In the world of product design, a variety of elements, such as colors, shapes, patterns and textures, are creatively used to give each product its own style." In the complementary condition, participants read, "Sometimes, different styles are designed to *complement* each other. That is, while each item looks good by itself, when put together, they *enhance each other and make a harmonious set which is visually pleasant*. Therefore, shopping experts advise that consumers *should get products with complementary styles together*." In the contradictory condition, participants further read, "Sometimes, different styles are designed to *contradict or clash* with each other. That is, although each item looks good by itself, when put together, they *undermine each other and make an unharmonious set which is visually unpleasant*. Therefore, shopping experts advise that consumers *should not get products with contradictory styles together*."

The surveys presented a picture of two products (green and blue luggage tags, see Appendix A), which, depending on condition, were said to have complementary or contradictory colors. The survey then had participants list the main reasons these two colors were complementing/contradicting. Participants further reported some demographic details, including their relationship with their partner (e.g., friend, significant other).

For the next and last part of the study, participants learned they would both provide their answers on a single survey, without communicating to each other. The survey displayed a picture of the blue and green luggage tags, followed by a single question that was formatted to follow the preference or action condition: "Which luggage tag do you like better? Please mark your preference below" (preference condition), or, "Which luggage do you want to get for yourself? Please mark your choice below. You will receive the option of your choice" (action condition). We randomly assigned one participant within each dyad to be the first mover—he or she answered the question first and handed the survey to the second mover, who then answered the question with information on the first mover's response. Upon indicating their choice, participants received their selected luggage tags and were thanked and debriefed.

Results and Discussion

We coded second movers' responses (same as the first mover = 1; different from the first mover = 0) as our conformity index. A logistic regression with conformity as the dependent variable on choice framing (action vs. preference), relationship between items (complementary vs. contradictory), and their interaction term yielded the predicted interaction ($b = 1.68$, $SE = .69$), Wald(1) = 6.03, $p = .014$ (see Figure 2). In support of the hypothesis, for complementary options, participants conformed more often to their partner's stated preferences (74%; 28/38) than actions (39%; 15/38), $\chi^2(1) = 9.05$, $p = .003$, whereas for contradictory options,

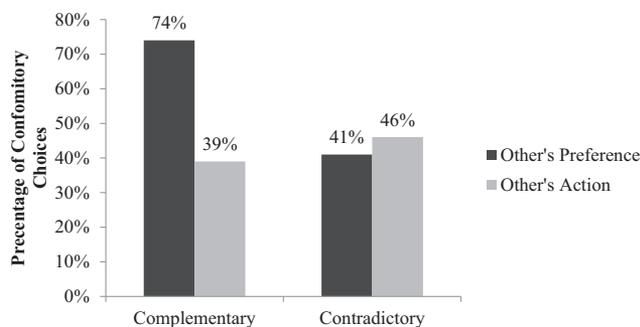


Figure 2. Conformity to a study partner's preference versus action when the choice options appear complementary versus contradictory (Study 4).

participants conformed similarly to their partner's stated preferences (41%; 15/37) and actions (46%; 17/37), $\chi^2(1) = .22, p = .29$. We also observed a main effect of choice framing, ($b = 3.14, SE = 1.10$), Wald(1) = 8.16, $p = .004$, with greater conformity when responding to a preference (57%; 43/75) than action (43%; 32/75) question, and a main effect of the relationship between items ($b = 3.09, SE = 1.10$), Wald(1) = 7.90, $p = .005$, with greater conformity when the options were complementary (57%; 43/76) than contradictory (43%; 32/74).

The higher conformity in the complementary condition could suggest that people conform more to positive information (as in the complementary description) than negative information (as in the contradictory description). However such interpretation will be inconsistent with the results in the action condition, in which participants were no more (and directionally less) likely to conform to their partner's action when the options were described as complementary (39%) rather than contradictory (46%). Although this difference does not reach significance, its direction is inconsistent with the idea that our descriptions of the two conditions created artificial experimental demands.

Results from Study 4 are consistent with the notion that people choose differently from others to enrich their own experience, because they mentally share others' possessions. Indeed, participants conformed more to others' preferences than actions, but only to the extent that the choice options appeared complementary.

Study 5: Moderation by Self-Other Overlap

As our final marker of mental sharing, we tested for the wordspeak-louder effect as a function of interpersonal closeness. Interpersonal closeness is associated with self-other overlap (Aron et al., 1992) and, therefore, should be a necessary condition for our effect on conformity. Indeed, we have so far observed the effect among friends sitting together (Studies 1, 2, and 4), as well as in-group members (people sampled from the same population, Study 3), where we expect self-other overlap and mental sharing. In Study 5, we manipulated closeness and predicted participants would conform more to friends' preferences than actions, but would be similarly influenced by strangers' preferences and actions.

