

ABSTRACT

Title of Dissertation: HOW AND WHEN SIGNALING IMPACTS CONSUMPTION

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2021

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This dissertation includes three essays that investigate the impact of signals that certain consumption choices can send to other consumers. In particular, each essay focuses on how consumers' consumption-related decisions (e.g., choice of hedonic items, selecting low variety, and communicating that one has no preference) impact an observing audience's perceptions of the consumer and the subsequent impacts on the observer. The first essay demonstrates that consumers strive to position themselves as attractive friends by making hedonic consumption decisions. While consumers shift to hedonic consumption, anchoring on their belief that others would heavily value fun when it comes to friendship, this essay demonstrates that consumers themselves actually value other aspects of friendship more, such as meaningfulness. As a result of this discrepancy in the

belief of friendship, hedonic choice does not effectively help consumers cultivate friendship with another person. The second essay investigates the signals that selecting a low (vs. high) variety of items sends to observers. Choosing low variety signals to observers that the consumer has accumulated consumption experiences in the past, and thus has greater expertise, compared to choosing high variety. This signal of expertise endows the consumer with influence to impact observers to make consumption choices that mimic the consumer and be more willing to take the consumer's recommendations. The third essay examines the impact of expressing no preference in a joint decision making context. While consumers expect to make the decision easier for the recipient, recipients of no preference communication (vs. explicit preference communication), experience greater decision difficulty. This unexpected negative impact occurs because recipients of no preference communication perceive that the communicator actually has preferences that they are hiding. Further, because recipients infer that these hidden preferences are dissimilar to one's own preferences, they end up making a choice for the joint consumption that they personally less prefer.

HOW AND WHEN SIGNALING IMPACTS CONSUMPTION

by

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Dissertation submitted to the Faculty of the Graduate School of the
University of Maryland, College Park, in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
2021

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Chapter I. Introduction

The choices that a consumer makes can signal information about the consumer to others. While previous literature in consumer behavior have examined how consumers make certain consumption decisions with the expectation that they will be evaluated in a positive way, such as appearing more interesting (Ratner and Kahn 2002) or more in-the-know (Berger and Ward 2010), not much work investigates the signals that consumers try to send and its actual impact on observers. Three essays in this dissertation examine the impact of consumers' signaling efforts on another person, in relation to the consumer's expectations.

The first essay (Chapter II) demonstrates that consumers make hedonic choices in order to signal to others that they are a desirable potential friend. This shift to choosing hedonic items is driven by consumers' belief that other people will value fun when it comes to friendship. As such, they strategically make hedonic choices when their choice is visible to someone they wish to become friends with. However, I find that consumers themselves actually think that other values, such as meaningfulness, are more important in friendships. Due to this discrepancy in the perceived value of friendships, consumers' costly efforts to make hedonic choices for the sake of friendship are rendered ineffective.

The second essay (Chapter III) identifies a "narrow-down" inference that consumers employ to interpret others' choice variety. While previous work has focused on how consumers expect others to favorably evaluate someone who chooses high variety (Ratner and Kahn 2002), I find that in contexts where products require (vs. does not require) consumer learning, choice variety signals one's past consumption experiences. Consumers are expected to initially choose high variety to learn about a product category

and eventually choose low variety. Thus, choices involving low (vs. high) variety of products signal a consumer's category expertise. This perceived expertise increases the likelihood that an observing consumer mimics their choice and takes their recommendations.

The third essay (Chapter IV) illustrates a discrepancy in the impact of expressing no preference in joint decision making contexts. While consumers express no preference expecting it to make the decision easier for the recipient, recipients of no preference communication find that it makes their decision more difficult. This is because receivers believe that the senders actually have preferences that they are hiding. In trying to infer the communicator's hidden preferences, recipients predict that the communicator's preferences are dissimilar from their own, which leads them to choose an option that they personally less prefer, to be jointly consumed.

Chapter II. Friendship Utility: Consumers Signal Friendship Motivation Through Hedonic Consumption Choices¹

Many people feel socially disconnected. A Cigna survey revealed that a staggering 54% of Americans said they always or sometimes feel that no one knows them well, and 43% said they feel isolated from others (Cigna 2018). A similar study conducted in the UK indicated that 13% reported having no close friends, with another 9% reporting they had only one close friend (Marjoribanks 2017). Yet, friendships are essential to well-being. Recent social distancing and quarantine practices mandated by many governments due to the Coronavirus pandemic (COVID-19) has significantly increased loneliness, presenting critical health concerns such as clinical depression (Killgore et al. 2020). At the same time, it demonstrated that people are willing to incur costs, such as paying for services and devoting time, to cultivate friendship and build social connections – this desire for friendship contributed to the success of new social media platforms (Kale 2020) such as TikTok, a video-sharing application, Netflix Party, an application that synchronizes video playback for users to watch Netflix together, and various other industries that facilitate hedonic ways of socially connecting.

What kind of consumption choices do consumers make when they wish to cultivate friendship with someone? While much research has explored how people use products and services to signal their social status (Anderson, Hildreth, and Howland 2015), little work that we know of has explored how people use consumption to signal their value as a potential friend. In the current research, we demonstrate that the desire to

¹ This research is conducted with Rebecca K. Ratner and Neeru Paharia

cultivate friendship increases consumers efforts to display *hedonic* consumption behaviors.

We propose that consumers shift to consuming more hedonic items, even incurring costs to choose them over other options that are less hedonic, when they expect their consumption choices to be observed by others with whom they wish to cultivate friendship. We theorize that consumers hold a normative belief, that *being fun* is necessary to attract new friends, and that potential friends value fun over other traits such as emotional support or meaningfulness. Due to this normative belief, when one's choices are public to a potential friend, consumers aim to signal that they are fun by choosing hedonic items. While "fun" is an important construct that has recently been identified as a goal that consumers may have (Oh and Pham 2018; Reis, O'Keefe, and Lane 2017), its social benefit is yet to be demonstrated. The current research demonstrates that consumers believe that signaling they are fun will provide friendship benefits. Thus, we propose that hedonic consumption, which has traditionally been defined to lack utility (Dhar and Wertenbroch 2000; Hirschman and Holbrook 1982), may in consumers' eyes, serve the role of building friendships (i.e., 'friendship utility'), by signaling fun.

Identifying consumers' tendency to choose hedonic items for the sake of friendship utility contributes to the marketing practices in industries promoting social interactions (e.g., social media platforms, networking communities) and companies that offer hedonic commodities and experiences (e.g., producers and distributors of hedonic consumer products, service providers of hedonic experiential goods), such as with the case of the success of TikTok, a hedonic service that targets consumers who seek to expand their social network. While social affiliation and friendship are fundamental

human motives (Baumeister and Leary 1995; McAdams, Healy, and Krause 1984), prior work has mainly investigated how consumers who have a motive to affiliate may choose items that are preferred by the other party to send signals of similarity (Mead et al. 2011) or choose items that are different from the other party's preferences to signal uniqueness (Berger and Heath 2007). Our research moves beyond situations where consumers are aware of another person's preferences, to demonstrate that in the absence of knowledge about another person's preferences, the desire to cultivate *friendship* with another person systematically increases choice of hedonic items. Specifically, we uncover a lay belief that others would value fun in friendships, over other values. This belief drives consumers to choose hedonic items to position themselves as a good potential friend.

In the next section, we draw from literatures on signaling as well as hedonic consumption and social affiliation to develop our theorizing. We then present a series of five studies to demonstrate that the motivation to cultivate friendship with an audience increases the choice of hedonic (vs. utilitarian) items, sometimes even incurring personal costs to make the hedonic choice. We show that this increase in hedonic choice is driven by because consumers' desire to signal that they are fun, and test robustness of this motivation to signal fun for the sake of friendship, to different cultures. We also discuss the implications of the normative belief that others would value fun in friendship over other qualities, as we find that potential friends, in fact, do not correctly read that another's choice of hedonic products is an overture of friendship. We demonstrate in an intervention study that drawing the consumers' focus to what they themselves want from friendship can mitigate the effects and conclude with a discussion of implications for consumers and marketers.

COSTLY SIGNALS OF FRIENDSHIP

Consumers frequently make consumption choices that they anticipate will be visible to others (e.g., Argo, Dahl, and Manchenda 2005; Cottrell et al. 1968; Latané 1981). For instance, consumers can go shopping with an acquaintance or a friend, or a consumer could think about posting about their purchase later on social media (Barasch, Zauberaman, and Diehl 2017). The choices that a consumer makes in such public (vs. private) decision contexts can be impacted by the motivation to send certain signals about oneself to the audience.

In many situations where consumers make public consumption decisions, consumers make *costly* choices to send socially desired signals to others. The extant literature on status-signaling illustrate that consumers spend more money to convey one's high status to others (e.g., Kurt, Inman and Argo 2011; Luo 2005). To signal status, consumers purchase expensive luxury goods (e.g., Berger and Ward 2010; Wang and Griskevicius 2013) and may even forego redeeming coupons to pay a bill (Ashworth, Darke and Schaller 2005). In addition to such monetary costs (Bagwell and Bernheim 1996; Griskevicius, Tybur, and Van Den Bergh 2010), consumers may incur other forms of costs for the sake of signaling positive attributes to others (Veblen 1899). For example, consumers may incorporate more variety into their choice options to convey that they are interesting and cognitively-balanced, instead of only selecting their most preferred options (Drolet 2002; Ratner and Kahn 2002). Individuals also make risky choices, such as smoking, to convey their status in the group (Rawn and Vohs 2011).

Similar to status, social affiliation is a fundamental human motivation (Baumeister and Leary 1995) that has significant impact on various aspects of well-being (e.g., Berndt 2002; Diener and Seligman 2002). In this research, we examine the choices that consumers might make to signal that they are a good potential friend, and investigate the underlying beliefs that consumers have about friendship that drives certain consumption decisions. Needless to say, friends are important sources of social affiliation that consumers strive to acquire – consumers on average spend 2 hours and 24 minutes per day messaging with their friends on social media platforms (Chaffey 2020), pay to acquire friends (or ‘followers’; Lieber 2014) and consumers are willing to spend money to hang out with friends, often even ending up in debt (Becker 2018).

While research on friendship and consumption in consumer behavior is limited, some research suggests that consumers change their preferences based on social contexts. Research in consumer behavior has found that when information about another person’s preferences is available, consumers try to choose the same items that others prefer to signal similarity (Dzhogleva and Lamberton 2014; Luo 2005; Mead et al. 2011). For example, consumers are willing to engage in less-liked experiences, such as eating chicken feet, upon learning that their task partner loves these products (Mead et al. 2011). Consumers further increase choices that follow the social norms of a socially dominant group (Luo 2005; Rawn and Vohs 2011; Raghunathan and Corfman 2006) and may choose items that diverge from others when they seek to distance themselves from an aversive out-group (Berger and Heath 2007).

A body of work in psychology and organizational behavior shows that people use various techniques to communicate a positive demeanor to others in order to be liked by

them (i.e., as ‘ingratiation’ techniques; Baumeister 1982; Jones and Pittman 1982; Jones and Wortman 1973; Lyubomirsky, King, and Diener 2005; Saarni 1984). For instance, bowlers have been found to smile more when facing others rather than when they are facing the bowling pins, even after they score a strike (Kraut and Johnston 1979). Employees make jokes and agree with customers and supervisors to appear likeable (Cooper 2005; Jones et al. 1965; Godfrey et al. 1986). Even nonhuman primates exhibit a bared-teeth face (a “grin”) to communicate that they are non-threatening (van Hooff 1972). These tactics are attempts to use verbal expression, facial cues, and subtle non-verbal behaviors to convey an individual’s favorable orientation toward interacting with the audience (Gordon 1996; Puccinelli 2006; Salovey and Mayer 1990; Wayne and Kacmar 1991).

Unlike past work, we specifically look at the motivation to cultivate friendship with a specific audience. We propose that consumers choose more (vs. less) hedonic options to signal their favorability as a potential friend. Importantly, we posit that the hedonic choices that consumers make in the pursuit of friendship can be costly. For example, to send signals of friendship to another person, consumers may be more likely to eat a cookie (instead of a granola bar) in the presence of a potential friend, which can lower consumption utility if the cookie is personally less preferred. Or consumers may be more likely to purchase a fun pen that is more difficult to use, rather than a practical pen that is less fun, ultimately deriving less utility. Even in terms of the outcome of friendship formation, consumers themselves may value emotional support and wish to have deeper conversations with a potential friend, but they may miss the opportunity for such meaningful connections because they believe that others will think that having fun is

more important. The costly nature of the proposed hedonic choice shift has important implications; first, it demonstrates how strongly consumers can be motivated to signal friendship through consumption choices, indicating the extent to which marketers can leverage this motivation to increase sales of hedonic items. Second, it alludes to the importance of investigating the effectiveness of such signals. That is, will receivers of hedonic choice signals correctly interpret the consumer's choice as signals of friendship? In the next section, we theorize the underlying normative belief of fun that drives consumers' hedonic choice and discuss our predictions on the effectiveness of hedonic friendship signals.

NORMATIVE BELIEF OF FUN IN FRIENDSHIPS

We propose that consumers become particularly attuned to displaying one's engagement with hedonic choices, because they hold a normative belief that others would value fun in friendships. In other words, consumers expect that another person would want to be friends with someone who can have fun and are fun-loving. Fun is defined as enjoyment of one's activity, and the experience of fun can extend from low-arousal positive affect (i.e., "quiet joy") such as reading a book to high-arousal positive affect (i.e., "active elation") such as when playing a game (Reis, O'Keefe, and Lane 2017).

Why might fun (or enjoyment) be on the forefront for consumers motivated to make friends? While friends are generally understood as close social relationships that provide companionship and are distinct from other types of social relationships such as romantic partners or family members, friendships provide a myriad of benefits (Clark and

Reis 1988; Hall 2012). Stemming from the classical Aristotelian model of friendship, prior research in psychology and philosophy have largely grouped the role of friendship into hedonic benefits (such as fun and enjoyment of mutually enjoyed activities; Reis, O’Keefe, and Lane 2017; Snyder, Gangestad, and Simpson 1983) and utilitarian benefits (such as trust, emotional disclosure, growth and support, e.g., McAdams, Healy, and Krause 1984; Newcomb and Bagwell 1995; Sherman 1987). We take a novel approach this line of work and theorize that when attempting to signal that one is a desirable friend, one’s ability to provide hedonic benefits becomes more salient.

Our predictions are based on the idea that consumers have a normative perception of others’ focus on hedonic benefits of friendship. Images of friendship are often characterized by people having fun together, where people are smiling or engaging in fun activities (Diener and Seligman 2002; Reis et al. 2016). This may lead people to believe that in order to be an attractive friend, one must provide hedonic values. This perception may be fueled by social media where people are actively projecting fun and active social lives (Deri, Davidai, and Gilovich 2017) which can consist of fun parties and concerts. Continuous exposure to such skewed information about how others value fun experiences can contribute to the normative belief of fun in friendships. Thus, because consumers anticipate others to value fun, consistent with previous work showing that consumers wish to signal similarity to be liked (Mead et al. 2011), consumers attempting to attract a new friend may themselves focus on the fun elements of friendship, fearing to be seen as a “Debbie Downer”.

We propose that the domain of consumption affords a particular route that consumers can take to communicate to others about their fun-ness. Specifically, we

propose that consumers anticipate that hedonic (vs. utilitarian) consumption would be an efficient way to communicate to others that they are fun. Hedonic items are, by definition, particularly associated with feeling fun, excited, and cheerful (Babin, Darden, and Griffin 1994; Chitturi, Raghunathan, and Mahajan 2007; Holbrook and Hirschman 1982). As a result, we predict that consumers will choose a more (vs. less) hedonic item when their choices can be seen by someone they want to be friends with, due to their underlying belief that their fun qualities will make them be seen as an attractive friend.

Despite the heightened focus on fun that consumers believe others to have, we posit that consumers themselves value other qualities of friendship more than fun. Specifically, building on prior work that suggests that people are not able to accurately understand others' preferences and beliefs (e.g., Pronin, Berger, and Molouki 2007), we propose that consumers overestimate the importance of fun in friendship for others. In fact, we propose that consumers themselves think that other values, such as emotional support and having meaningful conversations, are more important than fun, while they believe that others would want to go to parties and concerts, and indulge in the fun aspects of friendship (Deri, Davidai, and Gilovich 2017; Rifkin, Cindy, and Kahn 2015). Due to this discrepancy in the belief of friendship, we further propose that observers do not read hedonic choices made by others as a potential overture for friendship. We further demonstrate that a simple intervention can steer consumers away from being pushed to make erroneously hedonic choices: when consumers are first asked to think about their own beliefs about the purpose of friendship, the proposed increase in hedonic choice are attenuated. We depict our conceptual model and predictions in figure 1.

Insert Figure 1 about here

In a series of five studies, we demonstrate that people are more likely to choose hedonic items when they have a high friendship motivation. In study 1, we test whether consumers are more likely to choose to redeem a hedonic option (a cookie), rather than a utilitarian option (a granola bar), in the lab. Even though the cookie was a generally individually less preferred item, participants were more likely to redeem the cookie in the presence of a partner that participants wanted to become friends with. We test if this effect is mediated by desires to signal fun. In study 2, we demonstrate that the effects only occur when the consumer's choice is visible to a potential friend, such that it carries signaling value. We demonstrate the effects by priming friendship motivation in the lab, and test whether participants choose the more hedonic option (a cactus pen) over a less hedonic option (a ballpoint pen) that is easier to use, for the sake of signaling friendship. Study 3 measures participants' naturally occurring friendship motivations with a person that they just met in the lab, to show that the effects emerge when one's choice is public (vs. private) to another person. In study 4, we build on the finding that consumers themselves value meaningfulness from friendship more than fun, while they believe that others would most value fun, to demonstrate that consumers can be nudged to focus less on fun and instead make more meaningful choices. Finally, in study 5, we show that the proposed effects can be attenuated by activating a competing signaling motivation.

STUDY 1: CHOOSING HEDONIC OPTIONS FOR THE SAKE OF FRIENDSHIP

The goal of study 1 is to test the basic proposition that the motivation to cultivate friendship with another person increases choice of more hedonic (vs. less hedonic) items. We examine this prediction using a real consumption choice, by offering lab participants either a relatively more hedonic snack (i.e., mint chocolate cookie) or less hedonic snack (i.e., granola bar) and manipulating friendship motivation in real interactions.

Pretest

A pretest ($N = 138$, $M_{\text{age}} = 20.12$, 35.5% female) was conducted with a different sample of the same student participant pool used in the main study to test that a mint chocolate cookie is indeed perceived to be more hedonic compared to a granola bar. Participants were presented with ten different types of snacks (e.g., ice cream, yogurt, cotton candy) including the two target options: mint chocolate cookie and granola bar. They were asked to rate “how hedonic or utilitarian” they thought each of the ten items were (1 = very utilitarian, 4 = equally utilitarian and hedonic, 7 = very hedonic), along with a brief definition of hedonic and utilitarian products (i.e., “Consumer goods that are primarily utilitarian are useful, practical, functional, something that helps you achieve a goal. For example, a vacuum cleaner. Primarily hedonic goods are pleasant and fun, something that is enjoyable and appeals to your senses. For example, a perfume”; adopted from Dhar and Wertenbroch 2000). Participants were then asked to indicate how much they like the same ten items (1 = not like at all, 4 = neutral, 7 = like very much), to test whether participants had similar attitudes toward the mint chocolate cookie versus a granola bar. A repeated measures GLM regression analysis confirmed that a mint chocolate cookie was indeed perceived to be significantly more hedonic ($M = 4.86$) than

a granola bar ($M = 3.54$; $F(1, 137) = 36.65$, $p < .001$, $\eta_p^2 = .211^2$). Participants also indicated that they liked mint chocolate cookies ($M = 3.83$) significantly less than granola bars ($M = 4.59$; $F(1, 137) = 13.40$, $p < .001$, $\eta_p^2 = .089$). The result on liking helps test our prediction that consumers may be incurring personal costs, should they make a more hedonic choice (i.e., choose the mint chocolate cookie) for the sake of signaling friendship.

Method & Procedure

A total of 96 students ($M_{\text{age}} = 20.30$, 52.1% female) at a large North American university participated in the study as part of an introductory marketing course for credit. The study used a 2-cell (friendship motivation: friendship vs. control) between-subjects design.

All participants were welcomed to the study and were told that they would be working with a person sitting next to them (a “partner”) and were instructed to pull their chairs together. After pulling their chairs closer to their assigned partner, participants in the *control* condition directly proceeded to the second part of the study. To manipulate friendship motivations, in the *friendship* condition, we adopted a relationship closeness induction task (“RCIT”³) developed by Sedikides et al. (1999), which has been used in a

² Another pretest with 40 MTurk participants tested the utilitarian vs. hedonic perception of a mint chocolate cookie versus a granola bar, where the description of a “hedonic” good was presented without the use of the word ‘fun’. Replicating the student-sample pretest, participants indicated that a mint chocolate cookie is more hedonic ($M = 5.76$, $SD = 1.51$) than a granola bar ($M = 3.93$, $SD = 1.88$; $p < .001$).

³ RCIT includes two sets of questions that participants can ask each other and answer. The first set of questions are more introductory, including questions such as “what is your first name?” The second set of questions ask more detailed and personal questions such as “what is one recent accomplishment you are proud of?” Participants were instructed to engage in a “communication task” with their paired partner using the two lists. Research assistants instructed participants how long to spend on each list (see Appendix A for the full set of questions).

lab setting to increase participants' felt closeness, liking of another person, and increase the likelihood of task partners becoming friends with each other in the future. In study 1, we employ an abridged version of the RCIT. To confirm its effectiveness, in a pretest with a different set of student participants ($N = 173$, $M_{\text{age}} = 20.69$, 64.7% female) from the same pool of participants as the main study, participants either did not (*control* condition) or did (*friendship* condition) go through the abridged communication task with another student (i.e., their partner) in the lab, and then indicated their friendship motivation toward the partner on two items: "To what extent would you like to become friends with your partner?" (1 = not at all, 7 = very much) and "How much would you be interested in spending time doing social activities with your partner?" (1 = not at all, 7 = very much). A one-way ANOVA on the composite friendship motivation score ($r = .86$, $p < .001$) confirmed that the abridged version of the RCIT task significantly increases motivations to cultivate friendship with another person ($M = 4.06$, $SD = 1.45$), compared to when participants do not go through the communication task together ($M = 2.69$, $SD = 1.52$; $F(1,171) = 36.56$, $p < .001$, $\eta_p^2 = .176$).

Pairs in the *friendship* condition completed the communication task by engaging in a conversation using an abridged version of the RCIT for four minutes. After the communication task, they proceeded to the second part of the study. Before moving to the second part of the study, all participants were told that they would work with their partner in a subsequent unrelated study, so that participants understood that their partner will be present in close physical proximity and able to observe them for the next few minutes.

