iPhones for friends, refrigerators for family: How products prime social networks

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We show that priming consumers with products associated with specific social networks increases the salience of those networks, influencing both word-of-mouth intentions and consumption. Consumers were exposed to friend- or family-related products (e.g., game consoles or refrigerators); when asked to list the first people they knew who came to mind, they were more likely to list members of primed networks (Study 1). Product priming also increases the speed with which product-relevant individuals come to mind (Study 2). In Study 3 consumers felt subjectively closer to networks primed by specific products, and this felt closeness predicted subsequent word-of-mouth intentions. Finally, Study 4 shows that priming relevant networks (e.g., family or friends) makes products associated with those networks more attractive.

Imagine seeing an advertisement for the Honda Odyssey, the "Family Car of the Year" in 2011. What comes to mind? You may think about factors such as whether you need a new car, whether the price is reasonable, or whether the design is aesthetically appealing. We suggest, however, that when presented with such products, another type of information springs to mind: the consumer's social network associated with that product. With the Odyssey, for example, we suggest that merely seeing the minivan causes your family members to become more salient. Do the same people come to mind as when viewing the iPhone 4 S, or a fax machine? We propose that when

presented with these different products, members of different social networks become more salient: family members for minivans, friends for iPhones, and coworkers for fax machines. In this research we show that because products are associated with specific social networks, they can be used as primes to make those networks salient, thereby affecting consumers' word-of-mouth intentions and product preferences.

Why might products become associated with different social networks? A large body of research suggests that consumers display products strategically: to signal desired identities (e.g., Belk, 1981; Escalas & Bettman, 2003), divergence from others (Brewer, 1991; Snyder & Fromkin, 1980), and uniqueness (Snyder & Fromkin, 1977; Tian, Bearden, & Hunter, 2001; Tian & McKenzie, 2001). In addition, research suggests that these strategic displays are often successful. Observers do use products to infer the personalities and preferences of others (Belk, Bahn, & Mayer, 1982; Gosling, Ko, Mannarelli, & Morris, 2002; Holman, 1981; Thompson & Norton, 2011); for example, Burroughs, Drews, and Hallman (1991) showed that clothing and academic courses were used to make inferences about other students. Because different products are used to signal specific identities to different social networks—children display their textbooks to their parents but their comic books to their friends—we suggest that products become associated with those social networks. When a teenager repeatedly sees iPhones being used by his peers—and not, say, by his grandparents—friends rather than family members become linked to iPhones in memory. As a result, not only do iPhones help strengthen friendship ties by reinforcing shared interests, but the product itself brings those friends to mind, importantly even when those friends are no longer in the immediate environment.

Research on priming supports our contention that linking products with networks is likely to cause those products to subsequently bring members of those networks to mind. According to models of semantic memory, priming operates through the activation of interconnected nodes that are triggered while searching for links between existing and novel information; indeed, memory and perception fundamentally involve linking new information to stored categories (e.g., Bartlett, 1932; Bruner, 1958). As a result, situational and environmental cues can activate associated information in memory, making them more accessible (Higgins, Rholes, & Jones, 1977; Jacoby & Dallas, 1981) and impacting subsequent perception and behavior (Collins & Loftus, 1975; Collins & Quillian, 1969); for example, people walk more slowly after being primed with the concept of "elderly" (Bargh, Chen, & Burrows, 1996; Fitzsimons, Chartrand, & Fitzsimons, 2008). Most relevant to the current investigation, primes have also been shown to impact product choices and evaluations; for example, people who use orange-colored pens

are more likely to choose products related to the color orange (Berger & Fitzsimons, 2008; Lee & Labroo, 2004; Whittlesea, 1993).

While this previous research demonstrates that products can activate associated *information* in memory, our goal is to examine whether products might also prime associated *social networks* in memory, and whether, once activated, these networks might change subsequent behavior. A related investigation demonstrated that active goals lead to the activation of different relationship partners, specifically of those who are goal congruent (Fitzsimons & Shah, 2008). For example, when asked to think about the goal "to have a fun social life," participants were more likely to list those friends with whom they thought they would have fun. We extend this research demonstrating that a goal can bring to mind members of one's network by investigating whether merely priming people with products associated with different networks—iPhones and minivans—might spontaneously bring to mind members of networks associated with those products—friends and family. We further explore the implications of these links between products and networks in shaping product preferences and word-of-mouth intentions.