Method

Participants. We predetermined a sample size of 30 MTurk workers per condition. This sample size was smaller than in Study

3 (which also used an online sample) because one of the independent variables was counterbalancing the information order and we did not expect any effect on it. We expected that we would have 60 people per condition, after collapsing the two information orders. We ran this study on 1 day, and 244 MTurk workers (143 males, 101 females; $Mage = 33$) ultimately participated in the study in exchange for \$0.50.

Procedure. This study employed a 2 (information type: preference vs. action; within-subjects) \times 2 (interpersonal closeness: friend vs. stranger; between-subjects) \times 2 (information order: first preference vs. action; between-subjects) mixed design. Unlike previous studies, we manipulated the information type within subjects, thus allowing participants to directly compare their conformity with information on others' preferences versus actions, and putting our hypothesis to a stringent test. We manipulated all other variables between subjects. Further, we randomly assigned participants to one of two versions of the study, which presented a choice between either mugs or bowls.

Participants saw pictures of either two mugs or two bowls (see Appendix A) and read the following choice scenario (presented here for mug; the other version replaced mugs with bowls and the other person chose option B instead of A): "Suppose you are shopping for a mug in a store . . . You have narrowed down your consideration set to two options: A and B." In the preference-first condition, participants further read, "Suppose a friend of yours is standing next to you. S/he murmurs, 'I like A better, but I don't need to get a new mug.' Which mug will you get for yourself? (There's enough stock of both types of mugs.)" Once participants indicated their choice (1 = *definitely A*, 7 = *definitely B*), they further read, "Now, suppose the same friend murmurs, 'I like A better and I'll get it today, and puts one mug A in his/her shopping basket. Which mug will you get for yourself? (There's enough stock of both types of mugs.)" Participants indicated their choice again, on the same scale.

In the condition in which we used a stranger, we replaced the "friend" with "a random customer." In the action-first conditions, we reversed the order of responding to another person's preference versus action.

Results

We reverse-scored participants' choice ratings in the mug scenario such that higher numbers indicate stronger conformity (already the case in the bowl scenario). Beginning with the mug scenario, we first confirmed that order of presentation did not interact with information type (preference vs. action) and closeness (friend vs. stranger) in predicting conformity (for the three-way interaction, $F(1, 116) = .21, p = .65$). We next collapsed the two information-order conditions. An ANOVA of conformity on information type \times closeness yielded the predicted two-way interaction, $F(1, 118) = 6.70, p = .011$ (see Figure 3). When considering a friend, participants conformed to this person's preference ($M = 3.59, SD = 2.17$) more than consumption ($M = 3.07, SD = 2.20$), $t(60) = 3.12, p = .003$, Cohen's $d = .40$. When considering a stranger, participants conformed similarly to this person's preference ($M = 3.32, SD = 2.17$) and consumption ($M = 3.31, SD = 2.18$), $t(59) = .17, p = .86$.

Moving to the bowl scenario, we again did not find an effect for the question order (three-way interaction, $F(1, 120) = .004, p =$

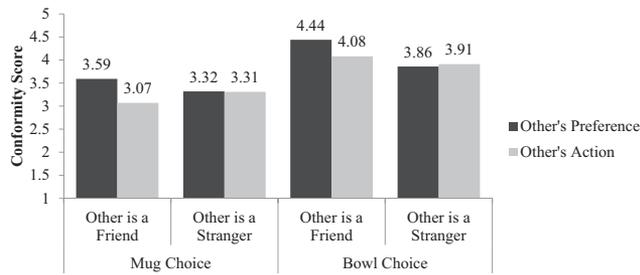


Figure 3. Conformity to another person's stated preference versus action intentions (Study 5).

.95). An ANOVA of conformity scores on information type \times closeness yielded the predicted two-way interaction, $F(1, 122) = 5.26, p = .024$. When considering a friend, participants conformed more to this person's preference ($M = 4.44, SD = 2.37$) than consumption ($M = 4.08, SD = 2.40$), $t(62) = 2.35, p = .022$, Cohen's $d = .29$, but they similarly conformed to a stranger's preference ($M = 3.86, SD = 2.32$) and consumption ($M = 3.91, SD = 2.38$), $t(60) = .55, p = .58$.

Further supporting that mental sharing underlies the wordspeak-louder effect, we find that interpersonal closeness moderates it. So far, our studies have compared conformity to information on others' preferences versus actions; however, individuals often have access to both types of information simultaneously. For example, when shopping online, people often have access to evaluation ratings (i.e., preference) as well as the percentage of viewers who purchased the item (i.e., action). When surfing YouTube, web users can find out how many people liked a video (i.e., preference) and how many people watched it (i.e., action). In situations in which people have both types of information available, we predicted they would follow information on preference more than information on action. We conducted Study 6 to test for this prediction.