The second part of the study was guised as a short break before starting participants on their next study. Research assistants announced to lab participants that as

a thank you for their participation, they could receive either a mint chocolate cookie or a granola bar. After this announcement, research assistants handed out a slip of paper (i.e., decision slip) that participants could indicate which they would like to receive (see Appendix B for an example of the decision slip). On this decision slip, participants individually indicated whether they would prefer to receive the mint chocolate cookie versus a granola bar. After retrieving decision slips, research assistants then distributed either a mint chocolate cookie or a granola bar to each participant in a clear plastic bag (see Appendix C for materials used in study 1).

After receiving a snack, pairs conducted a filler task for a few minutes (e.g., browsing a restaurant review website), consistent with prior instructions. After this task, participants individually answered a set of questions about the filler task and importantly, regarding their decision to receive a mint chocolate cookie or a granola bar. Specifically, participants indicated their desire to signal “fun” to their partner (i.e., “to what extent did you want the person next to you to think that you are a fun person?”; 1 = not at all, 7 = to a great extent). Then, participants rated an item measuring the visibility of their choice (i.e., “to what extent could the person next to you see which item you redeemed?”; 1 = not at all, 7 = to a great extent). Finally, after reporting their demographic information, participants were debriefed and thanked for their participation.

Results

Choice Visibility. Participants in both conditions similarly indicated that the person next to them could see which item they received ($M_{\text{friendship}} = 5.55$, $SD = 1.78$ vs. $M_{\text{control}} = 5.11$, $SD = 1.73$; $F(1, 95) = 1.49$; $p = .226$, $\eta_p^2 = .016$).

Snack Choice. We ran a binary logistic regression with snack choice as the dependent variable (0 = Granola bar and 1 = Mint chocolate cookie), and the manipulated friendship motivation (friendship vs. control) as the independent variable. Consistent with our predictions, results revealed that the *friendship* condition participants chose to redeem the mint chocolate cookie (vs. granola bar) significantly more (72.5%) than those in the *control* condition (50.0%; $\beta = .97$, Wald = 4.78, $p = .029$).

Desire to Signal Fun. A one-way ANOVA with manipulated friendship significantly predicted the participants' desire to signal fun to their partner ($F(1,95) = 13.43$, $p < .001$, $\eta_p^2 = .125$), such that those in the *friendship* condition had stronger desires to signal fun ($M = 3.48$, $SD = 1.99$) compared to those in the *control* condition ($M = 2.07$, $SD = 1.75$). A mediation test with manipulated friendship as the predictor, desire to signal fun as the mediator, and choice of snack as the dependent variable (Hayes 2017, Model 4) was conducted to test if a desire to signal fun drives the manipulated friendship's impact on choice of mint chocolate cookie. Supporting our theorizing, the results revealed a significant mediation effect of desire to signal fun on snack choice ($\beta = .30$, $SE = .22$, 95% CI: [.0039, .8761]).

Discussion

Study 1 demonstrated the basic effect that consumers choose more hedonic (vs. less hedonic) items to cultivate friendship. Participants manipulated to have greater motivations to cultivate friendship had significantly greater desires to signal to another person that they are fun, and they significantly chose to redeem a mint chocolate cookie (vs. granola bar) in view of another person, even though they personally indicated that

they prefer the mint chocolate cookie less. This discrepancy between preference and choice suggests that consumers may make hedonic choices for friendship utility, at the cost of their individual consumption utility, akin to costly signaling theory (Bagwell and Bernheim 1996; Veblen 1899).

While study 1 demonstrated a pressure to signal fun when choosing a snack to eat in the presence of others, it had limitations as many food consumption decisions can be driven by a myriad of other factors related to managing other impressions, including self-control (see Vartanian 2015 for a review of impression management through food consumption). Subsequent studies explore non-food product categories to address this concern. In addition, while the snack choice in study 1 was visible to a partner in the lab, the choice may have been driven by self-signaling concerns. Study 2 directly tests whether the choice of hedonic items is driven by a consumer's efforts to portray themselves as fun to a potential friend, by comparing the effects for public vs. private consumption decisions.

STUDY 2: CHOOSING HEDONIC ITEMS IN THE PRESENCE OF A POTENTIAL FRIEND

Our theory is that consumers deliberately make more hedonic choices, to signal to an audience that they are fun, because it is believed to help cultivate a friendship with the audience. To directly test this process, study 2 compares a consumption choice that is made in the presence of a potential friend, versus a consumption choice that is made alone. We predict that since choice of hedonic item is driven by signaling motivations,

greater friendship motivation would increase choice of hedonic item for decisions made in the presence of an audience, but friendship motivation would not impact choice of hedonic item when the decision is made alone.

Method & Procedure

A total of 335 students ($M_{\text{age}} = 20.39$, 40.6% female) at a large North American university participated in the study as part of an introductory marketing course for credit. The study used a 2 (friendship motivation: friendship vs. control) \times 2 (presence of audience: present vs. absent) between-subjects design.

While in study 1, friendship motivation was manipulated with a specific partner (i.e., through a short conversation with a partner), study 2 employed an incidental manipulation of participants' general friendship motivation. Specifically, participants in the *friendship* condition were first asked to write about the following question: "What are three things you can do to expand your social circle and make new friends?" Meanwhile, participants in the *control* condition were asked to write about the following question: "What are three things you can do to stay organized and do well in new classes?" A pretest with different students ($N = 68$, $M_{\text{age}} = 21.1$, 50% female) from the same pool of participants as the main study, were asked to write about either the question in the *friendship* condition or the *control* condition manipulation, and then indicated their general friendship motivation across two items: "If you met a new person, to what extent would you like to become friends with them" (1 = not at all, 7 = very much) and "If you met a new person, to what extent would you like to spend time doing social activities with them?" (1 = not at all, 7 = very much). Supporting our predictions, a one-way

ANOVA on the composite friendship motivation score ($r = .82, p < .001$) revealed that the friendship manipulation produced greater general motivation for friendship ($M = 4.85, SD = 1.40$), compared to the control manipulation ($M = 4.35, SD = 1.28; F(1,66) = 3.75, p = .021, \eta_p^2 = .030$).

Next, participants in the *audience present* condition were told that in the next study they will be randomly paired with another student in the lab, to work together. The *audience absent* condition did not receive such instructions, and thus worked alone. Both conditions were then told that the next study will involve watching a video clip and answering a pen-and-paper quiz. They were told that the lab managers will hand out a pen to use for this study, and that each participant could choose a pen to use. To ensure the validity of this operationalization, we conducted a pretest with different students ($N = 92, M_{age} = 21.5, 56.5\%$ female) from the same pool of participants as the main study. When asked to imagine the procedure, participants indicated that their “pen choice will be visible to another student in the lab” (1 = not at all visible, 7 = extremely visible) significantly more so in the *audience present* condition ($M = 4.41, SD = 1.33$), compared to the *audience absent* condition ($M = 3.63, SD = 1.77; F(1,90) = 5.77, p = .018, \eta_p^2 = .060$). Thus, in the main study, the choice of pen served as the main dependent variable. Participants were provided two options: a ballpoint pen (less hedonic item) or a cactus pen (more hedonic item)⁴, along with an image of each types of pens (see the image in Appendix D).

⁴ A pretest was conducted with 112 MTurk workers ($M_{age} = 39.25, 54.5\%$ female) for the two pen stimuli. Respondents indicated that the ballpoint pen seemed easier to use ($M = 5.89, SD = 1.28$) than the cactus pen ($M = 4.53, SD = 1.59; p < .001$), but the ballpoint pen was seen as less fun ($M = 3.46, SD = 1.86$) than the cactus pen ($M = 5.82, SD = 1.28; p < .001$). Moreover, the ballpoint pen was rated as less hedonic (and more utilitarian, $M = 2.04, SD = 1.73$) compared to the cactus pen ($M = 5.05, SD = 1.60, p < .001$).

After indicating their choice of pen, research assistants handed out each chosen pen to each participant. After receiving the pen, participants either proceeded to engage in the study aforementioned, for completeness. They watched a short video clip and answered a set of quizzes about the video clip with their pen on a piece of paper, either with a partner or by themselves.

Results

Pen Choice. We ran a binary logistic regression with the manipulated friendship motivation, presence of audience, and the interaction term as the predictors and pen choice as the dependent variable (0 = Ballpoint pen and 1 = Cactus pen). Supporting our predictions, results revealed a significant interaction effect on choice ($\beta = 1.02$, Wald = 5.05, $p = .025$), and no significant main effects of friendship motivation ($\beta = -.118$, Wald = .14, $p = .708$) nor presence of audience ($\beta = -.370$, Wald = 1.35, $p = .246$). Specifically, when the pen choice was visible to an audience, 73.7% of participants who were primed with general friendship motivation (*friendship* condition) chose the cactus pen, while only 51.9% of participants in the *control* condition chose the cactus pen ($\chi^2(1) = 7.74$, $p = .006$). Meanwhile, when the pen choice was not visible to an audience, friendship motivation did not impact the choice of cactus pen (58.1% vs. 61.0%; $\chi^2(1) < 1$; see Figure 2 for a graphical representation of the results). This attenuation supports our hypothesis that consumers make hedonic choices to position oneself as an attractive friend to a potential friend. Thus, when the consumption choice they make will not be observed by another person, friendship motivation did not impact choice. Comparing among those primed with a general friendship motivation (*friendship* condition),

marginally significantly more participants chose the cactus pen in the *audience present* condition compared to the *audience absent* condition (72.7% vs. 58.1%; $\chi^2(1) = 4.10, p = .055$), further supporting that rather than other accounts such as self-signaling, consumers make hedonic choices to display to a potential friend. Among the *control* conditions, the presence of an audience did not significantly impact participants' choice of pen (51.9% vs. 61.0%; $p = .269$).

Insert Figure 2 about here

Discussion

In sum, study 2 manipulated motivation to cultivate friendship by priming participants to think about how they would make new friends. Importantly, study 2 supported that the choice of hedonic items is driven by a desire to signal their choice to another person, and eliminated a self-signaling account. Moreover, similar to study 1 where participants chose a less preferred mint chocolate cookie for the sake of signaling fun, in study 2, despite thinking that the cactus pen would be more difficult to use, participants chose the cactus pen when they wanted to become friends with another person.

STUDY 3: PUBLIC VERSUS PRIVATE CHOICE

In studies 1 and 2, we manipulated both audience-specific and general friendship motivation and demonstrated that greater friendship motivation predicts greater choice of hedonic items (over less hedonic items). Study 3 has three main objectives. First, study 3

tests the moderating role of public versus private nature of the decision. Since choice of hedonic items is driven by consumers' motivations to signal fun, the effects will be eliminated when choices are made privately. Second, to address demand effects, we measure the extent to which participants wanted to be friends with a specific partner, at the end of the study, and use this measure of self-reported friendship motivation as the predictor. Moreover, we hypothesize that the motivation to make friends and cultivate friendships uniquely predicts fun choices, and that this process to signal fun is distinct from related constructs such as the need to belong (Leary et al. 2012) or self-monitoring (Snyder 1974). We measure these two scales in study 3 to test if friendship motivation with a specific person uniquely predicts hedonic choice. Finally, the dependent measures employed studies 1 and 2 presented a trade-off between a more hedonic item versus a less hedonic item. One may wonder if the effects are driven by a desire to avoid utilitarian choices. In study 3, we ask participants to choose less or greater number of hedonic items to rule out this alternative.

Method & Procedure

A total of 162 students ($M_{\text{age}} = 20.16$, 40.4% female) at a large North American university participated in the study as part of an introductory marketing course for credit. The study used a (measured friendship motivation) \times 2 (decision: public vs. private) mixed design.

Participants were welcomed to the study and paired with another student in the lab and were asked to bring their chairs closer together. Then pairs were asked to briefly say hello, and tell each other their name, major, and school year. After completing this

short introduction, participants were asked to return to their individual workstation and flip over a sheet of paper marked “answer sheet.” The answer sheet asked participants: “Which accessories would you wear if you were getting your photo taken at a photobooth? (Check as many as you would like to wear).” Participants could check off as many accessories as they wanted to wear out of ten hedonic accessory items (e.g., purple feather boa, blue wig, handheld sign #selfie; see the full answer sheet in Appendix E). The number of items selected served as the main dependent variable. In the *public* condition, the answer sheet included the instruction that “after you complete this answer sheet individually, the lab administrator will ask you to turn to your partner to discuss the responses you gave. Your responses will therefore become known to your partner.” The instruction appeared on the top of the answer sheet and it was also verbally announced as the research assistants distributed the answer sheets in the lab, such that participants were aware that their choices would become public. However, in the *private* condition, the answer sheet instructed that “after you complete this answer sheet individually, the lab administrator will collect it. Your answers will be anonymous and confidential” on the top of the answer sheet, and this instruction was also verbally announced in the lab as the answer sheets were distributed.

After completing the answer sheet, participants were asked to start a study link on their computers. They answered a manipulation check item of public nature of their decision (i.e., “To what extent will your answers to the photobooth questions be visible to your partner?”; 1 = not at all visible, 7 = extremely visible). Then, participants indicated the extent to which they were motivated to become friends with their partner, using two items consistent with that used in study 2: “To what extent would you like to become

friends with your partner?” (1 = not at all, 7 = very much) and “How much would you be interested in spending time doing social activities with your partner?” (1 = not at all, 7 = very much). A composite of the two items was taken to measure friendship motivation ($r = .82, p < .001$). Next, participants answered a 10-item scale that measures need to belong (Leary et al. 2012) and a 25-item scale that measures their self-monitoring tendencies (Snyder 1974). Need to belong ($\alpha = .82$) and self-monitoring ($\alpha = .69$) loaded on different factors than friendship motivation, and each of their composite scores were taken for analyses. Finally, after completing the survey, participants in the *public* condition were instructed to share their answer to the photobooth accessory question with their partner for completeness, while the answer sheets of participants in the *private* condition were retrieved by research assistants. All participants’ answer sheets were subsequently retrieved.

Results & Discussion

Manipulation Check. Participants in the *public* condition indicated that their answers to the photobooth accessory question will be significantly more visible to their partner ($M = 4.55, SD = 1.63$), compared to those in the *private* condition ($M = 3.54, SD = 1.88; F(1, 161) = 13.39; p < .001, \eta_p^2 = .077$).

Number of Photobooth Accessories Chosen. A spotlight analysis (Hayes 2018; PROCESS model 1) was conducted with the manipulated *public* (vs. *private*) condition as the predictor, measured friendship motivation as the moderator, and the number of photobooth accessories chosen as the dependent measure. Consistent with our predictions, the analysis revealed a significant interaction effect ($\beta = .52, SE = .23, p$

= .022). Specifically, when the choice of photobooth accessories was public, measured friendship motivation significantly predicted increase in the number of photobooth accessories chosen ($M = 2.87$ vs. 2.15 , $\beta = .30$, $SE = .15$; $p = .042$). However, when the choice was private, measured friendship motivation did not predict the number of photobooth accessories chosen ($M = 1.82$ vs. 2.37 , $\beta = -.23$, $SE = .17$; $p = .196$). Moreover, when the participants had high friendship motivation (1 SD above the mean), those in the *public* condition selected significantly greater number of accessories compared to the *private* condition ($M = 2.87$ vs. 1.82 , $\beta = 1.35$, $SE = .35$; $p = .004$). However, for those who had low friendship motivation with their partner (1 SD below the mean), their accessory choice was not impacted by public vs. private decision ($M = 2.15$ vs. 1.82 , $\beta = -.03$, $SE = .41$, $p = .932$, see Figure 3).

Insert Figure 3 about here

Robustness check. A similar spotlight analysis with the need to belong scale and self-monitoring scale as covariates was conducted to test for robustness of the effects. After the need to belong and self-monitoring scales were entered as covariates into the model, the interaction effect between manipulated public (vs. private) decision and measured friendship motivation remained significant ($\beta = .56$, $SE = .25$, $p = .024$). Similarly, when the choice was public, friendship motivation significantly increased the number of photobooth accessories chosen ($\beta = .36$, $SE = .16$; $p = .022$). However, when the choice was private, friendship motivation did not impact accessory choice ($\beta = -.19$, $SE = .19$; $p = .306$). Similarly, participants with high friendship motivation (1 SD above the mean) in the public condition selected significantly more number of accessories than

in the private condition ($\beta = 1.09$, $SE = .36$; $p = .003$). Participants with low friendship motivation (1 SD below the mean) did not choose differently in the public conditions compared to the private condition ($\beta = -.02$, $SE = .41$, $p = .961$).

In addition, a spotlight analysis using public (vs. private) condition as the predictor and the need to belong scale as the moderator on the number of accessories chosen revealed a non-significant interaction effect ($\beta = .17$, $SE = .40$, $p = .679$). A similar spotlight analysis that replaced the moderator with self-monitoring also revealed a non-significant interaction effect ($\beta = .10$, $SE = .06$, $p = .137$). These results support that a motivation for friendship is distinct from other interpersonal motivations, such as the need to belong and self-monitoring. Including these scales as covariates in the model did not change the impact of friendship motivation on fun choices.

Follow-up study

We had found that consumers may make fun choices, even at the cost of their personal preferences (study 1). In studies 2 and 3, we further demonstrate that consumers' choice shift to hedonic items when there is a potential friend to observe their choice. But are consumers' efforts to obtain friendship utility by deliberately choosing fun items compensated? We conducted a follow-up study to study 3 to investigate the observer perspective.

The same set of participants who had participated in study 3 participated in the follow-up study ($N = 160^5$). All participants took the perspective of an observer. Specifically, participants were asked to imagine that they meet a new person in the lab.

⁵ One participant from study 3 did not participate in the follow-up study.

As an ice-breaker, participants imagined being asked the same photobooth accessories question and talking about their answers to each other. Then, participants imagined that the student they are paired with chose 1 or 3 accessories (1 SD below and above the average number of accessories that the participants in study 3 selected (i.e., '2')). After imagining the scenario, participants rated a question about the other student's friendship motivation ("How much do you think they want to be friends with you?"; 1= not at all, 7 = very much) and their own friendship motivation toward the other student ("How much do you want to be friends with him or her?"; 1 = not at all, 7 = very much).

A one-way ANOVA on the participant's perception of the other student's friendship motivation was not significant ($M_{1 \text{ accessory}} = 3.57$, $SD = 1.30$ vs. $M_{3 \text{ accessories}} = 3.68$, $SD = 1.13$; $F(1, 159) = .338$; $p = .562$, $\eta_p^2 = .002$). A one-way ANOVA on the participant's own subsequent friendship motivation toward the other student was also not significant ($M_{1 \text{ accessory}} = 3.76$, $SD = 1.25$ vs. $M_{3 \text{ accessories}} = 3.80$, $SD = 1.06$; $F(1, 159) = .049$; $p = .825$, $\eta_p^2 = .002$). Taken together with the main results from study 3, while consumers choose more fun items to display to a potential friend, the other person does not correctly identify such efforts as being driven by friendship motivation. Moreover, such efforts did not translate into the potential friend reciprocating the motivation to become friends.

STUDY 4: NUDGING CONSUMERS TO THINK ABOUT THEIR OWN PURPOSE OF FRIENDSHIP

If consumers effortfully shift their choices to more fun options to cultivate

friendship, how come this effort does not translate into friendship utilities? Study 4 presents an intervention to reduce the focus on signaling fun for cultivating friendship. We propose that consumers have a normative perception of hedonism for others' purpose of friendship, while they themselves believe that other qualities, such as emotional support, is more important in a friendship.

A pilot study was conducted with 353 students ($M_{\text{age}} = 20.09$, 47% female) to test if there is indeed a self-other discrepancy in the purpose of friendship. Participants were asked to indicate either their belief about others' purpose of friendship ("To what extent would your peers think that each of the following is a purpose of friendship?") or their own belief about the purpose of friendship ("To what extent do you think that the following is the primary purpose of friendships?"), regarding the following four dimensions: 1) Having fun, 2) Having someone to do activities with, 3) Emotional support, 4) Having someone to talk about personal challenges (1 = not a primary purpose at all, 7 = very much a primary purpose). "Having fun" and "Having someone to do activities with" loaded on the same factor ($r = .78, p < .001$), and were averaged to form a fun index. Meanwhile, "Emotional support" and "Having someone to talk about personal challenges" loaded on the same factor ($r = .83, p < .001$), and were averaged to form a meaningfulness index. A repeated measures GLM with perspective (other vs. self) as the between-subjects predictor revealed a significant interaction effect ($F(1, 353) = 18.07, p < .001$). Specifically, for others, participants thought that their peers will value fun ($M = 5.72, SD = 1.13$) significantly more than meaningful purposes of friendship ($M = 5.32, SD = 1.29; F(1, 175) = 19.97, p < .001$). However, for the self, participants thought that they value fun ($M = 5.77, SD = 1.25$) as well as meaningful purposes of friendship ($M =$

5.88, $SD = 1.21$; $F(1, 176) = 1.97, p = .162$). These results suggest that despite people's normative belief that others would value fun in friendships, they themselves value meaningfulness.

Taking these results, study 4 tests if nudging consumers to first think about their own purpose of friendship can decrease their hedonic choices. We predict that when consumers are prompted to first think about their peers' purpose of friendship (other-prime condition), they would shift to making hedonic choices per their normative belief of fun, similar to when they are not prompted to think about the purpose of friendship (control condition). However, when consumers are first prompted to think about their own purpose of friendship (self-prime condition), they would decrease their choice of hedonic items.

Method & Procedure

A total of 369 participants ($M_{age} = 37.75$, 42.0% female) were recruited from Amazon MTurk ("MTurk") to participate in a research study for a small compensation. The study used a 3 (condition: control vs. other-prime vs. self-prime) between-subjects design.

Participants in the *other-prime* condition were first asked to indicate in an open-ended question, what they "think a typical person of your peer would think the purpose of friendship is," and were prompted to write about what they believe that their peers would think friendship is about and what their peers would want to do or talk about with friends. Those in the *self-prime* condition were given a similar prompt, but were instructed to write about what they "think your own purpose of friendship is," and wrote about what

they themselves think friendship is about and what they would want to do or talk about with friends. Participants' written responses were later coded by two research assistants blind to the hypothesis, to present process evidence. The *control* condition participants were not prompted to write before moving to the next part of the study.

Next, participants were asked to think about a person that they recently met and wanted to become friends with (i.e., "Please think about a person that you recently met. In particular, please think about an acquaintance that you had the chance to interact with a few times and thought the person was someone you would like to become friends with. You are not close friends with the person yet, but you feel you connect well with the person and would like to cultivate your friendship with them"). After indicating this potential friend's name, participants were told that the two of them are "planning to spend some time hanging out using a mobile application. You have set a date and time, but you have not decided which app you will use together." As the main dependent variable, participants were asked to choose one app to suggest to the potential friend from two options: an app that is fun, but provides less time for conversation or an app that is less fun, but provides more time for conversation. Finally, to confirm that participants were indeed imagining that they were motivated to cultivate friendship with the potential friend, participants rated "to what extent did you imagine that you would want to cultivate friendship with the person that you indicated?" (1 = not at all, 7 = to a great extent).