OVERVIEW OF THE STUDIES

In four studies we investigate the impact of the network-signaling power of products. In Study 1, we explore whether exposure to products associated with different social networks makes members of the related network more salient. In Study 2, we measure reaction time to examine how exposure to products associated with different social networks not only changes *who* comes to mind, but also how *quickly* they come to mind. In Study 3, we examine the impact of product priming on consumer's feelings of closeness to related social networks; in addition we examine how these changes in network closeness predict consumers' subsequent word-of-mouth intentions. Finally, in Study 4 we reverse the relationship in Studies 1 through 3, using social networks rather than products as primes, to examine the impact of priming different networks on consumer preferences.

STUDY 1: ACCESSIBILITY OF SOCIAL NETWORK MEMBERS

In Study 1, participants were primed with products from one of two categories—*family* and *friend*—or were assigned to a control condition, and in a purportedly unrelated task listed the first 10 people who came to mind. We predicted that participants would be more likely to list network members associated with the primed category: family members after *family* products, and friends after *friend* products.

TABLE 1
List of products used in Studies 1–3

Family products	Apron, baby seat, bedding, cat bed, detergent, diaper, movie, paper towel, pots and pans, refrigerator, soap, sofa, towel, trash bag, vacuum cleaner
Friend products	Back pack, baseball glove, board games, instant messenger, chips, college apparel, frisbee, game console, headphones, MP3 player, online social networks, online radios, popcorn, sneakers, soft drink
Work products	Briefcase, calculator, computer desk, desk clock, file storage, hanging file, office chair, pager, pen, pencil organizer, printer, stapler, sticky note, USB drive, water cooler

Method

Participants. A total of 128 participants (57.0% female; $M_{age} = 26.1$, $SD = 10.2$) completed a computer task in return for monetary compensation.

Pretest. In Study 1, we use products from at least two categories, *family* and *friend*; Study 3 uses a similar paradigm but adds products in a *work* category. We define *family products* as those used in the household and/or associated with family members (e.g., paper towels, detergent); *friend products* as those used in peer settings and/or associated with friends (e.g., game consoles, soft drinks); and *work products* as those used in the workplace and/or associated with coworkers (e.g., briefcase, printer; see Table 1 for a full list of products). In a pretest, participants ($N = 60$, 57% female, $M_{age} = 26.0$, $SD = 5.2$) indicated in which of the three categories each product belonged. Each product was placed in the relevant category (e.g., detergent in the *family* category) by at least 95% of participants, with an overall intraclass correlation of .81.

Procedure. Participants were informed that the task involved rating products, and were randomly assigned to one of three conditions: *family*, *friend*, or *control*. Participants in the former two conditions were presented with products belonging to family or friend categories respectively, while those in the *control* condition did not see any products. In the *family* and *friend* conditions participants completed 15 trials of a task in which they were presented with four products of the same type (e.g., four different MP3 players) and indicated which they liked best.

Following the priming task participants were asked to write down the initials of the first 10 people who came to mind. On the next screen participants were presented with the 10 initials, and asked to indicate their relationship with each (*family*, *friend*, or *other*). Because many participants listed fewer than 10 people, our dependent measure is the percentage of
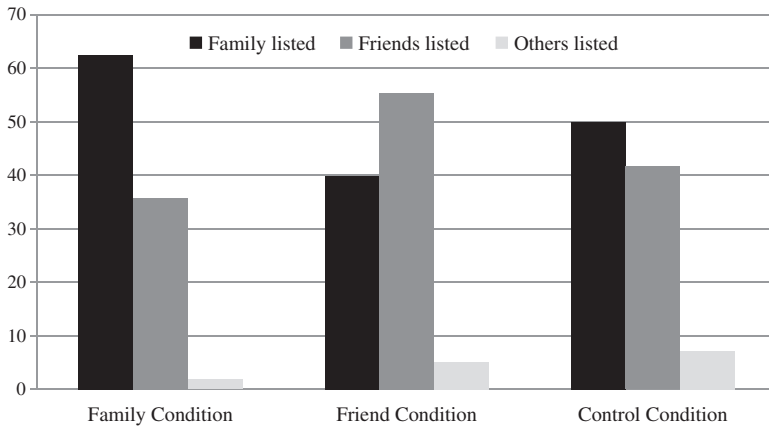
Figure 1. Percentage of network members listed by condition (Study 1).

family members and friends listed; we excluded 17 participants who listed fewer than 5 people.