Study 6: Greater Conformity to Preference Than Action in Online Choice

In the context of online consumption, information on in-group members' preferences and actions is available simultaneously and largely influences choices. Which type of information engenders greater conformity? To answer this question, in the context of Amazon, we operationalized others' preferences as product rating and further operationalized others' actions as sales (i.e., the percentage of people who bought the product after viewing it). In the YouTube context, we operationalized others' preferences as number of "likes," and operationalized others' actions as number of "views." We predicted that information on purchases and views would engender less conformity than information on ratings and likes.

Notably, in these contexts in which a subset of those who choose to act (i.e., buy or watch) also choose to express a preference (i.e., rate), one type of information might normatively be a better signal for value and therefore engender higher conformity. Thus, learning about others' actions could be more informative than learning about others' preferences, because only a small, unrepresentative sample of the people who made a choice (e.g., purchased or

viewed something) also reviewed that choice. On the other hand, information on preferences might be a better signal for value, because people provide it postconsumption, after they have had more experience with the chosen option.

To control for these normative differences between different types of information, we used a "matching and choosing" paradigm (Slovic, 1975), in which participants matched two choice options that varied on two dimensions each so that the options looked equally attractive to them (matching phase). We then asked them to choose between the options they created (choosing phase). Research shows that the option that is superior on the more important dimension (i.e., the "prominent option") will be selected in the choice phase (Tversky, Sattath, & Slovic, 1988; Carmon & Simonson, 1998). For example, Tversky et al. (1988) had participants match between two programs that reduce car accidents and that varied by (a) annual cost and (b) expected casualties per year. After matching these programs to be equally attractive, the majority of the respondents chose the program that saves more lives at a higher cost per life saved, because saving life was the more important dimension. Accordingly, in our study, we first asked participants to match two choice options on their (a) preference and (b) action information, so that the two options looked equally attractive to them (matching phase), and then we (unexpectedly) asked them to choose between the options they had created (choosing phase). We predicted that participants would choose the option that dominates on preference information, because this dimension is the prominent dimension that evokes conformity.

Method

Participants. We predetermined a sample size of 100 MTurk workers per condition. This sample size was larger than in our other studies, because we had little experience with this novel paradigm and could not estimate the effect size. We ran this study on 2 days, and a total of 220 MTurk workers (146 males, 74 females; $M_{age} = 32$) participated in exchange for \$0.30.

Procedure. Each participant completed two choice contexts: (a) YouTube (between pet videos) and (b) Amazon (between pudding offerings). We randomly assigned participants to complete information on preference or action in the YouTube context (during the matching phase), and they completed the other type of information in the Amazon context (i.e., participants that completed preference information for YouTube completed action information for Amazon).

In the YouTube choice, participants read about two pet videos, different in "number of views" and "number of likes" (corresponding to action and preference information). In a matching phase, participants were then presented with the number of views and number of likes for Video A and either only the number of views or only the number of likes for Video B. The participants' task was to complete the missing value ("likes" or "views") that would make them "indifferent about which video to watch." We refer to the complete option (Video A) as the "target," and the other option (Video B) as the "competitor." Specifically, participants read that Video A (the "target") had 5,000 likes and 190,000 views. In the "missing action information" condition, Video B (the "competitor") had 2,000 likes, and the number of views was missing. In the "missing preference information" condition, Video B had 230,000 views, and the "number of likes" was missing (see Appendix B).

Participants then moved to the Amazon context and read about two puddings that were offered online, differing in terms of “rating (range: 1 to 10)” and “sales (i.e., percentage of consumers who bought this product after viewing its information).” They all read that Pudding A (the “target”) was rated 8/10, and 60% of those who viewed it bought it. In the “missing preference information” condition, the sales information for pudding B (the “competitor”) was 70% and the rating information was missing. Participants’ task was to generate a rating number (between 1 and 10) so that they were “indifferent about which pudding to buy.” In the “missing action information” condition, pudding B (“competitor”) was rated 7/10, but the sales information was missing (see Appendix B).

After creating choice sets using this matching procedure for both the YouTube clips and the Amazon puddings, participants moved to the choice phase. The survey presented participants with each of the choice sets he or she generated, and asked them to choose which video they would watch and which pudding they would buy.