Results & Discussion

Friendship Motivation. Supporting our operationalization, all three conditions' participants imagined a person that they wanted to become friends with ($M = 5.72$, $SD = 1.14$ vs. $M = 4$; $t(368) = 29.00$, $p < .001$). In addition, a one-way ANOVA on the friendship motivation item revealed that the manipulated conditions of prompts to write about the purpose of friendship for either the self or others did not impact friendship motivation ($p = .835$).

App Choice. We ran binary logistic regressions with app choice as the dependent variable (0 = Less fun but provides more time for conversation and 1 = Fun but provides less time for conversation), and the manipulated conditions (control vs. other-prime vs. self-prime) as the independent variable. Dummy variables were created as there were three levels of the manipulated conditions. In the first logistic regression, we created the two dummy variables with the *self-prime* condition as the baseline, which allowed us to compare the *self-prime* condition with either the *control* condition or the *other-prime* condition. In the second logistic regression, we created the two dummy variables with the *control* condition as the baseline, which allowed us to compare the *control* condition with either the *other-prime* condition or the *self-prime* condition.

Consistent with our predictions, results revealed that the *self-prime* condition chose to suggest the fun app (vs. less fun app) significantly less than the *control* condition (47.2% vs. 61.7%, $\beta = .59$, Wald = 5.13, $p = .024$), and significantly less than the *other-prime* condition (47.2% vs. 59.7%; $\beta = .50$, Wald = 3.87, $p = .049$), supporting our hypothesis that when consumers think about their own purpose of friendship, they focus less on fun, but more on choices that can demonstrate to a potential friend that one values meaningfulness. In addition, participants were similarly likely to choose an app that can

send signals of fun, when consumers were not prompted to think about the purpose of friendship (61.7%) as when they were prompted to think about others' purpose of friendship (59.7%; $\beta = -.08$, Wald = .101, $p = .751$). See Figure 4 for a visual representation of the results.

Insert Figure 4 about here

Coded Written Responses. Employing the fun versus meaningfulness purpose indices used in the pilot study, two research assistants coded the other-prime and self-prime condition's written responses into two indices: fun and meaningfulness (91.7% agreement; discrepancies were resolved through discussion). For example, a participant's response was rated as '1' for fun index, when their response included notions of having fun and spending time engaging in enjoyable conversations and activities, and '0' when it did not. Their response was also coded as either '1' or '0' for meaningful index, depending on whether the response included notions of emotional support and engaging in meaningful conversations and activities. Consistent with our predictions and the findings from the pilot study, an analysis of the coded results of participants' open-ended answers revealed a discrepancy between participants' belief in others' purpose of friendship versus their own purpose of friendship. Specifically, when prompted to write about others' purpose of friendship, 53.2% of participants mentioned a fun purpose, while only 39.2% of participants mentioned a fun purpose when prompted to write about their own purpose of friendship ($\beta = -.57$, Wald = 4.89, $p = .027$). Further, while 46.0% of those in the *other-prime* condition mentioned a meaningful purpose, 57.6% of participants in the *self-prime* condition mentioned a meaningful purpose of friendship (β

= .47, Wald = 3.36, $p = .067$). Looking at the data a different way, a repeated measures GLM shows that participants mentioned fun and meaning similarly often when writing about their belief about others' purpose of friendship ($p = .190$), and were directionally more likely to mention a fun purpose. However, participants were significantly more likely to mention meaningfulness (more than fun) when writing about their own belief of the purpose of friendship ($p = .002$).

Follow-up study

We find that consumers make hedonic choices to send fun signals, even at personal costs, anticipating that the hedonic choices would garner friendship benefits with the audience (studies 1-3). However, the follow-up study to study 3 suggested that the consumer's costly hedonic choice may not derive its intended friendship benefits. The findings from study 4 demonstrate that this outcome may be due to a misalignment in friendship signals – while consumers erroneously anticipate others to value *fun* in friendships, they themselves, in fact, value *meaningfulness* more. Specifically, when nudged to first think about their own purpose of friendship before making a choice, consumers were more likely to suggest an app that is less fun but more meaningful. To further illustrate the biased perception that others will believe fun is integral to friendships more so than consumers themselves believe it to be, we conducted a follow-up study to test if choosing a more meaningful (but less fun) option may, in fact, be more effective at cultivating friendship with the audience.

Student participants ($N = 187$; $M_{\text{age}} = 21.24$, 66.5% female⁶) were recruited to participate in the study for course credit. The follow-up study used a similar set-up and stimuli as the main study, in a 2-cell between-subjects design (condition: actor vs. observer). Participants in the *actor* condition were told to “think about an acquaintance that you had the chance to interact with a few times. You are not close friends with the person yet, but would like to become friends with this person.” Then participants were asked to indicate, “which app would you like to suggest to the person so they will think of you as a good potential friend?”. Consistent with the main study, they were presented with two apps (0 = An app that is less fun but provides more time for conversation and 1 = An app that is fun but provides less time for conversation). Meanwhile, in the *observer* condition, participants were told to “think about two acquaintances that you had the chance to interact with a few times. You are not close friends with either person yet.” Then participants were asked to indicate, “which of the two people do you think will be a better potential friend?” between two people choosing either apps (0 = The person who suggested using an app that is less fun but provides more time for conversation and 1 = The person who suggested using an app that is fun but provides less time for conversation).

The results revealed that compared to the number of people who chose to suggest the more fun app for the sake of friendship in the *actor* condition (55.3%), only 40.9% of participants in the *observer* condition thought that the person choosing the more fun app would be a better potential friend (55.3% vs. 40.9%, $\beta = .58$, Wald = 3.89, $p = .049$). In other words, making a more fun choice in sacrifice of meaningful conversations was not

⁶ Five participants did not provide their demographic information.

as effective at positioning oneself as a desirable potential friend, as one might expect. In fact, looking at the data in a different way, while only 44.7% of participants chose the more meaningful app to be seen as a good friend, observers were significantly more likely to think that the person who chose the more meaningful app would be a better friend (59.1%).

STUDY 5: ACTIVATING A COMPETING SIGNALING MOTIVE

In study 5, we test whether consumers' motivations to signal fun can be turned off by activating a competing signaling motivation. Specifically, we predict that the effects will persist even in a workplace, because consumers often have desires to befriend their co-workers. Thus, they may wish to make hedonic choices even at work, to position themselves as good potential friends. However, we predict that when another signaling motivation is activated, such as the desire to portray one's competence to a boss, the effects will be attenuated. We test these predictions by employing a decision that consumers often make at work: the choice of a virtual Zoom background to use for a work meeting.

Method & Procedure

A total of 608 participants ($M_{\text{age}} = 26.62$, 38.8% female) were recruited on Prolific for monetary compensation to participate in this study. The study used a (friendship motivation: low vs. high) \times 2 (competence motivation: low vs. high) between-subjects design.

All participants were asked to think about someone they know from their workplace, who has a similar job and rank as their own. Specifically, participants in the *low friendship motivation* were asked to think about a person they know from work who is pleasant and nice, but did not imagine becoming friends with. Participants in the *high friendship motivation* condition were asked to think about a person they know from work who is pleasant and nice, and that they are interested in becoming friends with. After indicating the person's name, participants were then told that they would join a meeting with the person on Zoom for a project that is being planned for work. In the *low competence motivation* condition, participants imagined meeting the other person on Zoom. However, in the *high competence motivation* condition, participants imagined having a three-way meeting, so the other person as well as their boss will be present in the Zoom meeting.

As the main dependent variable, participants were asked to choose one Zoom virtual background to use for the meeting with the person. They were provided ten Zoom virtual background options; five of them were pretested to be less hedonic (and were coded as '0'), and the other five were pretested to be more hedonic⁷ (which were coded as '1'; see the full stimuli in Appendix F). After choosing a virtual background to use in the Zoom meeting, participants indicated their desire to signal fun through their choice (i.e., "When you choose a Zoom background to use for your meeting, how much would you want the person to think of you as a fun person?"; 1 = not at all, 7 = to a great extent) and their desire to signal competence through their choice (i.e., "When you choose a

⁷ A pretest was conducted with 56 MTurk workers ($M_{\text{age}} = 37.88$, 51.8% female) to select the ten Zoom virtual backgrounds. Respondents rated the five more hedonic backgrounds as overall hedonic ($M = 5.35$, $SD = 1.01$), compared to the mid-point ('4'; $p < .001$). The other five less hedonic backgrounds were overall rated as less hedonic (and more utilitarian, $M = 3.12$) compared to the mid-point ('4'; $p < .001$).

Zoom background to use for your meeting, how much would you want the person to think of you as a competent person?"; 1 = not at all, 7 = to a great extent). Next, as manipulation checks, we asked about participants' motivation to cultivate friendship with the other person using three items (i.e., "To what extent are you interested in spending time doing social activities with the person?", "To what extent would you like to become friends with the person?", and "How motivated are you to build a good relationship with the person?") on 7-point scales (1 = not at all, 7 = to a great extent). The three items loaded on the same factor ($\alpha = .88$) and were averaged to form an index of friendship motivation manipulation check. Finally, participants answered an item that confirmed that those in the high competence motivation condition indeed imagined that their boss will be present in the Zoom meeting ("To what extent did you think that if you used a Zoom virtual background during the meeting, it will be visible to someone higher up in the organization (e.g., your boss)?"; 1 = not at all visible, 7 = very visible).

Results & Discussion

Manipulation Checks. As predicted, the friendship motivation index was significantly higher in the *high friendship motivation* condition ($M = 5.68$, $SD = 1.01$) than those in the *low friendship motivation* condition ($M = 4.56$, $SD = 1.52$; $F(1, 606) = 114.78$; $p < .001$, $\eta_p^2 = .159$), confirming manipulation of friendship motivation. Moreover, those in the *high (vs. low) competence motivation* condition indicated that they thought their chosen virtual background will be visible to someone higher in the organization ($M_{\text{high competence motivation}} = 5.54$, $SD = 1.30$ vs. $M_{\text{low competence motivation}} = 4.50$, $SD = 1.89$; $F(1, 606) = 61.74$; $p < .001$, $\eta_p^2 = .092$).

Zoom Virtual Background Choice. We ran a binary logistic regression with the manipulated friendship motivation, competence motivation, and the interaction term as the predictors and choice of Zoom virtual background as the dependent variable (0 = Less hedonic background and 1 = More hedonic background). While the interaction effect did not reach significance ($\beta = -.36$, Wald = 1.04, $p = .307$), the analysis revealed two significant main effects. First, replicating our main effects, the manipulated friendship motivation significantly increased choice of more hedonic virtual Zoom backgrounds ($\beta = .47$, Wald = 4.16, $p = .041$). Second, the results demonstrate that competence motivation decreases choice of hedonic virtual backgrounds ($\beta = -.75$, Wald = 8.98, $p = .003$). Specifically, in the *low competence motivation* conditions, *high friendship motivation* condition participants were significantly more likely to use a hedonic Zoom background (50.6%) compared to *low friendship motivation* condition participants (39.1%; $\chi^2(1) = 4.18$, $p = .041$). However, in the high competence motivation, in other words, when a boss was present in the meeting, the effect was dampened in both the high friendship motivation condition (25.5%) and the low friendship motivation condition (23.2%; $\chi^2(1) = .15$, $p = .695$); see Figure 5 for a visual representation of the results.

Insert Figure 5 about here

Desire to Signal Fun to Co-Worker. Similar to the choice results, a two-way ANOVA with manipulated friendship motivation and competence motivation on participants' desire to signal fun revealed a significant main effect of friendship motivation ($F(3,604) = 25.08$, $p < .001$, $\eta_p^2 = .040$). Specifically, friendship motivation increased the desire to signal fun in both the *low competence motivation* condition (M_{high}

friendship = 5.12, SD = 1.59 vs. $M_{\text{low friendship}} = 4.54$, SD = 1.71; $F(1, 604) = 9.43$; $p = .002$, $\eta_p^2 = .015$) and the high competence motivation condition ($M_{\text{high friendship}} = 4.83$, SD = 1.55 vs. $M_{\text{low friendship}} = 4.07$, SD = 1.70; $F(1, 604) = 16.02$; $p < .001$, $\eta_p^2 = .026$). A moderated mediation analysis (Hayes 2017, Model 8) with manipulated friendship motivation as the predictor, competence motivation as the moderator, desire to signal fun as the mediator, and choice of Zoom background as the dependent variable further revealed no moderated mediation effect ($\beta = .15$, SE = .22, 95% CI: [-.281, .577]). Rather, the results revealed that for both participants in the *low competence motivation* condition ($\beta = .46$, SE = .16, 95% CI: [.153, .789]) and participants in the *high competence motivation* condition ($\beta = .61$, SE = .16, 95% CI: [.301, .946]), the desire to signal fun predicted choice of a more hedonic Zoom background. In addition, there was a significant main effect of competence motivation on desire to signal fun ($F(3,604) = 8.12$, $p = .005$, $\eta_p^2 = .013$), such that the *low competence motivation* condition generally had stronger desires to signal fun ($M = 4.83$, SD = 1.67) compared to those in the *high competence motivation* condition ($M = 4.44$, SD = 1.67). Finally, there was no significant interaction effect on desire to signal fun ($F(3,604) = .51$, $p = .478$, $\eta_p^2 = .001$).

Desire to Signal Competence to Co-Worker. A two-way ANOVA with manipulated friendship motivation and competence motivation on participants' desire to signal competence revealed no significant interaction effect ($F(3,604) = .01$, $p = .912$, $\eta_p^2 = .00$). There were also no significant main effects of friendship motivation ($F(3,604) = .28$, $p = .600$, $\eta_p^2 = .003$) nor competence motivation ($F(3,604) = 1.69$, $p = .194$, $\eta_p^2 = .001$), suggesting that regardless of the manipulations, participants had similarly high motivations to signal their competence to their co-worker.

GENERAL DISCUSSION

In summary, five studies demonstrate that consumers strive to position themselves as a good potential friend by making hedonic consumption choices, driven by the normative belief that signaling one's fun qualities (more so than utilitarian or meaningful qualities) will be favored by others. However, we find such hedonic consumption for the sake of friendship is not without cost. Consumers choose hedonic options even at the cost of foregoing their own preferred options (study 1) and even when they anticipate the hedonic choice to discomfort them (study 2). Importantly, we find evidence that such costly signaling efforts through hedonic choice may not be an effective signal of friendship (follow-up study to study 3). In fact, we show that while consumers believe that others will value *fun* in friendship, they themselves value more meaningful aspects of friendship, rendering hedonic choices ineffective as friendship signals. We demonstrate that consumers can avoid incurring costs and sending ineffective friendship signals by nudging them to think about their own belief of friendship, before making a consumption decision (study 4). Finally, we show that the desire to signal fun and the ensuing choice of hedonic items can be attenuated by activating a competing motivation of signaling competence (study 5).

Theoretical Contributions

The current research extends and contributes to prior work in two important ways. First, we identify a novel friendship-signaling motive. While previous signaling literature

has largely focused on consumers' desires to signal status through consumption, there is a lack of understanding in the signaling literature regarding how consumers' fundamental desires to cultivate friendship may impact consumption decisions. In particular, we demonstrate that consumers attempt to signal friendship and position themselves as a good potential friend, by portraying themselves as *fun*. Through this investigation, we shed light on the understudied construct of fun in marketing (Oh and Pham 2018), and demonstrate that consumers anticipate social benefits, particularly friendship benefits, by signaling their fun traits. These findings coincide and also contribute to a related body of work in social psychology on ingratiation, which has shown that when people want to put one's best 'face' forward in social settings, they change their facial expressions (e.g., smile) and the content of their verbal communication (e.g., make jokes, agree with another person) as ingratiation tools (Jones et al. 1965; Jones and Wortman 1973; Godfrey et al. 1986). Importantly, we also find that signaling fun may not be an effective signal of friendship as consumers expect.

Second, we demonstrate that the visibility of one's choices to others (i.e., public choice) impacts a novel choice outcome: selection of hedonic (vs. utilitarian) items. Whereas prior work in consumer behavior has shown that consumers employ certain choices to send signals (e.g., choice variety, divergent or convergent choice; Ariely and Levav 2000; Bellezza, Gino, and Keinan 2013; Berger and Heath 2007; Dzhogleva and Lambertson 2014; Ratner and Kahn 2002; Rawn and Vohs 2011), research had yet to examine how consumers' signaling motives in social settings could systematically increase hedonic (vs. utilitarian) consumption. Interestingly, in the word of mouth literature that has investigated the ways in which consumers make their consumption

choices known (public) to others online, this effect has not yet been shown as well. While consumers have been shown to share more positive or negative experiences online (Barasch and Berger 2014; Chen 2017; Dubois, Bonezzi, and DeAngelis 2016; Wojnicki and Godes 2008), this line of work has not yet shown that consumers may systematically make more hedonic choices when they make their choices public. For example, our theory predicts that when consumers anticipate posting on social media, such that their choice will become public to social media friends, it will lead consumers to choose hedonic items that they can later use as the focus of a post.

Implications and Directions for Future Research

One question raised by the current research is if consumers are better or worse off that consumers are pushed into making more hedonic choices for the sake of friendship. On one hand, it could hurt consumers, especially if their personal preference is to choose a utilitarian option and they are choosing a hedonic option just for the sake of signaling, as in study 1, particularly since we find that hedonic choices may not serve as an effective signal of friendship. If so, frequent engagement in public consumption, such as going shopping with a friend or thinking about posting on social media, may derive less satisfaction in the long-run for consumers. On the other hand, a push to make hedonic choices might benefit consumers, if they otherwise do not allow themselves to indulge or exhibit hyperopia (Kivetz and Keinan 2006). Thus, consumers might feel less guilt toward hedonic consumption activities and derive more happiness from engaging in such hedonic experiences, and potentially engage in future hedonic experiences with the audience. While the results from the current research does not find that hedonic choices

signal friendship, we do not investigate the long-term satisfaction or enjoyment from engaging in such hedonic choices. Alternatively, on a dyad-level, while we do not investigate the type of activities the consumer and audience would engage with in the future, it is possible that the hedonic choices the consumer makes in the current consumption period might impact future joint consumption decisions. For example, would a consumer who displays hedonic consumption to foster friendship find that the audience, in a future consumption episode, suggest to engage in more hedonic activities with the consumer, because they know the consumer to be fun-loving? It would be fruitful for future research to investigate long-term consumer welfare implications of engaging in hedonic choices for the sake of signaling.

One may wonder if the proposed effects, where consumers desire to signal fun for the sake of friendship, is a general human motivation or specific to American consumers. Indeed, prior literature has demonstrated that American culture has greater emphasis on indulgence, while other cultures, such as East Asian cultures have greater emphasis on restraint (Hofstede 2010). In a preliminary cross-cultural study with 602 participants ($M_{age} = 35.58$, 49.5% female), we compared participants from the U.S. and Korea, in a (friendship motivation: low vs. high) \times 2 (culture: U.S. vs. Korea) between-subjects design. When asked about their desire to signal “fun” to a person they recently met, there was no significant interaction effect on desire to signal fun ($F(3,598) = .004$, $p = .952$, $\eta_p^2 = .000$). Instead, we find a significant main effect of friendship motivation ($F(3,598) = 38.41$, $p < .001$, $\eta_p^2 = .060$), such that those in the *high friendship motivation* condition had stronger desires to signal fun ($M = 4.91$, $SD = 1.59$) compared to those in the *low friendship motivation* condition ($M = 4.07$, $SD = 1.88$), regardless of culture.

Specifically, friendship motivation increased the desire to signal fun for both the U.S. participants ($M_{\text{high friendship}} = 5.46$, $SD = 1.43$ vs. $M_{\text{low friendship}} = 4.62$, $SD = 1.75$; $F(1, 299) = 21.04$; $p < .001$, $\eta_p^2 = .066$) and the Korean participants ($M_{\text{high friendship}} = 4.35$, $SD = 1.55$ vs. $M_{\text{low friendship}} = 3.52$, $SD = 1.86$; $F(1, 299) = 17.61$; $p < .001$, $\eta_p^2 = .056$). Interestingly, there was a significant main effect of culture on desire to signal fun ($F(3,598) = 67.93$, $p < .001$, $\eta_p^2 = .102$), such that the U.S. participants generally had stronger desires to signal fun ($M = 5.05$, $SD = 1.65$) compared to Korean participants ($M = 3.94$, $SD = 1.75$). While these preliminary results start to examine the generalizability of the perceived importance of fun in friendship cultivation across different countries, one can certainly imagine situations that might attenuate the effects. For example, when attending a job interview or a funeral, the belief that others would value fun in friendship may be dampened. At a job interview, appearing serious may be perceived as more important and at a funeral, one may anticipate that appearing fun would be seen as inappropriate behavior. Future research could benefit from examining the layers of motivations in different situations and cultures that can override the perceived importance of signaling fun.

Moreover, an interesting question to pursue is how the effects might strengthen or weaken as friendship horizon progresses. While the scope of the current research investigates how consumers try to position themselves as an attractive friend when they are meeting someone new, it would be worthwhile to investigate whether consumers still try to convey fun later on in their friendship, as their personalities and beliefs become more known to each other. In a follow-up study, we find evidence that even in close friendships, consumers may wish to signal their fun traits, and therefore make hedonic choices. Specifically, in a 3-cell (low friendship initiation motivation vs. high friendship

initiation motivation vs. close friendship maintenance motivation) between-subjects design ($N = 256$, $M_{\text{age}} = 23.49$, 32.0% female), the results revealed that consumers desire to signal that they are fun significantly more in the *high friendship initiation* condition ($M = 5.61$, $SD = 1.79$), compared to the *low friendship initiation* condition ($M = 4.86$, $SD = 1.70$; $F(1, 169) = 7.80$; $p = .006$, $\eta_p^2 = .044$). Interestingly, those in the *close friendship maintenance* condition had an even greater motivation to signal fun ($M = 6.18$, $SD = 1.19$), compared to the *high friendship initiation* condition ($M = 5.61$, $SD = 1.79$; $F(1, 167) = 5.95$; $p = .016$, $\eta_p^2 = .034$). Further, compared to 51.7% of participants who made a hedonic choice in the *low friendship initiation* condition (i.e., chose a fun Zoom virtual background to use for a meeting with the respective audience), 71.4% of participants in the *high friendship initiation* condition chose a hedonic item ($\beta = .85$, $Wald = 6.88$, $p = .009$), replicating our main studies. Interestingly, directionally more participants in the *close friendship maintenance* condition, 81.2%, chose a hedonic item, compared to the 71.4% in the *high friendship initiation* condition ($\beta = .55$, $Wald = 2.20$, $p = .138$). While these results shed insight that even in close friendships consumers try to signal fun, the underlying mechanism may differ. As two people become closer, they tend to feel more motivated to protect each other (Barasch and Berger 2014) and support each other (Weiss and Lowenthal 1975). Along these lines, it may be that close friends feel responsible for showing the other person a good time and thus may still wish to signal fun. Future research could take one step further and examine the choice consequences for when friends learn about each other's specific beliefs and personalities. For instance, if one is aware that their close friend has a strong Protestant Work Ethic (Cheng et al. 2017), they may be more inclined to signal their competence, in order to maintain their friendship.