Results

Percentage of network members listed. The priming manipulation impacted both the percentage of friends listed, $F(2, 108) = 6.89$, $p < .01$, and the percentage of family members listed, $F(2, 108) = 8.40$, $p < .001$. As predicted, participants in the *family* condition listed a significantly higher percentage of family members ($M = 62.5\%$, $SD = 19.2\%$) than those in the *friend* ($M = 39.9\%$, $SD = 28.2\%$) and *control* conditions ($M = 49.9\%$, $SD = 21.24\%$), $ts > 2.26$, $ps < .04$. Similarly, participants in the *friend* condition listed a significantly higher percentage of friends ($M = 55.3\%$, $SD = 28.8\%$) than those in the *family* ($M = 35.7\%$, $SD = 20.1\%$) and *control* conditions ($M = 41.6\%$, $SD = 18.5\%$), $ts > 2.11$, $ps < .05$

The percentage of "others" listed did not differ by condition, $F(2, 108) = 1.44$, $p = .24$, suggesting that our manipulations specifically increased the number of product-related networks members who came to mind (See Figure 1 for the percentages of network members listed by condition).

STUDY 2: SPEED OF RECALL FOR SOCIAL NETWORK MEMBERS

Results from Study 1 provide preliminary evidence that exposure to products belonging to different categories make members of related networks more salient. In Study 2, we assessed the impact of our priming manipulation on not just who came to mind, but how quickly they came to

mind, an additional measure of salience (Fazio, Williams, & Powell, 2000). We also introduced a third product category—work-related products—to explore whether we could also prime participants to think of members of their professional networks. Finally, whereas Study 1 used images of products as primes, we increased the realism of the task by having participants view webpages of companies associated with different networks (e.g., Home Depot for *work*, Apple for *friends*). We expected that participants would be more likely to list members associated with product primes—replicating Study 1—but also to show that members of related networks would come to mind more quickly.

Method

Participants. A total of 160 participants (42.6% female; $M_{age} = 25.4$, $SD = 4.4$) completed a computer task in exchange for monetary compensation.

Procedure. Participants were told that they would be providing opinions about websites, and were randomly assigned to one of four conditions: *family*, *friend*, *work*, or *control*. Participants in the *family* condition viewed the websites of Home Depot and Bed, Bath and Beyond; those in the *friend* condition viewed the Apple and American Eagle websites; those in the *work* condition viewed the Staples and Office Depot websites; those in the *control* condition did not view any websites.

To control for time spent we provided participants with two screenshots from each of the two websites they viewed; one of the homepage and one of a random product page. In order to increase involvement we asked participants to examine the screenshots and rate the pages on their design (1: *dislike extremely* to 7: *like extremely*), ease of navigation (1: *very difficult* to 7: *very easy*), and information quality (1: *not informative at all* to 7: *extremely informative*).

Next participants were asked to write down the names of the first five people who came to mind. In order to assess speed of recall, participants were asked to press a button as soon as they thought of someone and then type the first name of that person. Participants indicated the first five people who came to their minds and, as in Study 1, indicated their relationship to each person on the following page. Responses such as "mother" and "sister" were coded as *family*, "friend" and "close friend" as *friend*, "colleague" and "boss" as *coworker*, and "acquaintance" and "classmate" as *other*.

Results

Pretest. In order to ensure that the six brands were in fact associated with the relevant network, we asked a separate group of participants

($N = 79$, 51.9% female, $M_{age} = 29.7$, $SD = 8.3$) to indicate to which of the four categories (family, friend, work, other) each brand belonged. Home Depot and Bed, Bath and Beyond were placed in the *family* category 78% and 86% of the time; Apple and American Eagle were placed in the *friend* category 72% and 75% of the time; Staples and Office Depot were placed in the *work* category 95% and 73% of the time, all $\chi^2(3) > 61.39$, all $ps < .001$.

Ratings of websites. We created average liking, average ease of navigation, and average information quality scores for the two websites: these ratings did not differ by condition, all $Fs < .69$, all $ps > .51$.