Results and Discussion

Beginning with the pudding choice, we conducted a multivariate logistic regression with choice (1 = choose the target option; 0 = choose the competitor) as the dependent variable on (a) the difference in ratings between the target and the competitor (i.e., preference information; standardized) and (b) the difference in sales between the target and the competitor (i.e., consumption information; standardized). Both the difference in rating (i.e., preference information, $b = 1.52$, $SE = .26$), $Wald(1) = 34.17$, $p < .001$, and the difference in consumption ($b = .67$, $SE = .19$), $Wald(1) = 12.61$, $p < .001$, had a positive impact on choice. In support of our hypothesis, the impact of rating information was larger than the impact of consumption information (for the difference between the coefficients: $b = -.85$, $SE = .34$), $Wald(1) = 6.39$, $p = .011$.

A similar analysis of the video choice revealed that the difference in the number of likes positively predicted choice ($b = 1.63$, $SE = .29$), $Wald(1) = 31.02$, $p < .001$, and the difference in the number of views did not ($b = .18$, $SE = .22$), $Wald(1) = .65$, $p = .42$. In support of the hypothesis, the impact of number of likes was stronger than the impact of number of views (for the difference between the coefficients: $b = -1.45$, $SE = .46$), $Wald(1) = 9.84$, $p = .002$.¹

Follow-Up Study: Experimenter-Generated Choice Set

To generalize our effect beyond the matching-choosing paradigm, in a follow-up study ($n = 266$ Mturk workers, 86 females, $M_{age} = 32$), we test our predictions in a paradigm that offers higher ecological validity. Specifically, we had participants choose between 10 product pairs (in an Amazon condition) or 10 clip pairs (in a YouTube condition). For each trial (product or clip pair), we created four choice sets that used the same target option and manipulated information on the competitor (see Appendix C, Tables C1 and C2). For example, in the chocolate bars trial (Amazon), the target options were rated 3.8/5 by those who decided to rate it, and 72% of the people bought it after viewing it. The competitors were rated as either 4.2/5 (higher) or 3.4/5 (lower), and were bought by either 80% (higher) or 64% (lower) of those

who viewed these products. In the pair of pet videos (YouTube), 4,827 people liked the target option and 194,335 people viewed it, and either 5,892 (higher) or 3,762 (lower) people liked the competitor, and either 232,193 (higher) or 156,477 (lower) people viewed it.

Participants either had to make 10 purchase decisions based on information on how much other people liked each product/how many people bought each product (Amazon), or had to make viewing decisions based on information on how many people liked each video/how many people viewed each video (YouTube). Participants’ choices were consequential. In the Amazon condition, they entered a raffle to receive five of the products they had chosen in the study. In the YouTube condition, after making their selections, participants were randomly assigned to watch one of their selections.

For each trial, we randomly assigned participants to one of the four conditions: 2 (preference: competitor is higher vs. lower than target) \times 2 (action: competitor is higher vs. lower than target). We analyzed the data at the individual choice level. In the Amazon condition, we had 165 participants. Each participant made 10 different product choices; however, one choice from one participant was missing, which resulted in 1,649 binary choices. Because choices made by the same participant for the same product were dependent, we dummy-coded participants and products. We then conducted a multivariate logistic regression with choice (1 = choose the target option; 0 = choose the competitor) as the dependent variable on (a) the difference in customer ratings between the target and the competitor (i.e., preference information), (b) the difference in sales between the target and the competitor (i.e., consumption information), (c) participant variables (dummy coded), and (d) product variables (dummy coded). We find that both the difference in rating (i.e., preference information; $b = 3.26$, $SE = .19$, $Wald(1) = 300.96$, $p < .001$) and the difference in consumption ($b = 2.32$, $SE = .17$, $Wald(1) = 190.71$, $p < .001$) had a positive impact on choice, and in support of our hypothesis, the impact of rating information was larger than the impact of consumption information, $t(1473) = 14.79$, $p < .001$.

In the YouTube condition, we had 101 participants (we used a smaller sample for this condition, determined by the effect size gathered after we conducted the Amazon study). Each participant made 10 choices, resulting in 1,010 binary choices. We dummy-coded participants and videos (to control for dependency in these variables), and conducted a multivariate logistic regression with choice (1 = choose the target option; 0 = choose the competitor) as the dependent variable on (a) the difference in number of likes between the target and the competitor (i.e., preference), (b) the difference in number of views between the target and the compet-

¹ As an exploratory analysis, we also looked at the participants’ choice as a function of which type of information they were asked to generate (preference or action). In the Amazon condition, we find that participants in the missing-rating condition chose their self-generated option (72%; 78/108) more often than those in the missing-sales condition (16%; 18/112), $\chi^2(1) = 70.48$, $p < .001$. In other words, those who generated preference information (ratings) were more likely to choose their self-generated option. Similarly, in the YouTube condition, we find that participants in the missing-likes condition chose their self-generated option (70%; 78/112) more often than those in the missing-views condition (16%; 17/108), $\chi^2(1) = 65.11$, $p < .001$. Again, those who generated preference information (likes) preferred their self-generated option more.