Another interesting question that future work could examine is whether one's *fun* quality has social consequences other than cultivating friendship. In the current research, we focus on consumers' belief that portraying oneself as fun will help make friends. However, there can be other benefits that consumers associate with signaling fun. For example, in study with 100 Amazon Mechanical Turk ("MTurk") workers we asked, "why would you want others to think that you were having fun (i.e., enjoying yourself)?" The coded results from the respondent's written answers (82.6% agreement between two coders) revealed that consumers expect it to increase 1) how much others like them (27%), 2) positive future interactions (16%), 3) positive impact on others to also have fun (17%). While the first two answers relating to increasing their likeability and positive future interactions with the audience, point to the current research's findings on the perceived link between signaling fun and cultivating friendship with an audience, the third item suggests that consumers also expect signals of fun to have positive societal impacts as well. For example, consumers might expect greater reciprocation of kindness from others, such as prosocial behaviors, by showing their fun qualities, or it may be that consumers' hedonic choices and displays of fun will impact other consumers to also make hedonic and fun choices.

FIGURE 1
CONCEPTUAL MODEL

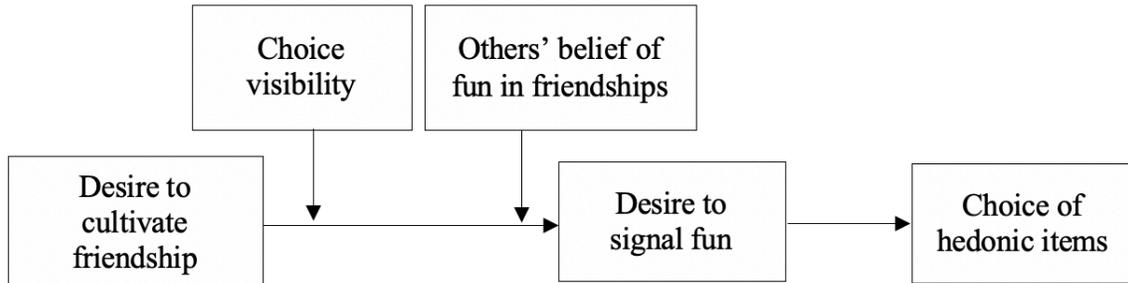


FIGURE 2
PERCENT OF PARTICIPANTS WHO CHOSE MORE FUN (CACTUS) PEN
IN STUDY 2

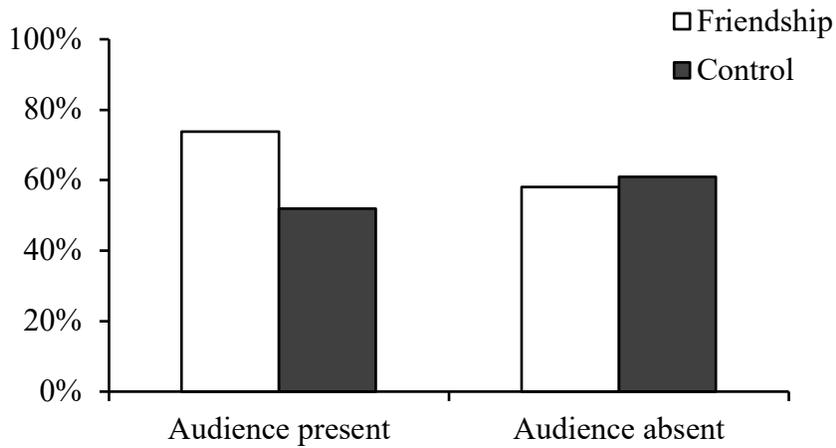


FIGURE 3
NUMBER OF PHOTOBOOTH ACCESSORIES CHOSEN IN STUDY 3

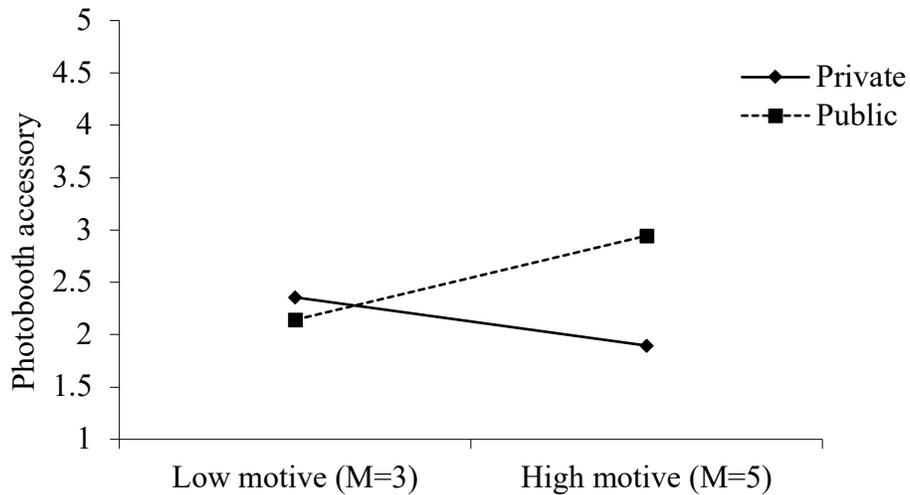


FIGURE 4
PERCENT OF PARTICIPANTS WHO CHOSE MORE FUN APP IN STUDY 4

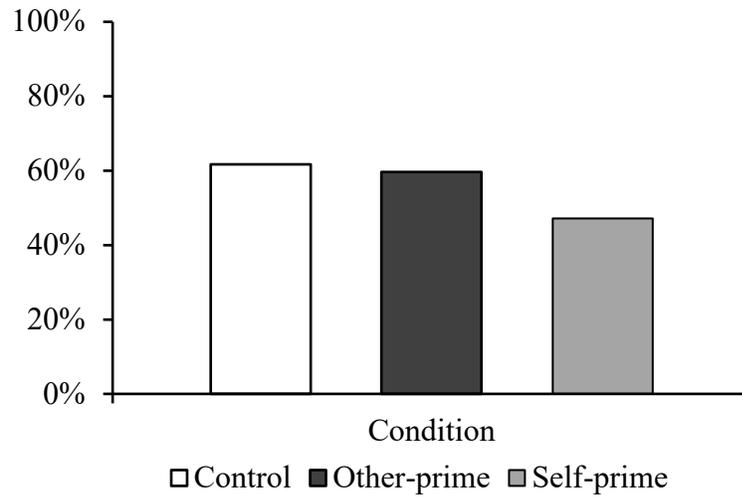
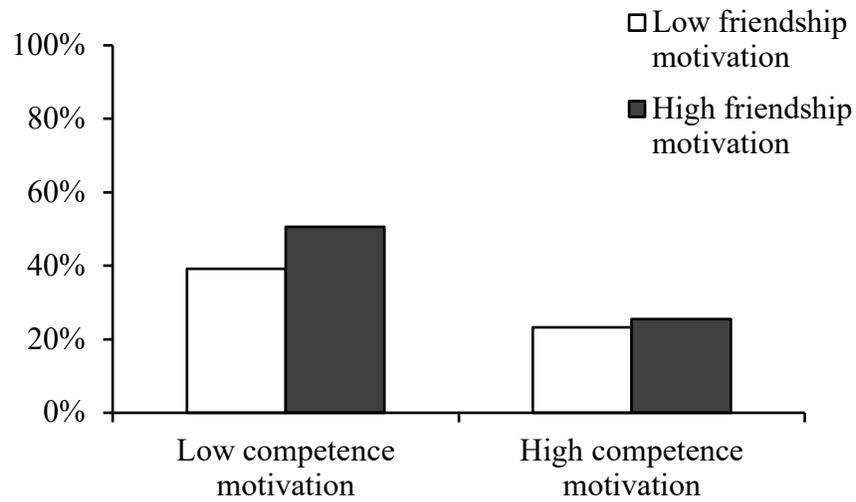


FIGURE 5
PERCENT OF PARTICIPANTS WHO CHOSE
MORE FUN VIRTUAL BACKGROUND IN STUDY 5



Chapter III. The Narrow-Down Inference: When Choice Variety Signals Expertise⁸

A major conclusion from prior research on variety-seeking is that consumers anticipate choices that involve high variety will be more positively perceived than low variety. Consumers anticipate that others might dislike low variety (Choi et al. 2006; Drolet 2002), which leads them to incorporate more variety into their consumption decisions when they think their choices will be seen by others (Ratner and Kahn 2002). This line of prior work on the social perceptions of choice variety mostly investigates actors' anticipation of how observers might perceive their choices, rather than directly examining observers' perceptions (for an exception, see the pilot study from Ratner and Kahn 2002). For instance, consumers anticipate that high choice variety would signal to others that they are interesting, unique, and open-minded individuals, while low choice variety might signal that they are boring and rigid (Ariely and Levav 2000; Drolet 2002; Kim and Drolet 2003; Fishbach, Ratner, and Zhang 2011; Ratner and Kahn 2002). However, it is less clear whether observers would always negatively perceive a consumer's low choice variety. Could low choice variety signal a positive impression?

We propose that instead of a permanent label of being boring and rigid, low choice variety can also convey that a consumer has already experienced high variety of options in a product category in the past, and thus signal expertise. In particular, we identify a novel factor that shifts observers' focal inference of choice variety from personality traits to past experience: the perceived amount of learning required in a product category. Prior research has mainly examined variety-seeking behaviors with

⁸ This research is conducted with Yajin Wang

simple and familiar products that require relatively less consumer learning, such as generic candy bars and yogurt (Ratner and Kahn 2002; Simonson 1990). In such contexts, observers make inferences about consumers' personality traits based on their choice variety (i.e., "What type of person is likely to choose low variety?").

Certain product categories, however, require more learning to make consumption choices. For instance, a gourmet chocolate brand, Vosges, offers complex and novel flavors, such as bacon dark chocolate or peony flower chocolate. Similarly, other highbrow products like fine wine and artisan gelato are often more expensive and contain complicated flavors, affording a learning process for consumers to experience and understand the available options to fully appreciate the difference among the options, and then form individual tastes and make consumption choices (Beatty and Smith 1987; Berger and Ward 2010; Bourdieu 1986; Clarkson, Janiszewski, and Cinelli 2013; Latour and Deighton 2018). We propose that when products require more (vs. less) learning, observers' focal inference shifts from what low choice variety says about the chooser's personality to what it says about their past experience (i.e., "What experiences would have led the consumer to choose low variety?"). Specifically, observers interpret consumers' experiences from choice variety using a "narrow-down" inference. They infer a temporal shift in consumers' choice variety as a function of their underlying learning process: consumers initially choose high variety to explore and subsequently choose low variety as they accumulate more knowledge in the product category. Thus, upon seeing a consumer incorporating little variety in their selection, observers infer that this consumer would have already experienced a great variety of options in the past. Such accumulation

of extensive past consumption experience signals the consumer's category expertise and endows her with the power to influence others' choices.

This research contributes to the literature on variety-seeking and consumer learning in several important ways. While prior work in variety-seeking implies an association between low variety and negative perceptions of personality traits from the actor's perspective, we directly explore the observer's perspective and demonstrate that low variety can serve as a positive social signal. Moreover, we identify when and how such positive social outcomes would occur by connecting the literature on variety-seeking with consumer learning. While prior work has hinted at parallels between consumer learning and its behavioral manifestations related to high or low variety (Clarkson, Janiszewski, and Cinelli 2013; Hoeffler and Ariely 1999; McAlister and Pessemier 1982), it has not established how such shifts in choice patterns are understood by others. We find that observers infer a narrow-down process, where choice variety shifts from high to low, and demonstrate the novel role of choice variety as a signal of one's stage in this learning process. As a result, we show that choice variety signals a consumer's past experience and expertise, which are novel outcomes that prior literature has yet to examine. In doing so, we expand the scope of the variety-seeking literature to product categories that require learning, while prior literature has been mostly limited to investigating the implications of variety-seeking for relatively simple and familiar products.

In the following sections, we discuss the literature on the interpersonal impact of choice variety and theorize when and how our proposed narrow-down inference and expertise perceptions occur. Next, across six studies, we demonstrate our predicted

effects of choice variety on perceived expertise, the underlying mechanism of a consumer's perceived stage in the narrow-down process, and the downstream social consequences. We conclude with a discussion of implications for consumers, researchers, and managers.

CHOICE VARIETY AS A SIGNAL OF CONSUMER LEARNING

It is well established that people make social judgments based on others' consumption behaviors (Belk 1988), including the amount of variety in their choices. For this reason, consumers have been shown to include more variety in their choices, especially for public (vs. private) decisions to make a positive impression on observers (Ariely and Levav 2000; Kim and Drolet 2003; Ratner and Kahn 2002). This variety-seeking behavior often stems from the anticipation that others will associate low choice variety with negative personality traits, such as being boring, rigid, or unwilling to change (Choi et al. 2006; Drolet 2002; Fishbach, Ratner, and Zhang 2011; Ratner and Kahn 2002). While not directly addressed, prior literature on the social implications of variety-seeking mainly examined consumption contexts that involve little learning on the consumer's part, using products like jellybeans, store-brand yogurt, and generic candy bars (Drolet 2002; Ratner and Kahn 2002; Simonson 1990). In these contexts, choice variety delivers information about whether a consumer is willing to seek stimulation and experience a mix of balanced options (Drolet 2002). Thus, observers make inferences about a consumer's personality traits based on her choice variety (Ratner and Kahn 2002; Raju 1980).

We propose that this association between choice variety and personality traits, while intuitive, does not paint a full picture of the signaling value of choice variety. In fact, variety-seeking can serve a functional purpose: a means to explore and learn about a product category (Hoyer and Ridgway 1984; McAlister and Pessemier 1982; Ratchford 2001). Consumers often accumulate expertise about a product category from a variety of consumption experiences, which helps them fully appreciate and distinguish certain features and differences among options (Chernev 2003; Clarkson, Janiszewski, and Cinelli 2013). These prior consumption experiences shape a consumer's preferences and lead to different choice patterns, including choice variety (Berger and Ward 2010; Bourdieu 1986; Holt 1996; McAlister and Pessemier 1982; Scitovsky 1976). This use of variety-seeking as a way to search within a product category is particularly relevant for products that incur higher cost or involvement, and whose features are more complex, novel, and unfamiliar (Bloch, Sherrell, and Ridgway 1986; Bourdieu 1986; Clarkson, Janiszewski, and Cinelli 2012; Mitchell and Dacin 1996; Park and Lessig 1981; Payne 1982), or in other words, products that require consumer learning. For example, compared to generic coffee beans, choosing a variety of imported high-end coffee beans is more likely to reflect that a consumer is trying to learn about high-end coffee beans by experiencing different options. For these products, a consumer's past experience and expertise becomes more focal to observers, because the choices are more likely to reflect a consumer's efforts to learn about the product category to develop their taste and make better consumption choices in the future (Beatty and Smith 1987; Bettman, Luce, and Payne 1998; Clarkson, Janiszewski, and Cinelli 2012; Latour and Deighton 2018; Ratchford 2001), rather than being subject to personal or contextual influences (Kelley

1967; Petty, Cacioppo, and Schumann 1983). Thus, observers make inferences about a consumer's past consumption experience and expertise from observing choice variety in a product category that requires learning.

NARROW-DOWN INFERENCE AND EXPERTISE PERCEPTION

If choice variety for product categories that require consumer learning makes a consumer's past consumption experience salient, how much past consumption experience does low versus high choice variety signal? We propose that observers have a lay belief that consumers go through a narrow-down process, where their choice variety temporally shifts from high to low. Specifically, because an important objective for consuming these products is to learn about the product category to make good consumption decisions, observers infer that high choice variety is a reflection of a consumer's effort to search and learn about the product category. In other words, high variety choice signals that the consumer is in the initial stages of the narrow-down process. On the other hand, low choice variety is seen as a behavioral marker of one's mature stage in the narrow-down process, having already gone through the initial learning period of trying different options (i.e., high variety) in the past. Importantly, the inference that a consumer has had ample consumption experience in the past leads observers to believe that the consumer is an expert of the product category.

The notion that consumers' choice patterns shift as they become category experts is supported by prior research. Consumers often form their preferences through multiple consumption episodes (Hoch and Ha 1986; Hoeffler and Ariely 1999; LaTour and

Deighton 2018), and their preferences develop over time as they accumulate more knowledge through various product-related experiences (Alba and Hutchinson 1987; Bettman and Park 1980; Hoch and Deighton 1989; Park and Lessig 1981). Specifically, during their initial encounters with a new product category, consumers generally seek to gain more information by exploring a diverse set of options (Ariely and Levav 2000; Hoyer and Ridgway 1984; McAlister and Pessemier 1982; Scitovsky 1976; Simonson 1990), which resembles high choice variety. Exploring a variety of options can help consumers learn their preferences because it exposes them to different attributes and options in a product category that they can evaluate and use for future consumption choices (Alba and Hutchinson 1987; Clarkson et al. 2013; Ratchford 2001). As consumers accumulate knowledge through a high variety of consumption experiences, they develop a level of expertise about the product category. Equipped with a certain level of expertise, consumers then enter a more mature stage in their relationship with the product category. As an expert in the product category, consumers' preferences are often more stable, and more importantly, their choices become more consistent, including similar options around their "taste" (Bourdieu 1986; Chernev 2003; Clarkson et al. 2013; Hoeffler and Ariely 1999; Latour and Deighton 2018; Lee, Amir, and Ariely 2009), which is akin to low choice variety. In the current research, we propose that observers intuit this choice variety shift from high to low as learning occurs and employ it to infer where another consumer is at in the narrow-down process. This stage in the narrow-down process, in turn, signals a consumer's category expertise. The inference of a consumer's expertise based on choice variety is a novel signal that has not yet been examined in prior work. While not about consumers' perceptions, Berger, Draganska, and Simonson (2007)

relatedly demonstrated that for brands, greater variety of offerings can improve perceived brand quality because it conveys expertise.

The perception that a consumer choosing low variety is a category expert also has important interpersonal consequences. Particularly in a consumption context where consumer learning is required, such as more substantial and complex products, knowledge and experience are valuable cultural capital (Berger and Ward 2010; Bourdieu 1984; 1986), and a consumer's choice is more likely to be impacted by those who have category knowledge (Swaminathan 2003). As such, we propose that consumers who choose low variety can more effectively influence other consumers' choices.

THE CURRENT RESEARCH

To summarize, we hypothesize that for a product category that requires consumer learning, low (vs. high) choice variety signals that a consumer has greater expertise. This is because observers infer that a consumer choosing low variety has already experienced a high variety of options in the past to learn about the product category, indicating that they have gone through a narrow-down process. Furthermore, as experts, consumers choosing low (vs. high) variety have greater power to influence others in that observers would be more likely to follow their choices. However, the effects of past experience and expertise perception are attenuated for product categories in which learning is unlikely to occur.

We test this set of hypotheses across six studies. The first two studies demonstrate the moderating role of learning in the product category on expertise

perception. Specifically, study 1a examines if observers spontaneously focus more on making inferences about a consumer's past experience for product categories that require consumer learning, but more on their personality when it requires less learning as the prior research shows (e.g., Ratner and Kahn 2002). Study 1b examines the main proposed effect, that low (vs. high) choice variety signals greater expertise for products that require learning, but not for products that require less learning. Study 2 tests the proposed effect in a real interaction setting with a confederate and explores the underlying psychological process, the narrow-down inference. The study design also includes a control condition to establish the direction of the effects. Study 3 tests the interpersonal consequences of inferring expertise from low choice variety. Specifically, we examine when low (vs. high) choice variety impacts observers' choices. Study 4 directly manipulates the temporal aspect of the narrow-down inference and further tests the underlying psychological process. Finally, study 5 investigates an important boundary condition by manipulating a core construct in the narrow-down inference. If past experiences are not required to form one's preferences, observers would no longer make narrow-down inferences, alleviating the proposed effects of choice variety on expertise perception.

*STUDY 1A: CHOICE VARIETY AND INFERENCES
OF PAST EXPERIENCE VS. PERSONALITY*

Study 1a tests the proposition that when a product category requires more (vs. less) consumer learning, observers would be more likely to make inferences about

another consumer's past consumption experience (vs. personality traits) from choice variety.

Pretest of Product Category

A pretest was conducted to test whether certain products categories are perceived to require more or less consumer learning. One hundred and forty-one participants ($M_{\text{age}} = 37.34$, 50.0% female) were recruited on Amazon Mechanical Turk ("MTurk") to participate in the experiment in exchange for a small amount of monetary compensation. Participants were randomly assigned to read a brochure of a coffee brand called "Vigilante," that was either framed as a gourmet brand with complex and unique flavors (i.e., requires more learning) or a regular brand with simple and tasty flavors (i.e., requires less learning, for the full stimulus, see Appendix G).

Next, they were asked to what extent other consumers would 1) "be motivated to learn about coffee beans sold at Vigilante Coffee?" (1 = not motivated at all, 7 = extremely motivated); 2) "want to understand the differences between the coffee beans available at Vigilante Coffee?" (1 = not at all, 7 = to a great extent); and 3) "appreciate the quality and features of Vigilante Coffee?" (1 = not at all, 7 = to a great extent) on 7-point Likert scales. These three items were averaged to form the consumer learning index ($\alpha = .87$). Indeed, observers rated the consumer learning index to be significantly higher for the coffee brand when it was framed as being more expensive, complex, and unique ($M_s = 5.29$ vs. 4.43; $t(140) = 15.76$, $p < .001$, $\eta_p^2 = .102$).

Method & Procedure

We used the same coffee brand materials from the pretest to approach customers at a coffee shop for a consumer survey ($N = 95$, $M_{age} = 23.43$, 50.5% female). Participants were randomly assigned to read either a brochure of a coffee brand that requires more or less consumer learning. Next, all participants were presented with two other consumers' purchase decisions for the coffee brand they just read about. They were told that person A bought "three bags of the same flavor of coffee beans" (i.e., low choice variety) and that person B bought "three bags of different flavors of coffee beans" (i.e., high choice variety). After reading about both purchase decisions of person A and B, the participants were asked how likely it was that they would think about the two consumers' past experience (i.e., "When you see person A's and B's choices, how likely is it that their consumption experience and knowledge about coffee beans comes to mind?"; 1 = very unlikely, 7 = very likely) and their personality (i.e., "When you see person A's and B's choices, how likely is it that their personality traits, such as being interesting or boring comes to mind?"; 1 = very unlikely, 7 = very likely). The two items were asked in a counterbalanced order.