Percent of network members listed. The results for listing of network members paralleled our findings from Study 1, such that the priming manipulation impacted the percent of family members, $F(3, 156) = 7.02$, $p < .001$, friends, $F(3, 156) = 8.30$, $p < .001$, and coworkers listed, $F(3, 156) = 11.09$, $p < .001$. As predicted, participants in the *family* condition listed a significantly higher percentage of family members ($M = 52.2\%$, $SD = 19.5\%$) than those in the *friend* ($M = 30.5\%$, $SD = 21.2\%$), *work* ($M = 43.0\%$, $SD = 21.2\%$), and *control* conditions ($M = 43.7\%$, $SD = 19.1\%$), all $ts > 2.00$, $ps < .05$. Similarly, participants in the *friend* condition listed a significantly higher percentage of friends ($M = 41.1\%$, $SD = 24.1\%$) than those in the *family* ($M = 22.6\%$, $SD = 21.7\%$), *work* ($M = 24.8\%$, $SD = 15.0\%$), and *control* conditions ($M = 24.2\%$, $SD = 19.3\%$), all $ts > 3.36$, $ps < .01$. Finally, participants in the *work* condition listed a significantly higher percentage of coworkers ($M = 10.0\%$, $SD = 12.1\%$) than those in the *family* ($M = 1.7\%$, $SD = 5.6\%$), *friend* ($M = 1.0\%$, $SD = 4.5\%$), and *control* conditions ($M = 2.6\%$, $SD = 6.9\%$), all $ts > 3.27$, $ps < .03$. As in Study 1 the percentage of "others" listed didn't differ by condition, $F(3, 156) = 1.44$, $p = .24$.

Recall speed. We measured reaction time (in milliseconds) for each person listed and calculated a separate average reaction time per participant for family members, friends, and coworkers listed. As expected, condition had a significant effect on recall speed for family members, $F(3, 146) = 2.89$, $p = .04$, for friends, $F(3, 119) = 3.24$, $p < .03$, and for coworkers, $F(3, 21) = 3.59$, $p < .04$. As with number of network members, the speed with which "others" came to mind did not differ across conditions, $F(3, 123) = .07$, $p = .98$. Below we report results for each condition separately; degrees of freedom vary because participants reported different numbers of friends, family, and coworkers (i.e., coworkers were relatively less likely to be listed overall).

Participants in the *family* condition recalled family members more quickly ($M = 2624$ ms, $SD = 1206$) than both participants in the *friend* condition

TABLE 2
Reaction times (ms) for network members listed by priming condition (Study 2)

		Family	*Friend*	*Work*	*Control*
Network	Family	2624 (1206)	3362 (1382)	2953 (905)	3304 (1842)
members listed	Friend	3682 (1739)	2466 (1154)	3435 (1771)	3304 (1842)
	Coworker	4857 (2991)	5645 (0)	2208 (1750)	4306 (1000)
	Other	3103 (1162)	3066 (1224)	2949 (1976)	3134 (1978)

($M = 3362$ ms, $SD = 1382$), and *control* c7ondition ($M = 3304$ ms, $SD = 1842$), ts > 1.98, ps < .05, and marginally more quickly than participants in the *work* condition ($M = 2953$ ms, $SD = 905$), $t(74) = 1.30$, $p = .10$. Participants in the *friend* condition recalled friends more quickly ($M = 2466$ ms, $SD = 1154$) than participants in the *family* ($M = 3682$ ms, $SD = 1739$), *work* ($M = 3435$ ms, $SD = 1771$), and *control* conditions ($M = 3304$ ms, $SD = 1842$), ts > 2.11, ps < .04. Finally, participants in the *work* condition recalled coworkers more quickly ($M = 2208$ ms, $SD = 1750$) than participants in the *family* condition ($M = 4857$ ms, $SD = 2991$), and *control* conditions ($M = 4306$ ms, $SD = 1000$), ts > 2.32, ps < .03; only one participant in the *friend* condition recalled a coworker ($M = 5645.0$ ms, $SD = 0$), making this comparison meaningless (Table 2).

STUDY 3: NETWORK CLOSENESS AND WORD-OF-MOUTH INTENTIONS

Taken together, Studies 1 and 2 demonstrate that priming people with products and webpages related to different social networks—friends, family, and coworkers—affects both the type of social network members as well as the speed with which members of those networks come to mind.

Study 3 had two primary aims. First, we wanted to show that product priming can affect not only who comes to mind—a straightforward cognitive association—but how subjectively close participants feel to those people—a more affective response. Second, we wanted to explore the consequences of product priming for consumer behavior; specifically, we assessed whether the perceived closeness of primed networks would influence participants' subsequent word-of-mouth intentions. We expected participants who were primed with family-related products to think about and feel closer to their family networks, prompting them to want to forward advertisements to those family members, even if the content of those ads was unrelated to that network ("I wonder how Dad is doing? I really like that guy. Hey, I bet he'd really like this restaurant!").
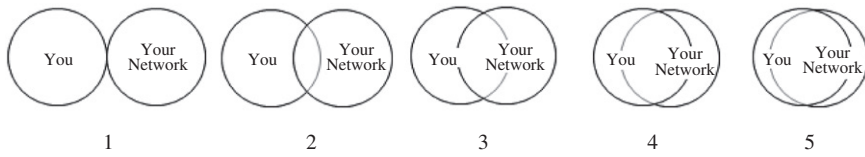
Figure 2. Venn diagrams used in Study 3 for measuring network closeness.