itor (i.e., consumption), (c) participant variables (dummy coded), and (d) video variables (dummy coded). We find that both the difference in the number of likes ($b = 1.26$, $SE = .12$, $Wald(1) = 98.38$, $p < .001$) and the difference in the number of views ($b = .28$, $SE = .10$, $Wald(1) = 7.51$, $p < .01$) positively predicted choice. In support of the hypothesis, the impact of number of likes was stronger than the impact of number of views, $t(898) = 36.65$, $p < .001$.

The results of the follow-up study are consistent with the main study's results. Taken together, the results of Study 6 extend the effect on lower conformity to others' actions versus preferences when both types of information are available, and when the participants equated the choice sets on attractiveness.

General Discussion

People make choices within a certain social context in which information on others' actions and preferences is readily available and tends to engender conformity. This research compared people's tendency to conform to others' choices when the information emphasizes others' preferences versus actions, for example, when "favorites" are compared with "best sellers." Building on research on conformity (Asch, 1956; Goldstein et al., 2008; Dong, Dai, & Wyer, 2015; Milgram et al., 1969; Salganik, Dodds, & Watts, 2006) and vicarious experience (Goldstein & Cialdini, 2007; Kouchaki, 2011; McCulloch et al., 2011), we hypothesized—and found—lower conformity to others' actions, because individuals mentally share others' actions and can enrich their own experience by choosing something that is different (yet complementary) from what others did or had.

Six studies support our hypothesis, using different operationalizations of information on others and various socially relevant others (from friends to in-group members). In the context of food choices, Study 1 found that people conformed less to another person's choice when the other consumed his or her preferred option (i.e., action) than when the other indicated his or her preferred option without consuming it. In the context of household item choices, Study 2 documented lower conformity to others' choices when these choices were framed as a desire for future action ("your study partner would like to have it") versus preference ("your study partner likes it"). Studies 3–5 tested for markers of mental sharing. Specifically, Study 3 found lower conformity (as measured by purchase intention) to grocery items that the majority of people from the participants' population consumed versus liked, and participants' recall of having items others consumed (vs. liked) more recently and more frequently (i.e., vicarious consumption) mediated this effect. Next, Study 4 found that individuals choose a different luggage tag than what another person chose to have (vs. liked), but only when the items in the choice set complement (vs. contradict) each other. This result arises because in mental sharing, introducing variety by choosing differently is desirable if the options complement each other, but not if they contradict each other. In Study 5, the degree of self–other overlap, which we operationalize as interpersonal closeness, moderated the effect such that participants conformed less to their friends' actions versus preference, but we did not find a similar effect for information on a stranger's actions/preferences, because little mental sharing occurs with strangers. Finally, Study 6 extended the external validity of our hypothesis by presenting infor-

mation on others' preferences and actions simultaneously in the contexts of online shopping and the consumption of social media. Using a "matching and choosing" paradigm (Slovic, 1975), this study showed that when choosing between self-generated equally attractive options, people follow information on others' preferences more than others' actions in online consumption. In a follow-up study, we replicated this effect using experimenter-generated options.

Theoretical Implications

We next discuss implications for research on the causality implicit in language, psychological distance, and uniqueness seeking.

Causality implicit in language. A seemingly plausible alternative to our effect comes from research on implicit causality attribution in verbs (Brown & Fish, 1983; Semin & Fiedler, 1991). This stream of research shows that action verbs (e.g., get, have) engender greater causal inference about the agent/the actor, whereas state verbs (e.g., like) engender greater causal inference about the stimulus. That is, when other people "get" an item, people infer the choice is more about the chooser than the item, whereas when other people say they "like" something, people infer the choice is more about the chosen object (the product must be good) than the chooser. Although this alternative could be part of the reason why, at times, people conform more to preference, it is unlikely to account for our findings for two reasons: First, whereas some of our studies use linguistic, framing manipulations, other studies keep the language similar and manipulate consumption. For example, in Study 1, we compare conformity to a person who selected and consumed a chewing gum to a person who selected the gum without consuming it. Second, we have shown that mental sharing underlies the effect, which research on the information that is implicit in language does not predict. For example, this alternative cannot account for our findings that people misremember how recently they had something other people had, that our effect is stronger for complementary (vs. contradictory) items, and that it is also stronger when responding to information on close (vs. distant) others.