Results & Discussion

As predicted, a repeated measures ANOVA on the participants' likelihood of making inferences regarding past experience and personality revealed a significant interaction effect ($F(1,93) = 4.81$, $p = .031$, $\eta_p^2 = .049$). Specifically, when the product category required learning (e.g., gourmet coffee beans), choice variety led observers to think more about another consumer's past experience, rather than their personality ($M_{\text{more learning/experience}} = 5.13$, $SD = 1.33$ vs. $M_{\text{more learning/personality}} = 3.75$, $SD = 1.76$; $F(1,93) =$

17.93, $p < .001$, $\eta_p^2 = .162$). This difference diminished when the product category required less learning (e.g., regular coffee beans, $M_{\text{less learning/experience}} = 4.44$, $SD = 1.71$ vs. $M_{\text{less learning/personality}} = 4.06$, $SD = 1.58$; $F(1,93) = 1.35$, $p = .249$, $\eta_p^2 = .014$). Furthermore, observers were more likely to make inferences about another consumer's past experience when the choice variety occurred for gourmet coffee beans compared to for affordable coffee beans ($M_{\text{more learning/experience}} = 5.13$, $SD = 1.33$ vs. $M_{\text{less learning/experience}} = 4.44$, $SD = 1.71$; $F(1,93) = 17.93$, $p < .001$, $\eta_p^2 = .162$). In addition, the analysis revealed a significant main effect of the within-subjects factor, focal inference ($F(1,93) = 14.64$, $p < .001$, $\eta_p^2 = .136$), and no main effect of the between-subjects factor of learning level ($F(1,93) = .62$, $p = .432$, $\eta_p^2 = .007$).

In sum, the results supported that observers are more likely to make inferences about others' past experience than personality from their choice variety for products that require consumer learning. This departs from the focus of prior literature on how choice variety signals a consumer's personality traits, such as interestingness, which primarily examined choice variety for products that require relatively less learning (Ratner and Kahn 2002).

STUDY 1B: MOTIVATION TO LEARN AND EXPERTISE PERCEPTION

Study 1a demonstrates that when a product category requires more (vs. less) learning, choice variety invokes thoughts about a consumer's past consumption experience more so than one's personality traits. Study 1b builds on this finding and tests our main hypothesis that choice variety for a product category that requires more learning

signals a consumer's expertise, while this is not the case for a product category that requires less learning. We predict that low (vs. high) variety signals greater expertise. In addition, while observers primarily focus on a target consumer's expertise and experience for products that require more learning, an interesting question in light of the prior finding that choosing high variety makes a person appear more interesting (Ratner and Kahn 2002) is whether expertise inferences and personality perceptions can simultaneously occur. We ask observers whether they think the consumer is interesting versus boring to address this question.

Method & Procedure

Two hundred and seventy-four individuals ($M_{\text{age}} = 36.84$, 53.5% female) were recruited on Amazon Mechanical Turk ("MTurk") to participate in the experiment in exchange for a small amount of monetary compensation. The participants were randomly assigned to one of four experimental conditions in a 2 (consumer learning: more vs. less) \times 2 (choice variety: high vs. low) between-subjects design.

Participants were first given a brief description about a fictitious premium chocolate brand, Voila Chocolatier (for a detailed description of the brand, see Appendix H). Then the participants were informed about a signature product of Voila Chocolatier: a set of three boxes of truffles sold for \$50. For each set, consumers could choose any mix of three of the five available truffle flavors for their three boxes. The description then clarified that the purchase was to be consumed by the consumers themselves (i.e., "Now please imagine a consumer ordering the signature three box set from Voila Chocolatier for his/herself"). This part was included to control for the possibility that observers may

make extraneous inferences that a large quantity of candy was purchased to be shared with or for someone else.

Controlling for the price, different levels of consumer learning were manipulated through the complexity and uniqueness of the flavors available from Voila Chocolatier. Participants in the *more learning* condition were told that Voila Chocolatier's flavor offerings included "ginger and wasabi, Hungarian paprika, coconut curry, smoked bacon, and Tanzanian pumpkin." Participants in the *less learning* condition were told that Voila Chocolatier's flavor offerings included "milk chocolate, white chocolate, 30% cacao, 50% cacao, and 80% cacao concentrate chocolate." This manipulation was pretested with 113 MTurk workers ($M_{age} = 33.90$, 39.7% female), such that observers inferred more learning for truffles with complex flavors than simple flavors ($M = 5.41$ vs. 5.00, $F(1,106) = 4.69$, $p = .033$), on three 7-point scale consumer learning index items, identical to those used in study 1a ($\alpha = .67$).

Participants then saw a description manipulating another consumer's choice variety. Participants in the *low choice variety* condition read that the consumer chose "all the same flavors for their three truffle boxes," while those in the *high choice variety* condition read that the consumer chose "all different flavors for their three truffle boxes." After reading the scenario, participants were asked about their impressions of the consumer: perceived expertise (i.e., "Do you think this consumer is a premium chocolate expert?"; 1 = not at all, 7 = to a great extent) and perceived interestingness (i.e., "How boring or interesting do you think the consumer is?"; 1 = very boring, 7 = very interesting). Finally, they were also asked to indicate how much variety they perceived

from the consumer's choice as a manipulation check (i.e., "How much variety does the consumer's choices have?"; 1 = low variety, 7 = high variety).

Results & Discussion

Manipulation Check of Choice Variety. A 2 (consumer learning) \times 2 (choice variety) ANOVA revealed that as intended, there was a main effect of choice variety, such that participants thought the consumer choosing three of the same flavors had lower choice variety compared to the consumer choosing three different flavors ($M_{\text{low variety}} = 4.14$, $SD = 1.75$ vs. $M_{\text{high variety}} = 4.54$, $SD = 1.63$; $F(1,270) = 3.99$, $p = .047$, $\eta_p^2 = .015$). In addition, there was a significant main effect of the consumer learning level required for the product category ($F(1,270) = 6.64$, $p = .011$, $\eta_p^2 = .024$), and there was no interaction effect ($F(1,270) = .07$, $p = .790$).

Perceived Expertise. As predicted, a 2 (consumer learning) \times 2 (choice variety) ANOVA on perceived expertise revealed a significant interaction effect ($F(1,270) = 3.93$, $p = .048$, $\eta_p^2 = .014$). Specifically, subsequent planned contrasts showed that for products that required more learning, the consumer choosing low variety was perceived as having significantly more expertise than the consumer choosing high variety ($M_{\text{low variety}} = 4.90$, $SD = 1.13$ vs. $M_{\text{high variety}} = 4.22$, $SD = 1.54$; $F(1,270) = 7.38$, $p = .007$, $\eta_p^2 = .027$), but there was no significant difference among consumers choosing low or high variety when the product category required less learning ($M_{\text{low variety}} = 4.03$, $SD = 1.60$ vs. $M_{\text{high variety}} = 4.04$, $SD = 1.54$; $p = .945$, $\eta_p^2 < .001$, see Figure 6a). In addition, the analysis revealed a significant main effect of consumer learning ($F(1,270) = 8.69$, $p = .003$), and a

marginally significant main effect of choice pattern ($F(1,270) = 3.56, p = .060$) on perceived expertise.

Perceived Interestingness. A 2 (consumer learning) \times 2 (choice variety) ANOVA on perceived interestingness revealed a non-significant interaction effect ($p = .277, \eta_p^2 = .004$). Interestingly, there was a significant main effect of the choice pattern ($F(1,270) = 13.23, p < .001, \eta_p^2 = .047$). Subsequent planned contrasts showed that for products that require less learning, the consumer with low choice variety was perceived as significantly less interesting than the consumer with more variety choice ($M_{\text{low variety}} = 3.63, SD = 1.66$ vs. $M_{\text{high variety}} = 4.48, SD = 1.42; F(1,270) = 11.34, p = .001, \eta_p^2 = .040$). This is consistent with the findings from prior literature that low variety signals negative personality traits (Ratner and Kahn 2002, exploratory study, page 247). However, when the product category required more learning, this difference became only marginally significant ($M_{\text{low variety}} = 4.17, SD = 1.56$ vs. $M_{\text{high variety}} = 4.63, SD = 1.28; F(1,270) = 3.20, p = .075, \eta_p^2 = .012$, see Figure 6b), supporting that while expertise and personality inferences can co-occur, observers are less inclined to make personality inferences compared to expertise in contexts where consumer learning is salient. In addition, the analysis revealed a marginally significant main effect of consumer learning ($F(1,270) = 3.76, p = .053, \eta_p^2 = .014$) on perceived interestingness.

Study 1a and 1b supports the proposition that the product category, particularly the extent to which it requires consumer learning, plays an important role in observers' inferences of choice variety. As our theory predicts, for products that require learning, observers are more likely to make inferences about a consumer's past experience and expertise rather than personality traits. Specifically, a consumer choosing a low variety of

products that requires learning was perceived as having greater expertise compared to a consumer choosing a high variety of products that requires learning. In the following studies, we focus on products that require consumer learning to investigate the underlying mechanism for why and how choice variety signals expertise.

Insert Figure 6 about here

STUDY 2: NARROW-DOWN INFERENCE LEADS TO PERCEPTION OF EXPERTISE

Study 2 has three objectives. First, we examine the proposed effects in a real interaction setting. To increase the realism and external validity of our effects, participants are asked to evaluate another student (i.e., a confederate) who made consumption choices in view of the participant. Second, we focus on a product category that requires more consumer learning to further investigate the underlying psychological, narrow-down process. We measure inferences of the narrow-down process and test if it statistically mediates the perception of expertise. Third, study 2 includes a control condition, which allows us to test the direction of the effects. We predict that low choice variety increases perceived expertise compared to both the control condition and high choice variety condition.

Method & Procedure

One hundred and two students ($M_{\text{age}} = 20.60$, 56.9% female) at a large North American university participated in the study as part of an introductory marketing course

for extra course credit. The participants were randomly assigned to one of three conditions in a 3-cell (choice variety: high vs. low vs. control) between-subjects design.

For each timeslot, one participant was randomly pooled from a larger study and was told that he or she would be participating in a truffle tasting study. Next, they were brought into another room adjacent to the main lab by a research assistant. As the participant entered the room, the confederate entered the same room through a second door, posing as another student participating in the same study from a different subject pool. After welcoming and thanking both students for participating, the research assistant informed them that they would be tasting truffles for the study and asked if the participants had any food allergies. All participants indicated that they did not have allergies and agreed to participate in the study. Next, both participants were handed a leaflet of a gourmet truffle brand called Lolli and Pops (for the leaflets used in the study, see Appendix I). The brand was described as a gourmet truffle brand that has several physical stores in the local region. After reading the leaflet, participants were asked to step closer to the desk in the room where the truffles were displayed (for a visual of the desk, see Appendix J). Pointing to the box of truffles that participants could select from, the research assistant handed each participant a description of three truffle flavors that were available in the lab to taste, including Lavender Caramel, Vanilla Bean, and Fresh Lemon. Lolli and Pops was pretested with a separate pool from the same student population ($M_{age} = 20.74$, 26.3% female) to require consumer learning on three 7-point scale consumer learning index items ($M_s = 4.65$ vs. 4(mid-point); $t(28) = 2.88$, $p = .010$), consistent with those used in previous studies ($\alpha = .85$).

After reading about the brand and the three available flavors of truffles, participants were told that the number of truffles they would taste today is determined by a random drawing from a cup containing numbers from 1 to 3. Given that the confederate would need to be asked to pick three pieces of truffles in front of the participant in two treatment conditions and the participants would be asked to pick one piece, we devised a “drawing” procedure before making their choices, to legitimize why the participant and confederate were receiving different amounts of truffles. Blind to the participants, the “drawing” task was prepared so that the confederate would always draw the number “3” in both high and low variety conditions and draw the number “1” in the control condition. The participant would always draw the number “1” in all conditions.

Next, in all conditions, the research assistant was instructed to ask the confederate to make her truffle choices first, to ensure that the participant would observe the confederate’s choice(s). Depending on the condition, the confederate was first asked to choose any combination of three pieces or one piece of truffle to taste. In the *low variety* condition, the confederate chose three pieces of one flavor (e.g., three pieces of Lavender Caramel). In the *high variety* condition, the confederate chose one of each flavor (e.g., one Lavender Caramel, one Vanilla Bean, and one Fresh Lemon). In the *control* condition, the confederate chose one flavor (e.g., one Lavender Caramel). The flavor chosen in the low variety and control conditions were counter-balanced through all the choices. After the confederate received her chosen truffle piece(s), the participant was asked to select his or her one piece of truffle. Finally, both the confederate and the participant were asked to take a seat for a short survey about the brand and the truffle.

Measures

Familiarity with the Brand. Participants first answered the following question: “How familiar were you with Lolli and Pops before today?” (1 = not familiar at all, 7 = very familiar) to test that familiarity with the brand was not different across conditions. A one-way ANOVA using the manipulated condition (choice variety: high variety vs. low variety vs. control) on familiarity confirmed that participants in all conditions were equally unfamiliar with the brand ($M_{\text{high variety}} = 1.94$, $SD = 1.76$ vs. $M_{\text{low variety}} = 2.09$, $SD = 1.85$ vs. $M_{\text{control}} = 2.18$, $SD = 1.78$; $F(2,99) = .15$, $p = .859$).

Next, participants were reminded that there was another student participating in the lab with them, and that the researchers were interested in the impression participants had formed about each other.

Perceived Expertise. As the main dependent measure, participants were asked about the perceived expertise of the confederate (i.e., “Do you think the other student is an expert of Lolli and Pops truffles?”; 1 = not at all, 7 = to a great extent).

Narrow-Down Inference. To measure the underlying process, participants were asked to make inferences about the confederate’s past experience with the brand on three items: 1) “How likely do you think it is that the other student had been to a Lolli and Pops store before today?” (1 = not at all likely, 7 = very likely); 2) “How likely do you think it is that the other student had tried truffle flavors from Lolli and Pops before today?” (1 = not at all likely, 7 = very likely); and 3) “How many of the Lolli and Pops truffle flavors we have today, do you think the other student had tasted before today?” (1 = none of them, 7 = all of them). The three items loaded on one factor ($\alpha = .91$) and were averaged to form a narrow-down inference index.

Perceived Interestingness and Other Measures. We next aimed to first test that the perception of interestingness was a less relevant inference based on the confederate's choice variety for products that require more consumer learning. Consistent with study 1b, they rated the following: "How much do you think the following personality trait applies to the other student?: Interesting" (1 = not at all, 7 = very much). In addition, to check that the confederate did not act in a different manner and that participants did not perceive a difference in how likeable and friendly the confederate was, they rated their overall impression: (1 = disagree very much, 7 = agree very much): 1) "I like him or her" and 2) "I think s/he seems friendly."

Finally, consistent with the cover story, participants were asked to taste the truffle and indicate how much they liked the taste of the truffle (1 = not at all, 7 = very much) and Lolli and Pops (1 = not at all, 7 = very much). All items were measures on 7-point Likert scales.

Results & Discussion

Perceived Expertise. A one-way ANOVA using the manipulated choice variety as the predictor on expertise perception revealed a significant omnibus effect ($F(2,99) = 4.84, p = .010, \eta_p^2 = .089$). Consistent with our theory, simple contrasts revealed that the confederate was perceived to have greater expertise when she chose low variety compared to high variety ($M_{\text{low variety}} = 2.57, SD = 1.50$ vs. $M_{\text{high variety}} = 1.71, SD = 1.29; F(1,67) = 6.58, p = .013, \eta_p^2 = .089$). Importantly, perceived expertise was significantly greater in the low variety condition compared to the control condition ($M_{\text{low variety}} = 2.57, SD = 1.50$ vs. $M_{\text{control}} = 1.79, SD = .96; F(1,66) = 6.49, p = .013, \eta_p^2 = .090$, see Figure 7),

confirming that the predicted effect was driven by an increase in perceived expertise from low choice variety. High variety and the control condition did not differ on perceived expertise ($p = .793$).

Insert Figure 7 about here

Narrow-Down Inference. Similarly, a one-way ANOVA using the manipulated choice variety as the predictor on the narrow-down inference index also revealed a significant omnibus effect ($F(2,99) = 9.24, p < .001, \eta_p^2 = .157$). Simple contrasts revealed that the confederate was perceived to be further along in the narrow-down process when she chose low variety compared to high variety ($M_{\text{low variety}} = 3.07, SD = 1.67$ vs. $M_{\text{high variety}} = 1.86, SD = 1.21; F(1,67) = 11.72, p = .001, \eta_p^2 = .149$). This narrow-down inference was significantly greater in the low variety condition compared to the control condition ($M_{\text{low variety}} = 3.07, SD = 1.67$ vs. $M_{\text{control}} = 1.92, SD = .93; F(1,66) = 12.04, p = .001, \eta_p^2 = .154$), mirroring the patterns for perceived expertise. In addition, participants did not perceive a difference of a prior narrow-down process between the high variety and control condition ($p = .861$).

Mediation. We predicted that the inference that the confederate would have had a greater variety of prior experiences with the Lolli and Pops brand would mediate the effect of choice variety on perceived expertise. A mediation analysis using choice variety as the predictor, narrow-down inference as the mediator, and perceived expertise as the dependent variable (Hayes 2018, Model 4) confirmed this prediction. The analysis revealed a significant omnibus index of mediation ($\beta = -.37, SE = .11, 95\% CI: [-.596, -.164]$). Specifically, the increase in the perception of expertise for low variety compared

to high variety was mediated by the narrow-down inference ($\beta = -.76$, $SE = .24$, 95% CI:[-1.255, -.314]), as well as when it was compared to the control condition ($\beta = -.72$, $SE = .21$, 95% CI:[-1.150, -.331]).

Perceived Interestingness and Other measures. A one-way ANOVA with choice variety as the predictor on interestingness showed that participants did not perceive that the confederate's level of interestingness differed based on her choice variety ($M_{\text{low variety}} = 4.26$, $SD = 1.12$ vs. $M_{\text{high variety}} = 4.50$, $SD = 1.40$ vs. $M_{\text{control}} = 4.45$, $SD = 1.06$; $F(2,99) = .40$, $p = .693$, $\eta_p^2 = .008$). This is consistent with our theory that when the product category requires learning, the differences in perceived personality traits diminish, as the focal inference shifts to experiences and expertise.

In addition, a one-way ANOVA with choice variety on the overall perception of friendliness and liking of the confederate also revealed that participants thought the confederate was equally friendly ($M_{\text{low variety}} = 5.29$, $SD = 1.23$ vs. $M_{\text{high variety}} = 5.18$, $SD = 1.31$ vs. $M_{\text{control}} = 5.55$, $SD = 1.12$; $F(2,99) = .80$, $p = .452$, $\eta_p^2 = .016$) and similarly liked the confederate ($M_{\text{low variety}} = 4.57$, $SD = .92$ vs. $M_{\text{high variety}} = 4.82$, $SD = 1.24$ vs. $M_{\text{control}} = 4.82$, $SD = 1.19$; $F(2,99) = .57$, $p = .568$, $\eta_p^2 = .011$) across the three manipulated conditions.

Finally, a one-way ANOVA also revealed that the choice variety of the confederate did not impact how much the participants liked the taste of the truffle they tasted ($M_{\text{low variety}} = 4.77$, $SD = 1.86$ vs. $M_{\text{high variety}} = 4.97$, $SD = 2.08$ vs. $M_{\text{control}} = 5.06$, $SD = 1.81$; $F(2,99) = .18$, $p = .832$, $\eta_p^2 = .004$), nor their perception of the Lolli and Pops brand ($M_{\text{low variety}} = 4.22$, $SD = 1.70$ vs. $M_{\text{high variety}} = 4.61$, $SD = 1.67$ vs. $M_{\text{control}} = 5.00$, $SD = 1.48$; $F(2,99) = 1.87$, $p = .161$, $\eta_p^2 = .039$).

In summary, study 2 demonstrated that when product category requires learning, low choice variety signals that a consumer has greater expertise, and that this was greater than both a consumer choosing high variety and a consumer displaying no variety. Furthermore, this perception of expertise was statistically mediated by an underlying inference that a consumer choosing low variety has had a greater variety of consumption experiences in the past (i.e., a narrow-down inference).

We predicted that participants would be more likely to follow the flavor chosen by a confederate who selected low variety because of her perceived expertise. We recorded which flavor the participants chose after seeing the confederate's choice. Unexpectedly, the results did not show a significant impact of the confederate's choice variety on participants' own choices. While several factors such as the popularity of certain truffle flavors could have led to this non-significant result, we speculate that the student participants, in general, had a certain level of expertise themselves. As they would already have their own established preferences for certain chocolate flavors, their choice in the lab would have been less contingent on another expert's choice. In the next study, we measured the participants' own category expertise to test if it moderated their subsequent choices.

STUDY 3: CHOICE CONSEQUENCES OF EXPERTISE PERCEPTION

Study 3 extends our investigation to a non-food product category and test whether the perception of expertise impacts the observer's subsequent choice. Importantly, building on the results of study 2, we measure observers' own expertise of the product

category. We predict that observers who report to be novices to a product category would be more likely to mimic an expert consumer's choices. For instance, when observers with low expertise about high-end body care products and sees another consumer choosing a low variety of lotions from a high-end brand, the observer would be more likely to follow the expert's choice, compared to observers with greater expertise about high-end body care products. Study 3 again measures the narrow-down inference of the target consumer and demonstrates the underlying mechanism through mediation.

Method & Procedure

One hundred and ninety-two students ($M_{\text{age}} = 20.09$, 52.8% female) at a large North American university participated in the study as part of an introductory marketing course for credit. The participants were randomly assigned to one of two experimental conditions in a 2 (choice variety: high vs. low) \times (measured expertise of observers) between-subjects design.

Participants were welcomed to a consumer brand study. At the beginning of the study, they were told that the purpose of the study was to help a real brand understand their consumer segmentation. They were first provided with background information about a luxury Australian skin care and lifestyle brand, Aesop. They were told that the brand objective is to “formulate body care products of the finest quality” and were given information about some product selections offered in their online shop (for the full materials, see Appendix K). The same information about Aesop was pretested with a separate sample of students from the same student population ($N = 29$, $M_{\text{age}} = 20.16$, 52.6% female). The results suggested that students indeed perceived that choosing Aesop

products would require more consumer learning on three 7-point Likert scale consumer learning index items ($M_s = 4.82$ vs. 4(mid-point); $t(28) = 2.67, p = .015$), which were consistent with those used in previous studies ($\alpha = .84$).