Method

Participants.   A total of 111 participants (60.4% female; $M_{age} = 23.0$, $SD = 5.3$) completed a computer task similar to the one in Study 1. Subsequently they answered questions about network closeness and word-of-mouth intentions for print ads.

Procedure.   The product priming task in Study 3 was the same as the one used in Study 1, with the addition of a *work* condition. As a result, participants were randomly assigned to one of four conditions: they were either primed with products related to *family*, *friend*, or *work* networks, or were in a *control* condition and did not view any products. After the priming task, participants were presented with five print advertisements for a soda drink, ski trip, newspaper, restaurant, and an environmental organization. For each print ad they were asked, "To whom would you forward this ad?", wrote down each person's first name, and then indicated their relationship to each person. We coded the responses as family, friend, coworker, or other.

In order to capture perceived network closeness we next showed participants five diagrams that could represent their relationship with a given social network (see Figure 2 for an example). The relationship of the circles to each other defined how close participants felt to their networks; a similar method has been used to assess relationship closeness (Aron, Aron, & Smollan, 1992). Participants completed this item for their family, friend and work networks.

Results

Word-of-mouth intentions.   As expected, condition had a significant effect on word-of-mouth intentions toward family members, $F(3, 107) = 9.55$, $p < .001$, friends, $F(3, 107) = 7.45$, $p < .001$, and coworkers, $F(3, 107) = 9.71$, $p < .001$.

Participants in the *family* condition reported intending to forward more of the ads to a significantly higher percentage of family members ($M = 48.7\%$, $SD = 13.6\%$) than those in the *friend* ($M = 32.1\%$, $SD = 15.7\%$), *work*
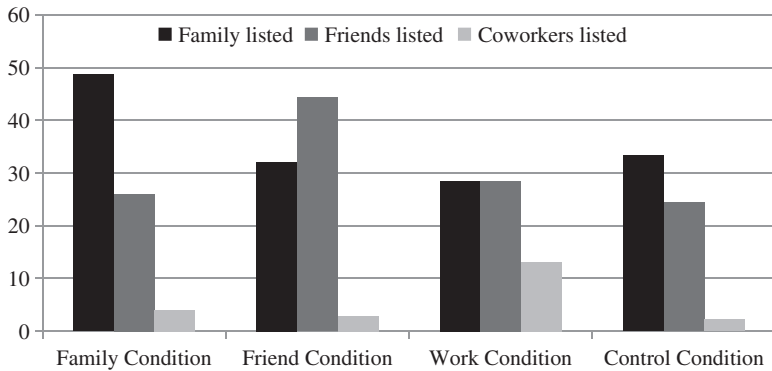
Figure 3. Percentage of network members listed for forwarding ads (Study 3).

($M = 28.5\%$, $SD = 15.2\%$), and *control* conditions ($M = 33.3\%$, $SD = 17.5\%$), all $ts > 3.71$, all $ps < .001$. Similarly, participants in the *friend* condition reported intending to forward more of the ads to a significantly higher percentage of friends ($M = 44.3\%$, $SD = 18.3\%$) than those in the *family* ($M = 26.0\%$, $SD = 16.7\%$), *work* ($M = 28.5\%$, $SD = 17.1\%$), and *control* conditions ($M = 24.4\%$, $SD = 18.7\%$), all $ts > 3.27$, all $ps < .01$. Finally, participants in the *work* condition reported intending to forward more of the ads to a significantly higher percentage of coworkers ($M = 13.1\%$, $SD = 11.2\%$) than those in the *family* ($M = 4.0\%$, $SD = 8.1\%$), *friend* ($M = 2.9\%$, $SD = 7.1\%$), and *control* conditions ($M = 2.2\%$, $SD = 6.4\%$), all $ts > 3.50$, all $ps < .001$ (Figure 3).