Psychological distance. We propose—and find—that psychological distance between the self and a like-minded other (or group) matters. In particular, mentally sharing should be stronger between the self and a psychologically close other than a distant other, which further influences the strength of the words–speaker–louder effect (Study 5).

However, mental sharing appears to be common and easy to produce, even between somewhat ambiguous group members (e.g., in the minimal group paradigm; Rabbie & Horwitz, 1969; Tajfel, Billig, Bundy, & Flament, 1971). Indeed, much of the research on social influence used minimal social connections, such that social targets were somewhat distant and unknown to the individual (e.g., other hotel guests, diners, etc., Goldstein et al., 2008; McFerran et al., 2010). We assume the kind of social influence we study here does not appear to require strong social ties and is less sensitive to the strength of the tie.

We also note that whereas our studies vary in the strength of social connection, we have not investigated social influence among groups that are in competition and may wish to distinguish themselves from each other (e.g., enemies). In the context of group

competition, individuals might want to avoid mental sharing with the out-group. As a result, we could expect conformity overall will be lower, and we might not find a difference between conforming to actions versus preferences.

Divergence: “Go along” versus “go alone.” We propose that people diverge from others’ actions in order to complement what others have had. However, divergence can also reflect people’s need for uniqueness, for example, when people consume differently to communicate their special status in the group (Ariely & Levav, 2000; Tian, Bearden, & Hunter, 2001; Simonson & Nowlis, 2000; Irmak, Vallen, & Sen, 2010). Specifically, research by Griskevicius et al. (2009) documented that a need for uniqueness decreases conformity to behaviors but has no effect on conformity to attitudes. Therefore, identifying the conditions under which divergence is driven by a desire to go along (i.e., complementary consumption) versus go alone (i.e., uniqueness seeking) is useful (e.g., Heath, Ho, & Berger, 2006, distinction between coordinated and idiosyncratic divergence).

Study 4 provides evidence that people’s motivation to diverge in our experiments reflects a desire to “go along” rather than seek uniqueness (i.e., “go alone”). In this study, we manipulated the perceived relationship between the two options in a choice set (complementary vs. contradictory). Whereas the uniqueness-seeking account would predict people should follow others’ consumption less than their preferences when the two options are contradictory (because choosing a contradictory item is a stronger signal of uniqueness than choosing a complementary item), we found the reverse was true, and people actually followed others’ consumption less than their preferences when the two options were complementary.

Another factor that influences the motive to “go along” versus “go alone” is culture, with people in collectivistic cultures more likely to conform (go along) than those in individualistic cultures (Bond & Smith, 1996; Kim & Markus, 1999; Markus & Kitayama, 1991). Given that difference, we conducted a posttest of whether cultures vary in the tendency to conform to preference more than actions. Specifically, we ran a conceptual replication of Study 3 in China ($n = 84$ college students at Tsinghua University), Korea ($n = 102$ college students at Sungkyunkwan University), and the United States ($n = 57$ museum visitors in Chicago). In the Chinese and Korean samples, we replaced the target products from Study 3 with popular local snacks. In the American sample, we used the same snack options as in Study 3. In all samples, we tested whether participants would be more interested in purchasing most-liked than most-consumed snacks. An ANOVA of purchase intentions on society (United States vs. China vs. Korea) \times (information type: other’s preference vs. action) yielded the predicted main effect; participants reported higher purchase intention in the preference condition ($M = 3.64$, $SD = 1.18$) than in the action condition ($M = 3.26$, $SD = 1.17$), $F(1, 237) = 8.37$, $p = .009$. We also found a main effect of society, $F(2, 237) = 2.99$, $p < .001$, with greater purchase intentions in the United States (possibly Americans have a higher tendency to purchase snacks or that the snack options in this version were more popular) and, as we predicted, we found no interaction. The nonsignificant interaction suggests that indeed, a similar pattern occurs within each sample (United States: $M_{preference} = 4.78$, $SD_{preference} = 1.04$; $M_{action} = 3.97$, $SD_{action} = 1.40$; China: $M_{preference} = 3.28$, $SD_{preference} = 1.22$; $M_{action} = 3.11$, $SD_{action} = 1.02$; Korea: $M_{preference} = 3.50$,

$SD_{preference} = .97$; $M_{action} = 3.33$, $SD_{action} = 1.03$; although only the simple contrast in the U.S. sample reached significance, $t(55) = 2.50$, $p = .016$). Because we find the same pattern in all three societies, we conclude that whereas we have reason to expect greater conformity in collectivistic societies, evidence does not suggest the effect of conforming to preference more than actions is stronger in these societies (if anything, it might be weaker).