After reading about the brand, participants were told that as part of their marketing research endeavors, Aesop recruited a range of consumers to participate in the brand's research survey, including loyal consumers who had been purchasing from the brand for a while to new consumers who had never purchased from the brand. In particular, participants were told that all consumers who participated in the survey would be thanked with three small bottles of Aesop body lotions as free gifts. With that description, the participants were informed that there were three different types of lotions available from Aesop: Rind Concentrate, Rejuvenate Intensive, and Geranium Leaf.

Next, all participants were told that as part of the marketing research, "We randomly selected one customer, customer #23, from the survey for you to analyze. We would like to know what you think of customer #23." Then, as the manipulation of choice variety, participants were told that for their free gift, the consumer either chose three bottles of one type of body lotion (i.e., *low variety* condition) or three bottles of three different types of body lotions (i.e., *high variety* condition). The type of lotion selected in the low variety condition was counter-balanced.

Measures

Choice. After seeing the target customer's choice of three bottles of free lotion, participants read, "Today, we have the same three types of body lotions available in the lab. In a few moments, you will be asked to sample one body lotion of your choice.

Which body lotion would you like to try (Rind Concentrate vs. Rejuvenate Intensive vs. Geranium Leaf)?” Participants were told that they would receive the trial sample of their chosen lotion near the end of the study. In the low variety condition, each participant’s choice was coded as “1” (i.e., followed target consumer’s choice) when their own choice matched the type of lotion chosen by the target consumer. In contrast, those who chose a different type of lotion were coded as “0” (i.e., did not follow the target consumer’s choice). In the high variety condition, the participants were randomly pre-assigned a target type of lotion to compare to their likelihood to follow, for coding purposes. For instance, we randomly pre-assigned a third of the participants’ target lotion as Rind Concentrate and coded their choice as “1” if they chose Rind Concentrate, and “0” if they chose one of the other two. Thus, we were able to compare whether each participant’s choice followed the option chosen by the low variety consumer’s choice compared to random chance (see the detailed coding method in Appendix L).

Perceived Expertise. Next, as the main dependent measure, participants were asked about the perceived expertise of the customer (i.e., “Do you think customer #23 is an expert of Aesop body lotions?”; 1 = not at all, 7 = to a great extent).

Narrow-Down Inference. To measure the underlying process, participants were asked to make inferences about the confederate’s past experiences with the brand on three items, which is consistent with those used in study 2: 1) “How likely do you think it is customer #23 had been to an Aesop store before participating in the survey?” (1 = not at all likely, 7 = very likely); 2) “How likely do you think it is customer #23 had used Aesop products before participating in the survey?” (1 = not at all likely, 7 = very likely); and 3) “How many Aesop body lotions do you think customer #23 had used before

participating in the survey?” (1 = none, 7 = all the available types). The three items loaded on one factor ($\alpha = .95$) and were averaged to form a narrow-down inference index.

Observer’s Expertise. Finally, participants were asked, “Do you consider yourself a body lotion and skincare expert?” (1 = not at all, 7 = very much) to measure their own expertise.

Results & Discussion

Perceived Expertise. Consistent with our prediction, a one-way ANOVA using choice variety as the predictor on perceived expertise revealed a significant main effect, such that the consumer who chose low variety was perceived to have more expertise compared to the consumer who chose high variety ($M_{\text{low variety}} = 3.67$, $SD = 1.96$ vs. $M_{\text{high variety}} = 2.19$, $SD = 1.38$; $F(1,191) = 37.24$, $p < .001$, $\eta_p^2 = .163$). In addition, a spotlight analysis with participants’ own expertise as the moderator revealed no interaction effect ($\beta = -.09$, $SE = .17$, 95% CI:[-.427, .256]), and the main effect of choice variety remained a significant predictor of expertise perception after participants’ own expertise was entered into the regression model ($\beta = -1.31$, $SE = .42$, 95% CI:[-2.145, -.480]). This finding supports that regardless of one’s own expertise in a product category, all observers perceived greater expertise from low (vs. high) choice variety.

Narrow-Down Inference. Similarly, a one-way ANOVA using choice variety as the predictor on the narrow-down inference index also revealed a significant main effect, such that the consumer with low variety choice was perceived to be further down the narrow-down process compared to the one with high variety choice ($M_{\text{low variety}} = 4.25$, $SD = 1.62$ vs. $M_{\text{high variety}} = 2.50$, $SD = 1.25$; $F(1,191) = 72.13$, $p < .001$, $\eta_p^2 = .274$). Further, a

spotlight analysis with participants' own expertise as the moderator revealed no interaction effect ($\beta = -.25$, $SE = .15$, 95% CI:[-.539, .042]), and the main effect of choice variety remained a significant predictor of narrow-down perception after participants' own expertise was entered into the regression model ($\beta = -1.26$, $SE = .36$, 95% CI:[-1.973, -.556]).

Mediation. A mediation analysis with choice variety as the predictor, narrow-down inference as the mediator, and perceived expertise as the dependent variable (Hayes 2018, Model 4) confirmed that a consumer with low choice variety is perceived to have more expertise due to an underlying narrow-down inference ($\beta = -1.30$, $SE = .19$, 95% CI:[-1.723, -.949]).

Choice. A one-way ANOVA using choice variety on participants' choice did not reveal a main effect (% of participants who followed target consumer's choice: low variety condition – 50.8% vs. high variety condition – 49.2%, $\chi^2(1) = .67$, $p = .412$), similar to the choice results found in study 2. While participants perceive the target consumer choosing low (vs. high) variety as having greater prior experiences and expertise, this perception does not systematically impact their own choice. Rather, results revealed that a consumer's low choice variety has significant impact on observer's choice when the observer is a novice. A spotlight analysis with participants' own expertise as the moderator revealed a significant interaction effect ($\beta = .68$, $SE = .25$, 95% CI:[.202, 1.163]). Specifically, when observer's expertise regarding body products was low (1 SD below the mean), participants who saw another consumer choosing low (vs. high) variety were more (vs. less) likely to follow their choice ($\beta = -.88$; $p = .022$); when observer's own expertise was high (1 SD above the mean), participants' choice was not significantly

impacted by another consumer's choice variety ($\beta = -1.02$; $p = .081$; see Figure 8). This result is consistent with our narrow-down process and provides insights about the consequences of expertise perception. According to our theory, compared to experts, novices lack knowledge and have not yet formed their own taste. Thus, they would be more likely to explore a variety of options to learn. It follows that they would have higher willingness to try out an expert's preferred option, such as the type of lotion chosen by a consumer exhibiting low choice variety. On the other hand, observers who have become experts would have their own tastes. They are therefore less likely to follow another expert's choices.

Insert Figure 8 about here

STUDY 4: MANIPULATING THE NARROW-DOWN PROCESS

Studies 1 through 3 demonstrated our main effects and underlying mechanism by measuring the narrow-down process and establishing mediation. Next, we shift our focus to explore different boundary conditions of our effects to further test the underlying process.

The proposed narrow-down process indicates two stages for consumers: an initial consumption stage where a consumer chooses high variety and a mature consumption stage where a consumer chooses low variety. In study 2 and 3, we found that observers infer that a person choosing low variety is further along the narrow-down process, compared to a person choosing high variety or no choice variety, and this leads to

expertise perception. In study 4, we aim to test the mechanism by manipulating the narrow-down inference. Our theory posits that observers use choice variety as cues to interpret consumers' learning stage in the narrow-down process. As a result, with no additional information about how long the consumer has been involved in the product category, observers spontaneously infer greater expertise from low (vs. high) variety. This is consistent with the results in our previous studies. However, when observers have explicit information regarding the target consumer's stage of consumption, it should mitigate the effects of choice variety on perceived expertise. For example, when participants are told that the target consumer is a first timer in the product category, we should see no differences in expertise perception between low and high variety because both consumers would be considered as having low expertise. Similarly, when observers are explicitly informed that a consumer is in a mature stage of consumption (e.g. a long-time customer of the product category), the consumer would be seen as an expert regardless of her choice variety.

Method & Procedure

Two hundred and sixty-five students ($M_{\text{age}} = 20.38$, 46.4% female) at a large North American university participated in the study as part of an introductory marketing course for extra course credit. Participants were randomly assigned to one of six experimental conditions in a 2 (choice variety: high vs. low) \times 3 (consumption stage: control vs. initial vs. mature) between-subjects design.

Participants were first presented with the same brochure and descriptions of a gourmet coffee shop stimuli, identical to the materials used in study 1a to manipulate a

product category requiring consumer learning. To manipulate the consumption stage of the target consumer, the scenario asked participants to imagine either a consumer visiting the coffee shop (i.e., *control* condition), a consumer that was visiting the coffee shop for the first time (i.e., *initial* condition), or a consumer that had visited the coffee shop for a long time (i.e., *mature* condition). Next, the choice variety manipulation was consistent with prior studies. Participants in the *low choice variety* condition read that the consumer chose “all the same flavor coffee beans,” while those in the *high choice variety* condition read that the consumer chose “all different flavors of coffee beans.” After reading the scenario, participants were asked to rate the perceived expertise of the target consumer (i.e., “Do you think this consumer is an expert of this shop’s coffee beans?”; 1 = not at all, 7 = to a great extent). After reporting the demographic information, the participants were debriefed and thanked for their participation.

Results & Discussion

Perceived Expertise. As predicted, a 2 (choice variety) \times 3 (consumption stage) ANOVA on perceived expertise revealed a significant interaction effect ($F(1,259) = 3.26$, $p = .040$, $\eta_p^2 = .025$). As predicted, low (vs. high) choice variety signaled greater expertise in the control condition, where observers were not given explicit information about the target consumer’s consumption stage ($M_{\text{low variety}} = 4.08$, $SD = 1.57$ vs. $M_{\text{high variety}} = 3.35$, $SD = 1.41$; $F(1,259) = 5.59$, $p = .019$, $\eta_p^2 = .021$, see Figure 9), replicating previous studies. However, consistent with our predictions, when observers were told that the low and high choice variety consumers had been visiting the coffee shop for a long time, the effect of choice variety on perceived expertise became non-significant (M_{low}

variety = 4.57, SD = 1.43 vs. $M_{\text{high variety}} = 4.93$, SD = 1.53; $p = .286$, $\eta_p^2 = .004$). Because choice variety is a cue observers rely on to make inferences about a consumer in the absence of direct information regarding their relationship with a product category, knowing that both consumers (choosing high or low variety) are longtime customers of a coffee shop rendered the signaling value of choice variety less meaningful.

Unexpectedly, when observers were told that the target consumer was a first-time visitor to the coffee shop, choice variety's impact on perceived expertise persisted. The consumer with low variety choice was perceived to have marginally greater expertise than the consumer with high variety choice ($M_{\text{low variety}} = 3.02$, SD = 1.64 vs. $M_{\text{high variety}} = 2.44$, SD = 1.49; $F(1,259) = 3.16$, $p = .077$, $\eta_p^2 = .012$). While we had predicted that knowing both consumers (choosing high or low variety) are novices would completely eliminate choice variety's impact on perceived expertise, we speculate that extraneous inferences may have carried over to this marginally significant difference. Due to the strong association between choosing low variety and expertise, observers may have attributed other means through which the consumer could have gained brand knowledge, and thus exhibit low variety. For instance, even if a consumer had not been to a physical store, she might have experienced the brand via online shopping or word-of-mouth. This inference may have led the first-time condition patterns to directionally mirror the patterns found in the control condition.

Insert Figure 9 about here

Looking at the data in a different way, particularly comparing the low choice variety conditions across manipulated consumption stages, the results revealed insights

about the signaling value of low choice variety. Specifically, the low choice variety consumer, when given no additional information, was perceived to have greater expertise compared to the low choice variety consumer who was a first-time visitor (control/low variety condition vs. first-time/low variety condition ; $p = .001$). Importantly, this consumer was perceived to have similarly high levels of expertise as the consumer that was informed to be a long time visitor (i.e., control/low variety condition vs. mature/low variety condition; $p = .130$). This result supports that without additional information, observers intuited that consumers choosing low variety are at a mature consumption stage. In addition, the analysis revealed a marginally significant main effect of choice variety ($F(1,259) = 3.38, p = .067$) and a significant main effect of the consumption stage ($F(1,259) = 38.36, p < .001$) on perceived expertise.

STUDY 5: ELIMINATING THE NARROW-DOWN PROCESS

Our theory posits that low choice variety signals expertise because the consumer is believed to be at a mature stage in the narrow-down process, having already learned about a product category by choosing high variety in past consumption experiences. However, not all consumption contexts require a temporal narrow-down process to learn. Study 5 investigates this boundary condition. For instance, if a consumer purchases gelato (premium ice cream) at a shop that offers free taste samples, even first-time consumers could taste a variety of flavors on the spot and learn about the available options, eliminating the temporal aspect of the narrow-down process. Thus, we predict that providing free taste samples reduces the narrow-down inference and therefore

eliminates an inference of expertise from choice variety. In contrast, if the store does not offer taste samples, we should be able to replicate our previous findings indicating that low (vs. high) choice variety signals greater expertise.

Study 5 also aims to rule out an alternative explanation that low choice variety may indicate that one is willing to take more risks. Prior work has shown that people choose more variety to avoid risk, especially when the stakes are high (Sheth and Venkatesan 1968). It is possible that choosing a low variety of high stake items signals that one is able to incur costly risks (Bliege Bird and Smith 2005; Bellezza, Gino, and Keinan 2014), which may carry over to perceived expertise. We measure the perceived degree of risk-taking to test this alternative explanation.

Method & Procedure

One hundred and sixty-four students ($M_{\text{age}} = 21.60$, 69.5% female) at a large North American university participated in the study as part of an introductory marketing course for extra credit. The study used a 2 (choice variety: low vs. high) \times 2 (free sample: yes vs. no) between-subjects design.

Participants were introduced to a study about how people perceive others and were randomly assigned to one of four conditions. They first read a description of a fictitious high-end gelato shop, “Gelati & Gelato.” After reading a description of ten flavors available at the store, the participants were informed that the shop sold 30 oz. gelato quart-boxes to go (for a full description of the store and the available flavors, see Appendix O). Consumers could choose up to four different flavors for each box. Next, participants in the *free sampling* condition were told that the shop offered free taste

samples, so consumers could taste as many flavors as they wanted before choosing their final selections. In the *no free sampling* condition, participants were told that the shop did not offer free taste samples. This manipulation was embedded in the description of the shop to minimize alternative associations with such policies. The participants were then told to imagine that a consumer visited the shop and ordered one gelato quart-box. Consistent with the manipulation of choice variety in previous studies, those in the *low choice variety* condition read that the consumer filled the box with “just one flavor,” while participants in the *high choice variety* condition read that the consumer filled the box with “four different flavors.” In a separate pretest pooled from the same student population ($N = 96$, $M_{age} = 20.64$, 64.6% female, 35.4% male, 0% preferred not to answer), Gelati & Gelato was perceived as requiring consumer learning, regardless of whether they provided free samples or not, on three 7-point scale consumer learning index items ($M_s = 4.77$ vs. 4 (mid-point); $t(95) = 5.82$, $p < .001$), consistent with those used in previous studies ($\alpha = .81$).

After reading the scenario, participants were asked about their impressions of the target consumer in the scenario. Specifically, participants rated how much they thought the consumer was a gelato connoisseur (i.e., “To what extent do you think the consumer is a gelato connoisseur?”; 1 = not at all, 9 = very much). This measure of perceived expertise served as the main dependent variable. Next, participants indicated whether they thought the consumer’s choices reflected risk-taking (i.e., “How risky do you think the consumer’s choices are?”; 1 = not at all risky, 9 = very risky). All items were measured using a 9-point Likert scale. Finally, after reporting the demographic information, participants were debriefed and thanked for their participation.

Results & Discussion

Perceived Expertise. Consistent with our predictions, a 2 (choice variety) \times 2 (sample) ANOVA on perceived expertise revealed a significant interaction effect ($F(1,160) = 4.63, p = .033, \eta_p^2 = .028$; see Figure 10). Subsequent planned contrasts revealed that when there was no sampling available, a marginally significant effect emerged, such that low (vs. high) choice variety signaled greater expertise, replicating our prior findings ($M_{\text{low variety}} = 6.44, SD = 1.70$ vs. $M_{\text{high variety}} = 5.64, SD = 2.07$; $F(1,160) = 3.25, p = .073, \eta_p^2 = .020$). However, when observers were told that there were unlimited free taste samples, indicating that a narrow-down process based on past consumption experience was no longer required to determine one's preferences, the difference in perceived expertise was attenuated ($M_{\text{low variety}} = 5.12, SD = 1.88$ vs. $M_{\text{high variety}} = 5.66, SD = 2.22$; $p = .218, \eta_p^2 = .009$). In addition, the analysis revealed a non-significant main effect of choice variety ($F(1,160) = .18, p = .676, \eta_p^2 = .001$) and significant main effect of free samples ($F(1,160) = 4.44, p = .037, \eta_p^2 = .027$).

Insert Figure 10 about here

Alternative: Perceived Risk. A 2 (choice variety) \times 2 (sample) ANOVA on perceived risk was conducted. There was a significant main effect of the choice pattern, where unexpectedly, low choice variety was seen as less risky than high choice variety across all conditions ($M_{\text{low variety}} = 4.22, SD = 2.70$ vs. $M_{\text{high variety}} = 5.62, SD = 2.22$; $F(1,160) = 18.15, p < .001, \eta_p^2 = .102$). However, the interaction effect was not significant ($F(1,160) = .20, p = .655, \eta_p^2 = .001$), revealing that the choices with low

variety were seen as less risky, regardless of whether free taste samples were available and independent from perceived expertise. Furthermore, a moderated mediation analysis was conducted (Hayes 2012, Model 8) with a 10,000 resample bootstrap. Choice variety was the predictor variable, free sample was the moderating variable, risk perception was the mediator, and perceived expertise was the dependent variable. The results showed that risk perception did not mediate the effect of the choice variety on perceived expertise (no sampling; 95% CI: [-.107, .351], sampling; 95% CI: [-.127, .397]).

To summarize, study 5 demonstrates a boundary condition to the proposed process of inferring expertise from choice variety through a narrow-down inference. By presenting a situation where consumers can form their preferences and choose low variety in one consumption episode, we were able to eliminate the signaling effects of choice variety on the perception of expertise. With no additional information, observers assumed that the target consumer's low choice variety was due to their past consumption experiences, thus signaling greater expertise, which is consistent with the proposed mechanism of a narrow-down inference.

GENERAL DISCUSSION

Together, six studies demonstrate that choice variety signals expertise. Observers perceived that a consumer choosing low (vs. high) variety has greater category expertise, when the products require more consumer learning, such as costly and complex products. However, the proposed effects did not occur for products that require less consumer learning. This interpretation of expertise from choice variety was driven by an underlying

narrow-down inference, where observers believe that when entering a new product category, consumers initially choose high variety to learn about the product category and eventually choose low variety as they learn and form preferences. Thus, low choice variety conveys information about a consumer's past, such that one has already experienced a variety of available options, which results in the inference that the consumer is an expert. Further, an expert's choice impacts observers' subsequent choices, such that novice observers are more likely to mimic the choice of the expert (i.e., consumer choosing low variety).

Theoretical Contributions

The present research makes several important contributions to the variety-seeking literature. First, our findings suggest that low variety is not always a negative social signal. We examine novel social consequences of variety-seeking on perceived expertise, and demonstrate that low variety can be advantageous. Choice variety has been shown to be an effective signal across several social domains. It can communicate how interesting or cognitively balanced a consumer is (Ratner and Kahn 2002; Drolet 2002) and that a consumer has strong preferences (Sela and Maimaran 2012). It can also be a sign of boringness or loyalty (Fishbach et al. 2011). Outside the scope of consumer perceptions, Berger, Draganska, and Simonson (2007) investigated perceived expertise of brand perceptions. They suggest that greater variety in brand offerings impact brand expertise and competency, which increases the perceived quality of the brand. However, to the best of our knowledge, prior literature on variety-seeking has not yet investigated its impact on perceived consumer expertise.

Second, while the marketing literature suggests that people value the ability to change and engage in a variety of experiences (Drolet 2002), prior work in psychology demonstrates that consistency, or low variety, is also valued because it shows one's internal balance (Cialdini, Trost, and Newsom 1995). We identify consumer learning in a product category as an important construct that moderates these conflicting patterns. Prior research on the social implications of variety-seeking have remained within products that are relatively cheap, simple, and familiar, such as jellybeans, yogurt, and generic candy bars. Variety-seeking for such products that require less learning is a means of seeking stimulation (Van Trijp, Hoyer, and Inman 1996), which delivers information about a consumer's personality traits. However, for products that require more learning, such as more expensive, complex, and unfamiliar products, choice variety is a reflection of a consumer's efforts to experience and learn about the product category (Hoyer and Ridgway 1984). As such, observers are more likely to spontaneously think about a consumer's past consumption experience and expertise when they see choice variety for products that require learning.

Finally, our findings suggest how one's current choice patterns speak to past experiences. This departs from prior work that demonstrates the implications of choice variety on future experiences (for a review, see Kahn 1995). For instance, a consumer's decision to include more or less variety in the current choice of chocolates indicates the variety of chocolates one would taste as they consume it later (Ratner et al. 1999). The present work suggests that the current choice of chocolates informs observers about the variety of chocolates one had tasted in the past. In particular, we make a novel contribution to consumers' lay theories of preference learning. While the notion that

preferences are shaped over time is not new in the marketing literature (Alba and Hutchinson 1987; Bettman and Park 1980), our findings provide insights into how observers intuit a temporal shift in choice variety, and employ others' choices as behavioral markers to infer past experiences (i.e., a narrow-down inference) and subsequently, expertise.

Limitations, Implications, and Directions for Future Research

The current research makes an implicit assumption that consumers learn about the product category through direct product experiences (Hoeffler and Ariely 1999). Such experiential aspects are particularly integral to our findings since, perceived expertise, as defined in this current research is driven by the accumulation of one's consumption experiences and discovery of subjective preferences. In addition, many of the product categories examined in our empirical investigations are hedonic, for which the learning process is more affect-laden and subjective in nature compared to utilitarian products, affording a context where direct consumption experience is particularly important (Barry, Darden, and Griffin 1994; Botti and McGill 2011; Holbrook and Hirschman 1982). While direct experiences have been shown to be stronger predictors of attitude consistency compared to indirect experiences (Fazio and Zanna 1981), we speculate that certain contexts could make salient the indirect approaches a consumer might have taken to gain more expertise about a product category, attenuating the proposed effects. For instance, when shopping for a vacuum cleaner, a utilitarian product, expertise and preferences are less subjective, such that consumers could embody expertise (e.g., find the best option) by referring to others' experiences, such as online reviews and word-of-mouth.