Network closeness. We next examined the impact of exposure to network-related products on ratings of network closeness. As with word-of-mouth intentions, our manipulations impacted closeness of family networks, $F(3, 107) = 19.94$, $p < .001$, friend networks, $F(3, 107) = 4.08$, $p < .01$, and coworker networks, $F(3, 107) = 4.62$, $p = .004$.

Participants in the *family* condition rated their family network as closer ($M = 3.37$, $SD = .67$) than participants in the *friend* ($M = 2.21$, $SD = .74$), *work* ($M = 2.12$, $SD = .77$), and *control* conditions ($M = 2.22$, $SD = .70$), all $ts > 6.24$, all $ps < .001$. In contrast, participants in the *friend* condition rated their friend network as closer ($M = 2.93$, $SD = 1.05$) than those in the *family* ($M = 2.43$, $SD = 1.10$), $t(56) = 1.75$, $p = .08$, *work* ($M = 2.38$, $SD = 1.13$), $t(52) = 1.83$, $p = .07$, and *control* conditions ($M = 1.93$, $SD = .96$), $t(53) = 3.69$, $p < .001$, although some of these differences were only marginally significant. This pattern of results held—although not as strongly—for ratings of coworker closeness: participants in the *work*

condition rated their work network to be significantly closer ($M = 2.15$, $SD = .67$) than those in the *family* condition ($M = 1.53$, $SD = .57$), $t(54) = 3.73$, $p < .001$, and marginally closer than those in the *control* condition ($M = 1.86$, $SD = .65$), $t(51) = 1.72$, $p = .091$, but did not differ from those in the *friend* condition ($M = 1.86$, $SD = .65$), $t(53) = .03$, $p = .98$.

Mediational analyses

We expected that changes in perceived closeness to networks caused by product priming would predict the differences in word-of-mouth intentions; in short, we predicted that iPhones would make people feel closer to their friends, and therefore make participants more likely to want to talk to those friends about new products. We tested mediation separately for *friends*, *family*, and *coworker* closeness.

We followed the hierarchical regression procedures recommended by MacKinnon, Fairchild, and Fritz (2007). When controlling for condition (*family* vs *control*), family closeness predicted number of family members listed, $\beta = .52$, $p < .001$. After controlling for family closeness, the effect of priming conditions on number of family listed decreased from $\beta = .77$, $p < .001$ to $\beta = .18$, $p = .48$. We used bootstrapping to construct bias-corrected confidence intervals based on 5000 random samples with replacement from the full sample (Stine, 1989). The 95% bias-corrected confidence interval for the size of the indirect effect excluded zero (.28, .95), suggesting a significant indirect effect. These results show that family closeness mediated the relationship between condition and passing on information to family members.

When controlling for condition (*friend* vs *control*), friend closeness predicted number of friends listed, $\beta = .61$, $p < .001$. After controlling for friend closeness, the effect of condition on number of friends decreased, from $\beta = .99$, $p < .001$ to $\beta = .38$, $p = .08$; the 95% bias-corrected confidence interval for the size of the indirect effect excluded zero (.28, .98), suggesting a significant indirect effect. Friend closeness mediated the relationship between condition and passing on information to friends.

When controlling for condition (*work* vs *control*), coworker closeness did not predict number of coworkers listed, $\beta = .09$, $p = .38$, and the bootstrap procedure showed that the 95% bias-corrected confidence interval for the size of the indirect effect included zero (–.05, .10), suggesting that—unlike with family and friends—coworker closeness did not mediate the relationship between priming conditions and intention to pass on information to coworkers. While we can only speculate, it is possible that because coworkers are less associated with closeness in general compared to friends and family, priming with coworkers is less likely to shift affective associations and more likely to influence only cognitive

associations—who comes to mind—but not to whom participants report feeling close.

STUDY 4: PRODUCT CHOICES AND CONSUMER PREFERENCES

Study 3 demonstrated that, in addition to making members of related social networks more salient, product priming also changes the felt closeness of those members—which then affects intentions to share advertisements. In Study 4, we examine whether networks, once primed, can influence product preferences. We have shown that priming iPhones can make friends more salient, here we investigate whether priming friend networks can make iPhones more attractive. Of course we would expect that iPhones would be relatively more attractive if participants were *actually* going to interact with friends; however, Study 4 explores whether merely activating the friend category can do the same, even removed from an actual social context.