A remaining question is “When would divergence reflect a desire for complementary consumption (as in our research) versus uniqueness seeking?” Although the answer is beyond the scope of our investigation, we suggest that uniqueness seeking might be more likely for high-identity-signaling choices (e.g., music rather than dish soaps, Berger & Heath, 2007), when distinctiveness concern is heightened (Brewer, 1991), and when the reference group is negative (White & Dahl, 2006). By contrast, divergence will more likely reflect the desire to make complementary choices for choices that do not signal identity, when the concern with signaling identity is low, and when the reference groups are close and positive.

As a final note, the tendency to conform is pervasive and rooted in human psychology. Hence, exploring what information on others people respond to—and why they sometimes diverge from others—is important. We find that people conform to others’ preferences at least partially because they adopt others’ judgments as their own. We further find that when people behave as if they are not conforming, their motivation could be to coordinate their actions with others, rather than to signal their solo status.

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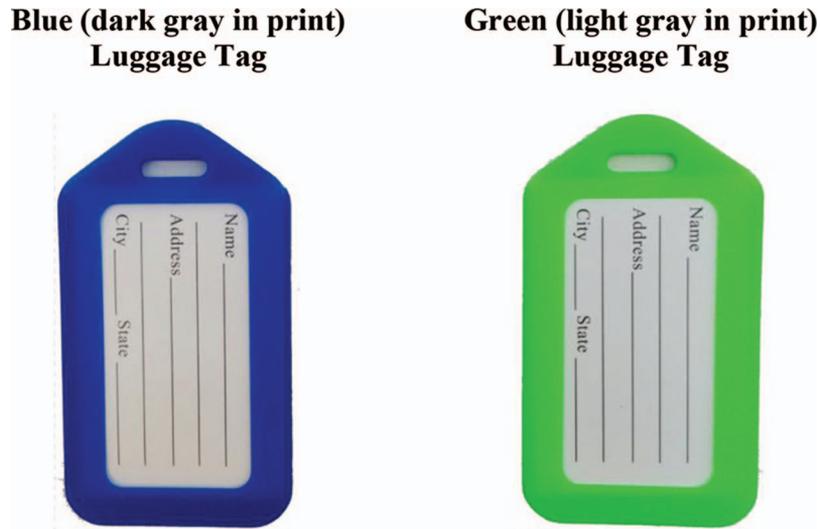
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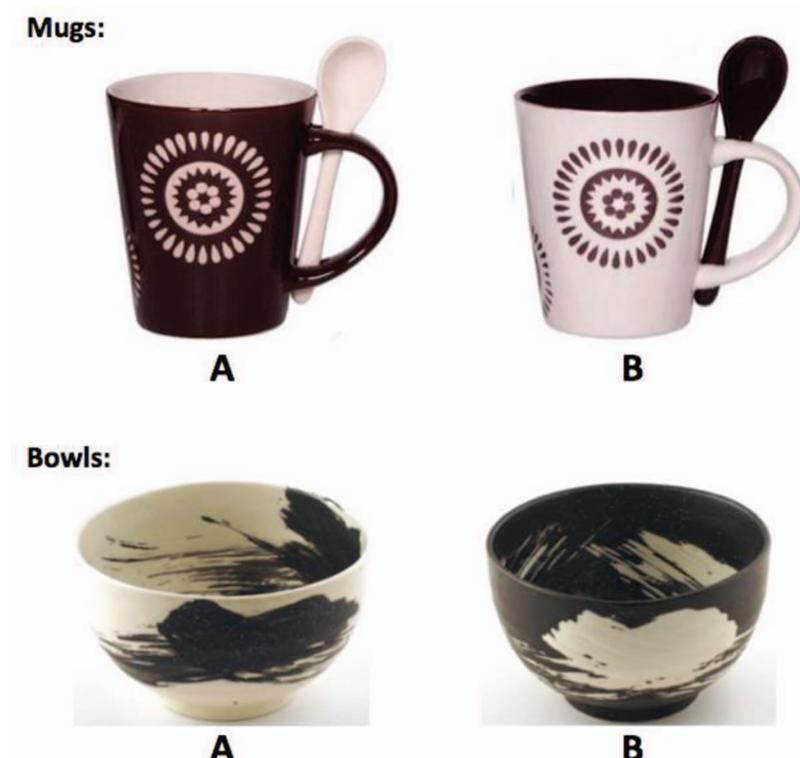
(Appendices follow)

Appendix A
Stimuli in Studies 4 and 5

Study 4's choice set: Blue (dark gray) and green (light gray) luggage tag. See the online article for the color version of this figure.



Study 5's choice sets: between mugs and bowls sets. See the online article for the color version of this figure.