As lay theories, there may be certain limitations that imply that the inferences we document are not able to capture nuanced discrepancies in how an observer might expect a consumer to behave, and how they would behave as consumers. First, we theorize that expertise and preferences are both perceived outcomes of consumption experiences (Alba and Hutchinson 1987; Bourdieu 1986; Carpenter and Nakomoto 1989). While our empirical findings suggest that observers perceive preference formation and expertise accumulation to occur simultaneously, we acknowledge that as consumers, they may be distinct processes. For instance, some experts might not have strong preferences, and some consumers might have strong preferences without much expertise. Second, the amount of consumer learning required for a particular product category might be idiosyncratic. For example, while certain products (e.g., gourmet coffee beans) are perceived to generally demand more learning than others (e.g., generic coffee beans) as shown in study 1a, some consumers might not drink coffee, thus they would not be inclined to learn for either product category. Third, while consumers tend to learn in a narrow-down process and thus appear to choose a low variety to observers, they themselves might still be exploring certain types of products in depth (Clarkson et al. 2013). Thus, experts might still be learning by consuming a narrower variety, but may appear to be selecting less variety to observers.

Although we find that observers believe that consumers narrow-down their choices based on their own experience, there are certainly exceptions where experts might also choose high variety. Our theory is that expert consumers are perceived to have gone through the narrow-down process of learning about a product category. Such expertise in a product category is often defined by one's ability to discern among options

(Alba and Hutchinson 1987; Bettman, Luce, and Payne 2008), or in the case of purchasing wine, for instance, the ability to know which wine is better. A consumer with low choice variety (e.g., chooses three bottles of Bordeaux) is perceived to have formed a preference for Bordeaux wine, by tasting other types of wine (e.g., Pinot Noir, Sauvignon Blanc) in the past and learning that Bordeaux is their personal favorite. Following this line of reasoning, if observers are made aware that a consumer has always chosen low variety and did not learn about the product category in the past (e.g., always chose Bordeaux since they first started drinking wine), low variety should not signal expertise. Likewise, if high choice variety can also convey that the consumer has gone through the narrow-down process, we should see a boost in perceived expertise. If a consumer choosing high variety appears to have chosen the best of each sub-category (e.g., the best Bordeaux wine, the best Pinot Noir wine), observers would also infer that this consumer has gone through the narrow-down process, and thus infer expertise. A follow-up study supported that high variety could signal that the consumer is an expert, similar to one choosing low variety, when high variety is also an outcome of the narrow-down process. The detailed result of this study is reported in Appendix M.

Next, as mentioned in the theoretical development, products that require more learning are often high-end items that are more expensive. Being in a mature stage in the narrow-down process of such high-end products implies that a consumer has accumulated costly consumption experiences in the past. Consequentially, a person choosing low variety would be perceived as having spent more money to acquire such costly experiences, which translates to having greater resources and status (Rucker and Galinsky 2008). We measured the perception of the target consumer's status in study 1b as well as

the aforementioned follow-up wine study. The results indeed support low (vs. high) choice variety signals status. We report these results in detail in Appendix N. This implication could be of particular interest to consumers and luxury consumption researchers, as it suggests that the choice patterns for luxury or high-cost products matters. While luxury consumption is itself a conspicuous signal of status (Han et al. 2010; Ordabayeva and Chandon 2010; Rucker and Galinsky 2008), the proposed effects on status could suggest that certain choice patterns of expensive items (e.g., low variety) may be a more effective signal of status compared to other choice patterns of equally expensive purchases (e.g., high variety). Prior work has also identified other attributes that moderate the signaling value of a luxury good such as product size (Dubois, Rucker, and Galinsky 2012), standing out from others' choices (Bellezza et al. 2014), and subtle differentiation of product features (Berger and Ward 2010). While some researchers have linked status to risk avoidance (Griskevicius et al. 2011) and self-control (Mofitt et al. 2011), choice variety as a signal of status remains unexplored.

A question that follows is, would the narrow-down inference prompt consumers to choose low variety to signal expertise and status? In a recent study, Inesi et al. (2011) found that low-power individuals choose larger (vs. smaller) choice sets to have more control over their decisions. While their finding seems to suggest an innate link between power and low choice variety, it remains unclear whether consumers' choice variety is impacted by a motivation for higher power and status. It is unclear whether consumers would strategically choose low variety to signal status and power. We conducted a follow-up study to explore this question. The preliminary results suggest that after being primed with a status motive, participants reported a greater preference for a low variety

of activities when a vacation trip was luxurious compared to a non-luxurious trip. In contrast, in the control condition, there was no difference in participants' preference for low variety between luxurious and non-luxurious trips. Future research could build on this finding and identify other behavioral consequences of low variety as a status signal. For instance, would public or private settings of one's choice moderate the effects of status motivation on variety-seeking behaviors?

An important implication from the current research that would be of particular interest to practitioners is the benefit of signaling a brand or product through consumers' choice patterns, and how these signals can influence observers' consumption. An interesting question could be: How would such perceptions of expertise from choice variety impact one's influence over others? In a world of social media influencers where the number of followers greatly impacts business, our findings have practical implications for how to manage communication with followers and consumers. In addition, it would be fruitful to consider how such expertise inferences might apply to the perception of the brand in relation to brand endorsers. Would the perceived expertise of consumers with low choice variety carry over to the perceived expertise of the brand?

Our findings also have interesting implications for firms who want to understand panel data, especially with regards to using Bayesian learning methods to identify a consumer's stage in the preference-learning process. Based on the current findings, for instance, consumers whose purchases show a low variety pattern might be further along in their narrow-down process. By understanding such dynamic shifts in consumer choices, firms could differentiate expert and novice consumers based on their levels of variety-seeking in transactions and target them with different promotion strategies.

FIGURE 6
PERCEPTION OF THE CONSUMER (STUDY 1B)

FIGURE 6A. PERCEIVED EXPERTISE

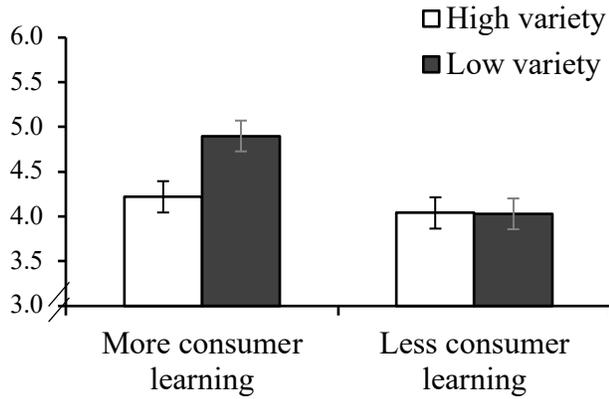


FIGURE 6B. PERCEIVED INTERESTINGNESS

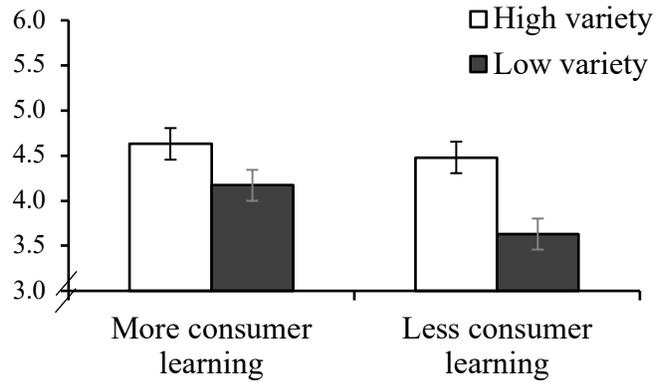


FIGURE 7
PERCEIVED EXPERTISE OF THE CONFEDERATE (STUDY 2)

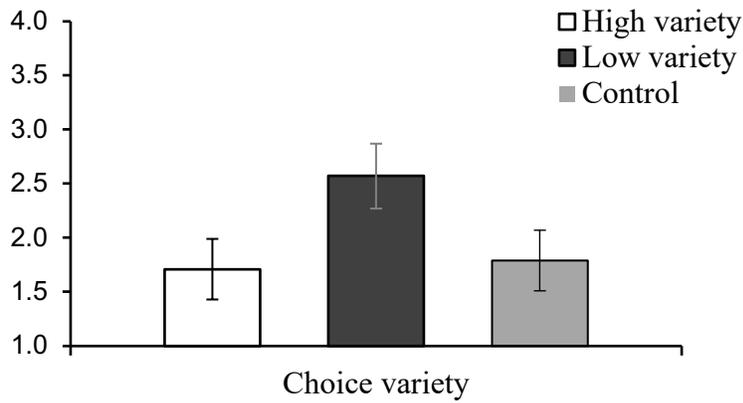


FIGURE 8
 % OF PARTICIPANTS WHO FOLLOWED TARGET CONSUMER'S CHOICE
 (STUDY 3)

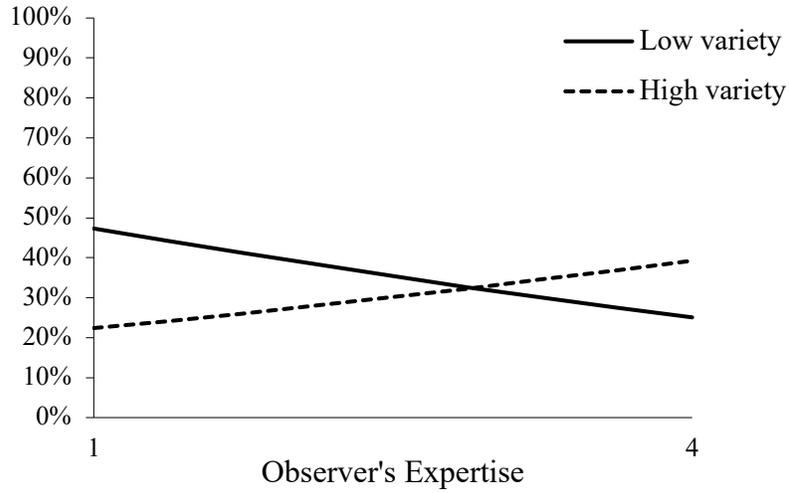


FIGURE 9
 PERCEIVED EXPERTISE OF THE CONSUMER (STUDY 4)

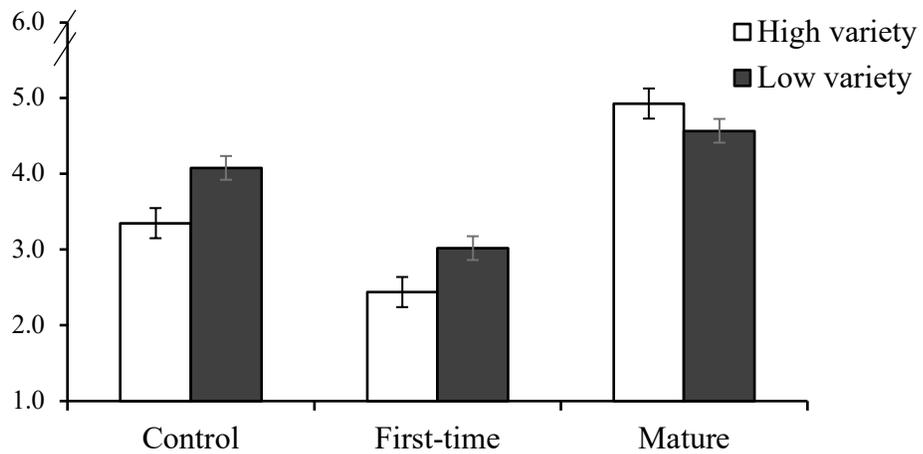
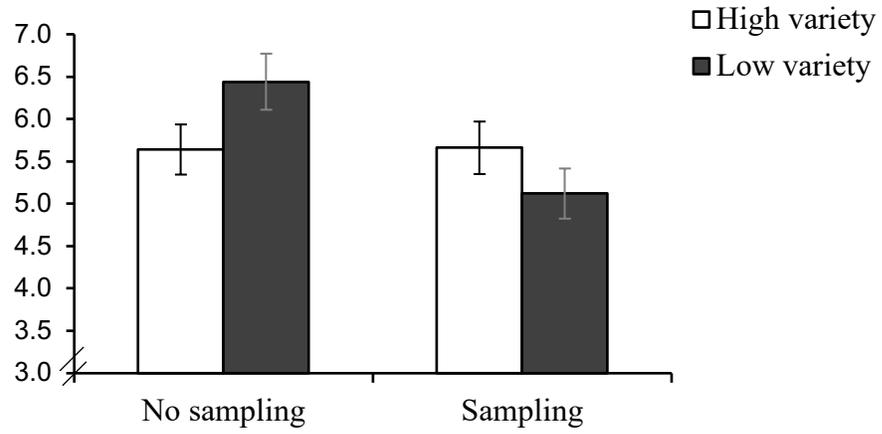


FIGURE 10
PERCEIVED EXPERTISE OF THE CONSUMER (STUDY 5)



Chapter IV. You Must Have a Preference: The Impact of No Preference Communication on Joint Decision Making⁹

When consumers decide between offerings they will consume independently, the decision making process typically entails maximizing their own utility and choosing accordingly. However, when making decisions among offerings that will be jointly consumed with others, the process often becomes more complex and effortful, as it now requires integrating each party's individual preferences in an attempt to maximize the utility of the group as a whole (Liu, Dallas, and Fitzsimons 2019). Prior research on joint decision making highlights this complexity, as it has focused on conflict resolution when group members' preferences do not align (Corfman and Lehmann 1987; Fisher, Grégoire, and Murray 2011; Spiro 1983). Indeed, for substantial joint decisions, such as purchasing a home or a car, consumers often want in-depth discussions to resolve differences and reach a satisfactory decision (Qualls 1987).

However, many day-to-day joint decisions that are made with friends, family members, and colleagues, are decisions for lower-involvement categories, such as choice of a restaurant, a snack, or a TV show to watch. In such contexts, consumers may opt to avoid conflict and simplify the decision making process, even at the cost of one's consumption utility. Specifically, in such instances, a consumer may wish to make the decision making process easier and avoid potential preference mismatch with the other party. One intuitive way of communicating this is for the consumer to simply state that they have no particular preference for one option over another. For instance, one could say "I have no preference!" or "All of these options sound great to me." Indeed, a recent

⁹ This research is conducted with Alixandra Barasch, Yonat Zwebner, and Rom Y. Schrift

study demonstrates that consumers even prefer to communicate to a joint consumption partner that they have no preferences, rather than explicitly communicate their preference, because they want to appear easygoing and likable (Liu and Min 2020). Beyond the social consequences, from the perspective of the consumer who opts to communicate no preferences, such a statement should also promote positive consumption consequences. A prediction that the consumer can make is that no preference communication would allow the other party to choose according to their own preferences (instead of having to incorporate the preferences of someone else), alleviating potential complexities that the dyad might face from incongruent preferences. However, do such statements actually reduce difficulty and help the other party? Or alternatively, can these increase difficulty and consumption outcomes? And if so, why?

The current paper explores the impact of this prevalent communication strategy – no preference communication – in joint decision making contexts. In such a situation, even though the decision is made jointly to be consumed as a dyad (or a group), the nature of no preference communication transforms the joint decision into a decision that one person makes on behalf of the dyad. Thus, we focus on the impact of no preference communication on the person to whom no preference message is relayed (henceforth, the *recipient*). Specifically, we find that recipients of no preference communication experience greater choice difficulty, compared to recipients of explicit preference communication. We propose a “hidden preference” account to explain this effect; recipients of no preference communication believe that the other party must *actually have* a preference for one option over another, yet is not revealing it. As a result, instead of feeling free to ignore the other party’s preferences, the recipient strives to incorporate

hidden preferences, ultimately experiencing greater difficulty and ending up making a final joint decision that does not best align with their individual preferences and thus leading to suboptimal consumption utility. Further, we show that similar to our intuition, the person stating no preferences (henceforth, the *communicator*) believes that such statement will ease the decision making process and provide greater consumption utility for the other party, compared to when they explicitly state their preference. That is, the communication of no preference in joint decisions creates a discrepancy where, contrary to what the communicator predicts, it creates negative consequences for the recipient.

The current paper makes several important contributions to the joint decision making and consumption literature. While prior research on joint decision making mainly focused on how parties go through an effortful process of persuasion to reach a joint decision (Corfman and Lehmann 1987; Fisher et al. 2011; Spiro 1983; Qualls 1987), it largely assumed that the parties are already aware of each other's preferences. Meanwhile, situations where consumers might desire to not disclose one's preferences to another party in a joint decision remains relatively understudied. The current research contributes to this line of work by identifying the unexpected consequences of a common, yet unexplored strategy that consumers use in joint decisions: no preference communication. Moreover, the communication of no preference illustrates a unique situation where even though the decision is made jointly, the nature of no preference communication transforms the decision into a decision made by the recipient, on behalf of the dyad (or group). This context demonstrates a context where joint decisions are transformed into single (or individual) decisions, which uniquely adds to the previous joint decision and consumption literature, that has mainly treated joint and single

decisions as static contexts (Gorlin and Dhar 2012; Liu, Dallas, and Fitzsimons 2019). Thus, while we refer to the consumer who is told about the other party's preferences as a "recipient" of the communication, this consumer does not play a passive role in the joint decision. In fact, the recipient often will be the consumer who dictates the final decision over which option to jointly consume. Further, our findings extend the literature on person perception. It is already difficult for consumers to correctly infer another person's preferences, even that of a spouse (Davis et al. 1986; Sanders & Mullen, 1983). The findings of our research demonstrate that verbal communications of having no preference in a joint decision does not help. It makes the recipient believe that the communicator actually has preferences that they are hiding, and also activates the inference that the communicator's true preferences are dissimilar to their own. Finally, building on the line of work on suspicion in marketing, which has mainly studied the context consumers' suspicion of companies' motives (e.g., Campbell and Kirmani 2000; Friestad and Wright 1995), the current paper extends this literature by examining suspicion in the context of consumer to consumer interactions.

BACKGROUND LITERATURE

Joint Decision Making

Consumers frequently make consumption decisions involving other people (such as friends, family members, and colleagues), where they need to reach a decision about offerings that will be consumed jointly. Of course, joint decision making processes are often more complex and effortful than single-individual decision making because they

involve multiple parties, each with their own goals, beliefs, and sources of utility. Classic work in the area of joint decision making focused on the “household” as the primary unit of analysis, investigating how various factors influenced major family purchases, like houses, cars, and home furnishings (e.g., Davis 1970, 1976). For example, this research examined how purchase outcomes (i.e., the ultimate choice amongst several options) depended on sex roles and expectations (Munsinger, Weber, and Hansen 1975; Qualls 1987; Schaninger, Buss, and Grover 1982), power and authority dynamics (Blood and Wolfe 1960; Burns and Granbois 1977), perceived influence (Davis and Rigaux 1974), and education (Rosen and Granbois 1983; Hempel 1975).

Other early research on this topic went beyond the *outcomes* to also examine the *process* through which families made decisions and resolved conflict. In such instances, consumers attempt to jointly integrate multiple preference structures to maximize group-level consumption utility (for all parties involved), while also maintaining positive social relationships (Davis 1971, 1976; Park 1982). Because it is rarely the case that two consumers’ preferences perfectly align, parties involved in a joint decision employ various influence strategies to resolve disagreements (e.g., bargaining, aggression; Spiro 1983; Kirchler 1993). Even so, it is difficult to reach a decision that satisfies several distinct preference structures (Sheth 1974), and one party usually must end up revising their preferences or conceding (Aribarg, Aurora, and Bodur 2002).

Recently, there has been a resurgence of interest in joint decision making within marketing, with many researchers calling for more work on the topic (Belk 2010; Liu, Dallas, and Fitzsimons 2019; Simpson, Griskevicius, and Rothman 2012; Gorlin and Dhar 2012). By definition, joint decision making involves integrating different tastes,

opinions, and preferences of multiple parties with different priorities, needs, and motivations (Liu et al. 2019). As such, decision makers often realize that joint consumption choices considerably affect their relationships with co-consumers, which in turn affect their choices (Dzhogleva and Lamberton 2014; Garcia-Rada, Anik, and Ariely 2019). For example, in the context of close friends, consumers may try to select the option that maximizes joint utility within the relationship (Tu, Shaw, and Fishbach 2016), or in the context of romantic partners, consumers may consider dynamic, long-term effects across the relationship time horizon (Etkin 2016; Hasford, Kidwell, and Lopez-Kidwell 2018; Su, Fern, and Ye 2003).

In all of this prior literature, successfully arriving at a satisfactory joint decision requires knowledge of the other party's preferences, so that one can balance them with one's own preferences. Thus, an essential first step toward a successful joint decision is to understand the preferences of the other party. Much of the empirical work in this area has examined either contexts where two people are already aware of each other's preferences, such as in very close relationships (Spiro 1983; Su et al. 2003; Park 1982), or where the other party's preferences are externally imposed by the researcher's or a confederate's explicit communications of preference (Dzhogleva and Lamberton 2014; Raghunathan and Corfman 2006). Indeed, it is often assumed in this research stream that all parties in a joint decision will initially exchange information about their individual preferences (Aribarg et al. 2002; Simpson et al. 2012).

However, there are certainly situations where consumers do not communicate their individual preferences in the initial stages of joint decision making. In fact, consumers often desire to *not communicate* their individual preference. One simple yet

extremely prevalent communication strategy in this context is stating that one has no preference. Despite its prevalent use, no preference communication remains understudied (for an exception, see Liu and Min 2020). The current paper takes a first step in understanding the impact of expressing no preference in joint decisions on the recipient's decision difficulty and downstream consequences on choice outcomes.

Communicating No Preference

As indicated earlier, consumers making a joint decision often have different preferences. Misalignment in preferences invokes conflict, for which involved parties need to go through an effortful resolution process. Indeed, for higher-involvement joint decisions, such as purchasing expensive durable goods, consumers would want to clearly communicate their preferences so as to facilitate an elaborated discussion to resolve differences and reach a satisfactory decision (e.g., Corfman and Lehmann 1987; Qualls 1987; Park 1982).

However, given that many joint decisions involve lower-involvement product categories than buying a home or a car, it is reasonable to assume that the parties involved would prefer to avoid conflict and ease the process on each other as much as possible, while also maintaining a positive social exchange. Disclosing information about one's preferences introduces additional constraints and potentially reveals dissimilarities between the parties involved (Corfman and Lehman 1987; Park 1982; Norton, Frost, and Ariely 2007). Thus, one intuitive way of avoiding potential disagreements from preference mismatch is to simply state having no particular preference among the available options. From the communicator's perspective, such a statement should

alleviate the complexity, reduce the effort in choice, and allow the recipient to choose according to his or her own preferences. In other words, when one communicates having no preference, the joint decision should become a function of the other party's preferences (Keeney and Kirkwood 1975), transforming the decision to the simpler individual decision making process (Simpson et al. 2012). Making the decision process easier may be especially appealing for consumers in mundane day-to-day decisions (e.g., choosing a restaurant or picking which coffee to bring back to the office), where a small increase in consumption utility may not be as important as avoiding potential conflicts.