Previous research has demonstrated that priming social groups such as the elderly, professors, or even superheroes can influence subsequent behavior, leading people to walk more slowly, or behave more intelligently (Bargh et al., 1996; Dijksterhuis & Bargh, 2001; LeBoeuf & Estes, 2004; Nelson & Norton, 2005). We explored whether priming more personally relevant social groups—one's friends or family—would shift people's preferences to be more in line with those groups. In particular we predicted that being primed with "family" would increase liking for older, classic products, whereas being primed with "friends" would increase liking for newer, more modern products. We based this prediction on previous research demonstrating that the nature of different consumption occasions influences the associations that brands have with social groups; for example, beer is associated with friendship and social consumption, ice cream with fun, and liquor with solitude (Batra & Homer, 2004; Domzal & Kernan, 1992; Durgee & Stuart, 1987). We suggest that modern and classic products have similar associations with friend and family networks, respectively: think of sitting in a classic wing chair in parents' houses listening to music on a record player compared to sitting in a modern lounge chair in friends' condos listening to music on their iPod. As a result of these different occasions, we predicted that classic becomes associated with family and modern with friends, such that priming these two social groups increase liking for products associated with these styles.

Method

Participants. A total of 154 participants (64% female; $M_{age} = 35.3$, $SD = 12.6$) completed an online experiment.

Procedure.   Participants were randomly assigned to one of three conditions: *family*, *friend*, or *control*. In contrast to Studies 1–3, participants were primed with networks rather than products. Participants in the *family* condition were asked to think of one of their children or one of their parents, those in the *friend* condition were asked to think about a close friend, and those in the *control* condition were asked to think of the first person who came to mind. In order to increase involvement in thinking about networks, participants in all three conditions were asked to report the sex and age of the person who came to mind as well as to "describe the physical and personality traits of this person" by writing their responses to an open-ended question. Participants also reported their closeness to this person on a 5-point scale (1: *not at all close* to 5: *very close*), and on average how much time they spent together per week on an 8-point scale (1: *less than an hour* to 8: *more than 30 hours*).

Participants were then presented with pairs of three products: cars, business attire, and bedroom sets. For each they were shown a modern and a classic version, and indicated which version they preferred. For example, for the car they viewed a Toyota Corolla and Toyota Matrix: the former is a classic car introduced in 1966, while the latter was first produced in 2002. Our dependent measure was the overall percentage of classic and modern product choices made by each participant.

Results

Pretests.   To demonstrate that the six products were associated with the relevant style, a separate group of participants ($N = 50$, 64% female, $M_{age} = 35.6$, $SD = 12.5$) rated each of the products on 7-point scales (1: *classic* to 7: *modern*). As expected, the Toyota Corolla was rated as more classic ($M = 3.96$, $SD = 1.64$) than the Toyota Matrix ($M = 5.68$, $SD = 1.30$), the classic bedroom was rated as more classic ($M = 2.50$, $SD = 1.33$) than the modern bedroom ($M = 6.28$, $SD = .78$), and the classic outfit was rated as more classic ($M = 3.40$, $SD = 1.81$) than the modern outfit ($M = 4.74$, $SD = 1.74$), all $ts(49) > 3.18$, all $ps < .01$.

In addition, to document the association between classic products and family networks, and modern products and friend networks, we asked a separate group of participants ($N = 56$, 41.1% female, $M_{age} = 33.9$, $SD = 10.7$) to rate the extent to which each product was family- and friend-related, on 7-point scales (1: *not at all* to 7: *extremely*). As expected, the Toyota Corolla was rated as more family-related ($M = 5.39$, $SD = 1.22$) than the Toyota Matrix ($M = 2.11$, $SD = 1.38$), the classic bedroom was rated as more family-related ($M = 5.50$, $SD = 1.01$) than the modern bedroom $M = 3.52$, $SD = 1.60$), and the classic outfit was rated as more family-related ($M = 4.64$, $SD = 1.43$) than the modern outfit ($M = 3.54$,

$SD = 1.45$), all $ts(56) > 4.42$, all $ps < .001$. Furthermore, as predicted, the Toyota Matrix was rated as more friend-related ($M = 5.70$, $SD = 1.28$) than the Toyota Corolla ($M = 4.18$, $SD = 1.29$), the modern bedroom was rated as more friend-related ($M = 5.23$, $SD = 1.22$) than the classic bedroom ($M = 3.84$, $SD = 1.41$), and the modern outfit was rated as more friend-related ($M = 4.64$, $SD = 1.41$) than the classic outfit ($M = 4.11$, $SD = 1.44$), all $ts(56) > 2.53$, all $ps < .02$.