(Appendices continue)

Appendix B
Information in Matching Phase in Study 6

Version 1: missing preference information for video and action information for product

Suppose you are browsing YouTube...

Below are two YouTube videos of pets, differing in terms of "Number of Views" and "Number of Likes".
One value is missing.
 Please let us know what the missing value would be so that you are **indifferent about which one to watch.**

	Number of Views	Number of Likes
Video A	<input type="text" value="190,000"/>	<input type="text" value="5,000"/>
Video B	<input type="text" value="230,000"/>	<input type="text"/>

Suppose you are browsing an online shopping website...

Below are two puddings sold online, differing in terms of **rating** (rated by consumers who decided to rate) and **sales** (i.e., % of consumers who bought this product after viewing its information).
One value is missing.
 Please let us know what the missing value would be so that you are **indifferent about which one to buy.**

	Rating (range: 1 to 10)	Sales (% of consumers who bought this product after viewing its information)
Pudding A	<input type="text" value="8/10"/>	<input type="text" value="80%"/>
Pudding B	<input type="text" value="7/10"/>	<input type="text"/>

Version 2: missing action information for video and preference information for product

Suppose you are browsing YouTube...

Below are two YouTube videos of pets, differing in terms of "Number of Views" and "Number of Likes".
One value is missing.
 Please let us know what the missing value would be so that you are **indifferent about which one to watch.**

	Number of Views	Number of Likes
Video A	<input type="text" value="190,000"/>	<input type="text" value="5,000"/>
Video B	<input type="text"/>	<input type="text" value="2,000"/>

Suppose you are browsing an online shopping website...

Below are two puddings sold online, differing in terms of **rating** (rated by consumers who decided to rate) and **sales** (i.e., % of consumers who bought this product after viewing its information).
One value is missing.
 Please let us know what the missing value would be so that you are **indifferent about which one to buy.**

	Rating (range: 1-10)	Sales (% of consumers who bought this product after viewing its information)
Pudding A	<input type="text" value="8/10"/>	<input type="text" value="80%"/>
Pudding B	<input type="text"/>	<input type="text" value="70%"/>

(Appendices continue)

Appendix C
Stimuli in Study 6

Table C1
Product Pairs Used in the Follow-Up to Study 6

#	Product	Target option		Competitor	
		Rating	Bought by	Rating	Bought by
1	Chocolate bar	3.8	72%	4.2	80%
				4.2	64%
				3.4	80%
				3.4	64%
2	Pasta	4.5	57%	4.7	68%
				4.7	46%
				4.3	68%
				4.3	46%
3	Pudding	3.9	66%	4	72%
				4	60%
				3.8	72%
				3.8	60%
4	Fruit juice	4.1	76%	4.4	79%
				4.4	73%
				3.8	79%
				3.8	73%
5	Gourmet chips	4.6	62%	4.9	71%
				4.9	53%
				4.3	71%
				4.3	53%
6	Camera cases	3.6	64%	4.1	79%
				4.1	49%
				3.1	79%
				3.1	49%
7	Ziploc bags	4.2	71%	4.6	89%
				4.6	53%
				3.8	89%
				3.8	53%
8	Memory cards	3.5	83%	3.7	89%
				3.7	77%
				3.3	89%
				3.3	77%
9	Vitamin supplements	3.7	69%	3.8	76%
				3.8	62%
				3.6	76%
				3.6	62%
10	Backpacks	4.3	55%	4.6	68%
				4.6	42%
				4	68%
				4	42%

(Appendices continue)

Table C2
Video-Clip Pairs Used in the Follow-Up to Study 6

#	Video	Target option		Competitor	
		Likes	Views	Likes	Views
1	Pets	4,827	194,335	5,892	232,193
				3,762	232,193
				5,892	156,477
				3,762	156,477
2	Parks	582	23,792	750	30,313
				414	30,313
				750	17,271
				414	17,271
3	Italian architecture	1,203	52,913	1,400	57,130
				1,006	57,130
				1,400	48,696
				1,006	48,696
4	Lavender farm	102	1,582	152	1,960
				52	1,960
				152	1,204
				52	1,204
5	Caribbean beach	356	2,168	445	2,851
				267	2,851
				445	1,485
				267	1,485
6	Aquarium tour	4,821	79,811	6,650	101,743
				2,992	101,743
				6,650	57,879
				2,992	57,879
7	Snowboarding	276	8,025	378	13,046
				174	13,046
				378	3,004
				174	3,004
8	French cuisine	897	46,621	1,319	54,542
				475	54,542
				1,319	38,700
				475	38,700
9	Wine tasting	84	732	116	967
				52	967
				116	497
				52	497
10	Fireworks	47	589	72	766
				22	766
				72	412
				22	412

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