Product choices. Preferences for classic products differed by condition, $F(2, 154) = 8.65$, $p < .001$. As predicted, participants in the *family* condition preferred classic products ($M = 64.7\%$, $SD = 28.6\%$) significantly more than both those in the *friend* ($M = 40.3\%$, $SD = 30.5\%$) and *control* conditions ($M = 49.4\%$, $SD = 30.8\%$), $ts > 2.63$, $ps < .02$. The preference for classic products in the *family* condition (64.7%) was significantly higher than 50%—what we would expect to find by chance—$t(50) = 3.67$, $p = .001$; similarly, the preference for modern products in this condition (just 40.3%) was significantly *lower* than 50%, $t(51) = 2.28$, $p < .03$. Priming with family networks significantly increased liking for classic products, while priming with friends significantly decreased liking for classic products, increasing liking for modern products instead.

GENERAL DISCUSSION

Across four studies, priming consumers with products associated with different networks made relationships with members of those networks come to mind both more frequently and more quickly. Most importantly, these results go beyond mere cognitive accessibility; product priming makes consumers *feel* subjectively closer to associated networks, which then impacts their word-of-mouth intentions towards members of those primed networks. In the final study we demonstrate preference reversals for products based merely on the activation of different networks.

The goal of these studies was to offer initial evidence for the impact of product-social network associations on consumers' word-of-mouth intentions and product preferences; future research is needed to examine several open questions beyond the scope of this investigation. First, we have extended previous research demonstrating that products can activate associated information in memory (Berger & Fitzsimons, 2008; Lee & Labroo, 2004) by showing products can also prime associated social networks in memory. Of course, social networks themselves are a kind of information; while products and social networks can both be considered as information, however, they differ widely in their function in the lives of consumers; as a result further investigation is needed to examine the differential effects of products and networks on thought and behavior.

Second, while we propose that products prime different social networks, it is possible that products prime situations which in turn prime social networks associated with those situations. For example, refrigerator primes "home," which only then brings "family" to mind. We believe it is likely that activating networks via products also activates the social contexts in which those products are consumed; indeed, this prediction is in line with our intuition in Study 4 that, for example, the association between "family" and "classic" forms as a result of experiences in the home. Again, the question of what kinds of information products bring to mind—from constructs to networks to contexts—warrants further investigation. Finally we have attempted to use products that are strongly if not uniquely associated with one particular social network, but of course products are often associated with members of several networks (both family members and friends use Facebook), and members of one social network can also be members of other social networks (a cousin who is also a coworker, or a sibling who is a best friend). Future research should explore the impact of such primes with multiple associations; for example, on occasions in which products call to mind members of multiple networks, it is possible that behavior is influenced by each network in proportion to the product's associations with each network, or that one network "wins" over the others and drives behavior.

The ability to influence consumers' behavior and attitudes toward members of their social networks, always an important concern of marketers, has become only more crucial as consumers increasingly shift their social lives to online channels. Our research offers a subtle new approach for marketers to shape consumers' behavior in and toward their online social networks. Previous research demonstrates that incidental exposure to information impacts consumer attitudes (Janiszewski, 1988, 1990; Shapiro, 1999); for example, incidental exposure to ads can prime related constructs and alter consumer behaviour (Berger & Fitzsimons, 2008; Fitzsimons et al., 2008). Our results suggest that companies can employ product categories as primes to activate not only product-related information but also which other consumers come to the target consumer's mind, and therefore with whom they are likely to share content. Via these salient networks, exposure to products can also influence future consumer choices and behaviors. Beyond our current results, one can imagine marketers constructing novel links between consumer's product preferences and their networks, thereby instantiating associations that might shape future word-of-mouth and consumption choices.

More broadly, our research has implications for the understanding of social networks. The majority of research on social networks focuses on the influence of existing social structures on the attitudes and behaviors of social actors within those networks (e.g., Burt, 1987; Galaskiewicz & Wasserman, 1994; Wellman & Berkowitz, 1988). Simply assessing network structure,

however, does not allow for full prediction of the behavior of those actors; Kilduff and Krackhardt (1994) argued that the effectiveness of the structural approach is enhanced by the addition of individual perceptions, because these subjective perceptions have consequences for attitudes and behaviors that are not fully explained by conventional structural methods. Therefore, how actors *perceive* their ties and relationships influences their behavior above and beyond the network structure. Our results offer a novel approach to the study of social networks by demonstrating that products can be used to change people's perceptions of their social ties and the strength of these relationships, thereby changing their behavior within their existing social structures.

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