Although we focus on the impact of no preference communication on the recipient, we note that besides trying to make the decision easier for themselves and recipients, consumers may have a myriad of different internal motives for communicating no preference. In some instances, a consumer may truly feel indifferent between various options as they seem similar or offer equal consumption utility. In other cases, while consumers may prefer one option, they may still wish to make a positive impression on the other party by relinquishing control and seeming to be accommodating (Weaver and Hamby 2019; Kardas, Shaw, and Caruso 2018). Consumers may also wish to delegate a decision to the other party because they feel like they have lower levels of expertise or personal involvement (Forsythe, Butler, and Schaefer 1990; Solomon 1987) or because they wish to avoid the burden of responsibility associated with making a decision or feeling at fault if the choice is suboptimal (Steffel and Williams 2017; Stern, Solomon, and Stinerock 1992). While we are agnostic to the underlying motives of the communicator, as it is out of the scope of the current research, we find and discuss preliminary evidence of the varying effects of certain no preference expressions that

deliver lower versus higher levels of delegation (see the follow-up study to study 2), and the impact of no preference communication on various social perceptions (see study 1). Importantly, regardless of the communicator's reason for expressing no preference, we propose that this communication creates a discrepancy where, contrary to what the communicator predicts, it actually makes the decision more difficult for the recipient.

THE CURRENT RESEARCH: PERCEPTION OF HIDDEN PREFERENCES

If the recipient takes at face value the communicator's message of having no particular preference, the decision process should converge to an individual decision making process, in which the recipient decides solely based on his or her own individual preferences (Keeney and Kirkwood 1975), on behalf of the dyad (or group). This reasoning is likely the one the communicator makes when predicting that stating no preference should ease the decision process for the recipient. However, we argue that the recipient does not take the communication of no preference at face value and instead questions the authenticity of the message. Namely, the recipient believes that the communicator actually has preferences that they are hiding. Why would such perceptions of hidden preference arise to begin with, and why would it result in greater choice difficulty?

In general, individuals hold a belief that others have relatively well-established preference structure (e.g., Norton, Lamberton, and Naylor 2013; Ross, Greene, and House 1977; Weaver and Hamby 2019; Yeomans 2019). This is true especially in the case of mundane everyday decisions, such as which snack to eat, that do not require

expertise and that consumers have experienced repeatedly in the past. Therefore, recipients may have an immediate inclination to believe that the communicator must have a preference. We theorize that this belief in the existence of a preference for the communicator, coupled with salient social motivations for the communicator to hide their preference, strengthens perceptions of hidden preference. When ulterior social motivations are salient, people often disbelieve a person's messages (Grant and Hoffman 2011). In the case of joint decisions, especially for decisions made with friends and family that we investigate in the current paper, the motivation to communicate an image of generosity and flexibility, even at the cost of foregoing one's immediate consumption utility (e.g., Kardas et al. 2018; Whitener et al. 1998), may be easily accessible to the recipient. Indeed, we find in a study with 327 participants from Amazon Mechanical Turk ("MTurk"), where respondents were asked to recall a time that they received or communicated no preference expression when making a joint decision, recipients were significantly more likely to attribute it to the communicator's impression management motivations (e.g., "To be polite", "They didn't want to offend me"), than what the communicators actually reported (24.1% vs. 7.8%; $\chi^2(1) = 16.52, p < .001$; see Appendix P for the full study results). Thus, recipients of no preference communication in a joint decision may be inclined to not believe that the communicator feels truly indifferent among the available options. Instead, they would perceive that the communicator does have at least slight preferences for one option over others, but is not revealing them.

As alluded to earlier, given the social nature of the joint decisions we investigate in this research, recipients making joint consumption decisions are motivated to

maximize the group's utility (Liu et al. 2019). However, without specific indication for what communicators actually prefer, or at least an authentic signal for true indifference between the options, recipients will find it difficult to estimate and predict the group's overall utility from each option. We argue that this perception of hidden preference will trigger *greater decision difficulty* for consumers who receive a no preference communication, compared to those who receive an explicit preference communication.

Notably, the recipient may believe that the communicator is hiding their preferences, even when they believe that the communicator is withholding information for good reasons (e.g., suspicion about others planning one a surprise party, belief that others are trying to ease the delivery of bad news, etc.). In fact, according to our theory, recipients may be even more likely to suspect hidden preferences when they think that the communicator is trying to be nice by expressing having no preference. While these processes lead to increased difficulty for the recipient of the no preference message, we predict that such hidden preference perception and increased difficulty will not be expected by communicators. As people often judge their own behavior differently from how they judge others' (e.g., Pronin 2008; Keysar and Henly 2002), communicators will anticipate their good intentions to translate into positive consequences for the recipient. Thus, the communication of having no preference will result in asymmetric perceptions and consequences.

When recipients believe that the communicator's preferences in a joint decision *do* exist, but have been communicated otherwise, they are left missing a critical component that directly impacts the recipient's ability to make the final decision. Nonetheless, as the joint decision transforms into a decision made by the recipient on

behalf of the dyad (or group), the recipient is left to go through a guessing game to arrive at a final decision. In this situation, we theorize that the recipients will guess that the communicator's true preferences are dissimilar to their own preferences. To make this prediction, we build on previous literature on suspicious mindsets and person perception. In general, when people believe that another person is hiding something, it activates a suspicious mindset, in which they often engage in more active and deliberate thought processes to infer the other person's true attitudes and opinions (Fein and Hilton 1994; Hilton, Fein, and Miller 1993; Gershoff and Johar 2006; Kenny and Acitelli 2001). Importantly, such suspicious thought processes tend to promote counterfactual thinking (DePaulo et al. 1996), where people construe that the other person's dispositions are opposite their own (Kruglanski 1989) or consider the alternative of what the other person communicates (Schul, Mayo, and Burnstein 2004). Similarly, Weaver and Hamby (2019) illustrate that when others involved in a conversation remain silent, people infer that others favor the opposite position to one's own. It may be that recipients overly adjust from their own preference (Sul sans Wan 1987), when perception of hidden preferences is activated, inferring that the communicator's true preferences are very different from their own.

It is important to note that inferences of dissimilar preference arise from the communication of no preference in a situation that was intended to be a joint decision, and that this prediction is distinct from situations where consumers make a decision purely by themselves for a dyad (or a group). For example, when planning a surprise weekend trip for a spouse, a consumer may fall to false consensus bias (Ross, Greene,

and House 1977) and infer that the spouse’s preference for trip activities is similar to his own (Gorlin and Dhar 2012).

Building on this line of reasoning, we predict that no preference communication will incur consequences on the final decision (i.e., choice outcome). Specifically, we predict that as a result of inferring that the communicator’s hidden preferences are actually dissimilar from their own, recipients of no preference communication will choose a personally less preferred option for the joint consumption. That is, they will choose an option as if they are compromising with another person who has an incongruent preference. We depict the full theoretical model in Figure 11. Moreover, we propose that this sub-optimal choice of the recipient is not anticipated by the communicator, who expects that no preference communication will allow their utility function to be ignored from the equation and make the decision easier for the recipient. In our empirical studies, we provide conservative tests of these choice outcomes by comparing the choices that recipients make after receiving a no preference communication, with recipients who received explicit communications of a completely congruent preference (i.e., identical preference) and a completely incongruent preference (i.e., opposite preference).

Insert Figure 11 about here

In a series of seven studies, we demonstrate that communicating no preference (rather than explicitly communicating one’s preference) has negative consequences on the recipient. In an incentive-compatible joint consumption decision, study 1 demonstrates that no preference communication increases decision difficulty for the

recipient. Study 2 shows that communicators do not anticipate this negative impact on decision difficulty, and shows that the effects are driven by the perception that the communicator is hiding their true preference. Further, we conduct a follow-up study to provide ecological validity; we use five different phrases that are commonly used to express no preference and generalize the effects on decision difficulty. In study 3, we directly test the underlying process of hidden preference, by testing if the effects on choice difficulty are attenuated when recipients believe that the communicators are truly not hiding preferences. Building on these findings, study 4a unveils what recipients believe to be the communicator's true preferences, when they perceive hidden preferences. We show that no preference communicators are perceived to have true preferences that are dissimilar to the recipient's own preferences. As a result, study 4b demonstrates that for an incentive-compatible joint decision, recipients of no preference communication choose sub-optimal options. Furthermore, echoing the results from study 2, a follow-up study shows that communicators do not anticipate this negative impact on choice. In study 5, we use another incentive-compatible joint decision to demonstrate the full process, where hidden preference perception and decision difficulty serially mediates the impact of no preference expression on choice as well as other consequences of consumption utility, such as enjoyment. Finally, in study 6, we demonstrate a boundary condition of recipient's own preference strength.

STUDY 1: EXPRESSING NO PREFERENCE IN A REAL JOINT DECISION

Study 1 tests the basic hypothesis that expressing no preference makes the decision feel more difficult for the recipient, compared to what the communicator anticipates, in an incentive-compatible joint consumption situation. Participants were asked to choose a snack to consume together with a task partner, after hearing that their task partner has no preference (vs. after the task partner explicitly communicated their preference).

Design, Procedure, and Measures

A total of 120 students at a large North American university ($M_{\text{age}} = 20.63$, 59.5% female) participated in the study for course credit. First, all participants were assigned to a partner (i.e., a participant sitting next to them) and worked together on a task intended to familiarize themselves with each other. Specifically, they were instructed to pull their chairs closer together with their assigned partner, and to freely engage in a conversation using an abridged version of the relationship closeness induction task (Sedikides et al. 1999; see Appendix A) for three minutes. Next, they returned to their individual computer stations to start the next task, which was the focal part of our study.

At this point, participants were told that they will be sharing a snack and tasting it with their partner. All participants were assigned to the “recipient” role and were led to believe that their partner was assigned to the “communicator” role. Specifically, they were told: “Your partner has been assigned the role of communicating to you about their preference, before you tell the lab manager. You have been assigned the role of telling the lab managers which one snack you two will share.” Participants learned that they would have to choose one snack to consume together from a selection of four different

snacks of similar sizes: KitKat, M&Ms, Welch's fruit snacks, and Biscoff (see Appendix Q for the stimuli).

Prior to choosing a snack to share, participants were randomly assigned to one of two preference communication conditions. Those assigned to the *no preference* condition read “Your partner communicated to you the following: “I have no preference – it’s your call!””, while participants assigned to the *explicit preference* condition read “Your partner communicated to you the following: “I like [KitKats] – but it’s your call!””. The specific name of the snack that appeared in the *explicit preference* condition was counterbalanced evenly across the four available snacks.

As our main dependent variable, we measured participants’ difficulty in making the joint decision by asking them to rate “To what extent did you feel that your task partner was making it easier for you to decide?” (on a 7-point scale; 1 = “more easy”, 7 = “more difficult”). We also measured social perceptions of the communicator by asking participants to rate how much they liked their partner on a 7-point scale (1 = “not like at all”, 7 = “like a lot”)¹⁰. Then, we measured perceptions of delegation by asking participants “To what extent did your partner delegate the snack decision?” (on a 7-point scale; 1 = “not at all”, 7 = “to a great extent”). Next, as a manipulation check of preference communication, participants rated “To what extent did your partner explicitly express his or her snack preference?” (on a 7-point scale; 1 = “not at all”, 7 = “to a great extent”). Once all participants completed the measures, participants were told that the lab

¹⁰ A one-way ANOVA revealed a significant effect of preference communication on liking of the communicator ($F(1,119) = 7.84, p = .006, \eta^2 = .062$). Specifically, recipients liked communicators who expressed no preference less ($M = 4.87, SD = .91$) than those expressing an explicit preference ($M = 5.39, SD = 1.10$).

had a larger supply of candy than anticipated, so that each person could receive one candy, rather than splitting one. After the task partners consumed the candy together, they were debriefed and thanked.

Results

Manipulation check. A one-way ANOVA revealed a significant effect of preference communication on our manipulation check item ($F(1,119) = 75.29, p < .001, \eta_p^2 = .390$). Participants indeed noticed that their partner explicitly expressed their snack preference more in the *explicit preference* condition ($M = 5.33, SD = 1.57$) compared to the *no preference* condition ($M = 2.51, SD = 1.95$).

Decision difficulty. Supporting our predictions, a one-way ANOVA revealed a significant effect of preference communication on decision difficulty ($F(1,119) = 5.15, p = .025, \eta_p^2 = .042$). Recipients who received a no preference communication experienced significantly greater difficulty making their decision ($M = 3.49, SD = 1.82$) compared to recipients who received an explicit preference communication ($M = 2.74, SD = 1.82$).

Discussion

Study 1 demonstrates the proposed negative impact of no preference communication in joint decisions – recipients feel greater decision difficulty after hearing that the communicator has no preference, than when the communicator explicitly states their preference.

Additionally, the results of study 1 did not reveal differences in the extent to which recipients felt that communicators were delegating the decision to them (M_{no}

$M_{preference} = 4.32$, $SD = 2.26$ vs. $M_{explicit\ preference} = 4.60$, $SD = 1.79$; $F(1,119) = .56$, $p = .458$, $\eta_p^2 = .005$), and it did not mediate the proposed effect of preference communication on decision difficulty (95% CI:[-.146, .052]). While delegation and no preference expression share a similar outcome of handing over the power to make the final decision to another person, delegation can come with explicit disclosures of a consumer's preferences and has mainly been examined in individual decision-making contexts. For instance, when a consumer feels overwhelmed by a variety of different tea flavors, she can inform the salesperson what she likes and ask the salesperson to recommend one flavor to purchase (Steffel and Williams 2017). In the current research, we investigate the impact of no preference (vs. explicit preference) communication, above and beyond the impact of delegation, on joint decision making processes.

STUDY 2: NO PREFERENCE VERSUS EXPLICIT PREFERENCE COMMUNICATION

Our theory is that when a communicator expresses having no preference (vs. explicitly expresses their preference), recipients feel greater decision difficulty because they believe that the communicator must actually have preferences that they are hiding, even when they express having none (i.e., hidden preference account). But do communicators anticipate this negative effect of no preference expression? Study 2 extends study 1 by comparing the recipient's experience with the communicator's expectations. Study 2 also measures participants' perceptions that communicator actually has preferences to demonstrate mediational evidence that the hidden preference account drives decision difficulty.

Design, Procedure, and Measures

We recruited 584 participants on MTurk ($M_{age} = 38.20$, 45.0% female).

Participants were asked to imagine jointly deciding which restaurant to go to for dinner with a friend. This study employed a 2 (preference communication: *no preference* vs. *explicit preference*) \times 2 (perspective: *recipient* vs. *communicator*) between-subjects design. We manipulated perspective by asking participants to imagine their friend telling them about their preference (*recipient* condition) or imagine them telling their friend about their own preference (*communicator* condition).

Depending on their assigned perspective (*recipient* vs. *communicator*), participants assigned to the *no preference* condition read “imagine that your friend told you [you told your friend] that they [you] do not have a specific preference for one option over others.” Conversely, those assigned to the *explicit preference* condition read “imagine that your friend told you [you told your friend] that they [you] have a specific preference for one option over others.”

As our main dependent variable, we measured (actual or expected) decision difficulty using three items. Specifically, in addition to the same item used in study 1 (“To what extent do you feel they [you] were making it easier for you [the other person] to decide?”), participants also answered two new items, including “How much more effort do you think you [the other person] would need to put into making this decision?” and “To what extent do you feel they [you] were making it easier versus more difficult for you [the other person] to decide?”. Each response was on a 1 to 7 scale ranging from “A great deal easier” to “Not at all easier”, “No more effort” to “A lot more effort”, and

“A great deal easier” to “A great deal more difficult”, respectively. These three items loaded together on one factor and were averaged to form the decision difficulty dependent variable ($\alpha = .88$). Next, we measured the perception of communicator’s true preference by having participants rate, “To what extent do you think your friend will [will you] believe that you [your friend] actually prefer(s) one option over the other?” (on a 7-point scale; 1 = “not at all”, 7 = “a great deal”).

Results

Difficulty in making the decision. As predicted, a 2 (preference communication) \times 2 (perspective) ANOVA revealed a significant interaction between perspective and preference communication ($F(3,580) = 10.18, p = .001, \eta_p^2 = .017$). Specifically, replicating study 1, among the recipients, no preference expression led to significantly greater decision difficulty ($M = 4.47, SD = 1.61$) compared to explicit preference expression ($M = 3.45, SD = 1.74; F(1,580) = 38.87, p < .001, \eta_p^2 = .047$). However, communicators did not expect a difference in decision difficulty as a function of their preference communication ($M_{explicit\ preference} = 3.84, SD = 1.55$ vs. $M_{no\ preference} = 4.00, SD = 1.59; F(1,580) = .69, p = .408$). Looked at another way, no preference communication created a discrepancy between perspectives; it made the decision significantly more difficult for the recipient ($M = 4.47, SD = 1.61$) compared to what the communicator anticipated ($M = 4.00, SD = 1.59; F(1,580) = 5.99, p = .015, \eta_p^2 = .010$). Importantly, however, when the communicator explicitly expressed their preference, this discrepancy in decision difficulty reversed, such that recipients actually found that it made the decision easier ($M = 3.45, SD = 1.74$) than the communicators expected ($M = 3.84, SD =$

1.55; $F(1,580) = 4.26, p = .040, \eta_p^2 = .007$). In addition, a significant main effect of preference communication emerged, such that explicit preference communication led to lower anticipated and actual decision difficulty for the recipient and the communicator ($M = 3.65, SD = 1.66$) compared to communication of no preference ($M = 4.24, SD = 1.62; F(3,580) = 19.08, p < .001, \eta_p^2 = .032$), but there was no significant main effect of perspective on decision difficulty ($p = .777$). Figure 12a displays these results.

Perception of communicator's true preference. A similar 2-way ANOVA on perception of communicator's true preference revealed a marginally significant interaction between preference communication and perspective ($F(3,580) = 3.15, p = .077, \eta_p^2 = .005$). Importantly, in the *no preference* condition, recipients thought that the communicators actually had a preference ($M = 4.57, SD = 1.58$) significantly more than what communicators anticipated ($M = 4.17, SD = 1.68; F(1,580) = 6.00, p = .015, \eta_p^2 = .010$). However, in the *explicit preference* condition, this difference was eliminated ($M_{recipient} = 5.80, SD = 1.10$ vs. $M_{communicator} = 5.81, SD = 1.03; F(1,580) = .00, p = .959$). In addition, a significant main effect of preference communication emerged ($F(3,580) = 158.78, p < .001, \eta_p^2 = .215$), such that explicit communication of preference led to greater belief that the communicator actually has a preference ($M = 5.80, SD = 1.06$) than no preference communication ($M = 4.37, SD = 1.64$). A marginally significant main effect of perspective also emerged ($F(3,580) = 2.90, p = .089, \eta_p^2 = .005$), such that recipients believed communicator actually had preferences ($M = 5.19, SD = 1.49$) more than communicators expected ($M = 4.99, SD = 1.61$). Figure 12b displays these results.

Insert Figures 12a and 12b about here

Moderated Mediation analysis. Next, we ran a moderated mediation analysis using bootstrap procedure to test the process by which no preference communication affects decision difficulty. Specifically, we predicted that even when no preference is communicated, recipients infer that the communicator's preferences actually exist, which would increase recipients' difficulty in making the decision compared to what communicators expect. However, when one's preference is explicitly communicated, this process would not occur, as the recipients would know exactly what the communicator prefers. Our moderated mediation model (Model 8, Hayes 2017) included preference communication as the independent variable, perspective as the moderator variable, perception of communicator's true preference as the mediator variable, and decision difficulty as the dependent measure. Consistent with our theorizing, we find a significant indirect effect for the *no preference* condition ($b=-.11$; $SE=.06$; 95% CI: $[-.242, -.007]$), but not for the *explicit preference* condition ($b=.00$; $SE=.04$; 95% CI: $[-.071, .075]$).

Discussion

Study 2 replicates the findings from study 1, that no preference communication makes the decision more difficult for recipients in a joint decision, compared to when the communicator explicitly communicates their preference. Moreover, the results reveal that interestingly, communicators do not anticipate the negative impact of no preference communication, nor the positive impact of explicit preference communication. While expressing no preference made the decision more difficult for the recipients than communicators anticipated, explicitly expressing one's preference made the decision easier for the recipients than communicators anticipated.

One limitation of study 2 is that we employed a rather abstract manipulation of no preference (vs. explicit preference) communication by instructing participants to imagine that their friend said they do not have (vs. do have) a specific preference. To increase ecological validity, in a follow-up study, we used a set of five different phrases that were found in a pretest to be frequently used as ways to express having no preference (e.g., “I don’t care”, “I don’t know”, “I’ll go wherever”, “Let’s go where you want”, “You decide”), and tested whether these different phrases also produce the same discrepancy in decision difficulty between the recipient and the communicator. Indeed, the results using five different ways of communicating no preference replicate the results of study 2, such that no preference communication made the decision significantly more difficult for recipients ($M = 4.23$, $SD = 1.97$) than what the communicators anticipate ($M = 3.90$, $SD = 1.92$; ($F(1,725) = 5.42$, $p = .020$, $\eta_p^2 = .008$; for the full study procedure and results, see APPENDIX R).

STUDY 3: THE MODERATING ROLE OF HIDDEN PREFERENCE PERCEPTION

If no preference communication makes the decision more difficult for recipients because they persistently infer that the communicator actually has a specific preference that they are hiding, it follows that when the recipients know for certain that communicators are truthfully indifferent between the options, the observed discrepancy in decision difficulty should attenuate. By the same token, explicitly confirming the recipient’s perception of hidden preference may amplify the discrepancy in decision difficulty. Study 3 precisely tests these predictions.

Design, Procedure, and Measures

We recruited 778 participants from MTurk ($M_{age} = 35.19$, 49.6% female) for this study. Participants were asked to imagine making a joint decision with another person, such as deciding which restaurant to go to, which movie to watch, which food to order, or which gift to buy together for a third party. This study employed a 2 (perspective: *recipient* vs. *communicator*) \times 3 (perception of hidden preferences: *control* vs. *hidden preference confirmed* vs. *hidden preference eliminated*) between-subjects design. As in the previous studies, we manipulated *recipient* versus *communicator* perspectives by asking participants to imagine “hearing that the other person tells you they [telling the other person that you] have no specific preference.”

The second factor we manipulated was the perception that the communicator is hiding their preferences. Participants assigned to the *hidden preference confirmed* condition read that they “suspect the communicator does have a preference,” while those assigned to the *hidden preference eliminated* condition read that they “believe the communicator indeed does not have preferences.” In the *control* condition, participants did not receive additional information. The dependent variable in this study was participants’ ratings of the recipient’s [their] difficulty in making the joint decision. Consistent with the item used in study 1, participants indicated “To what extent do you feel they [you] were making it easier for you [the other person] to decide?” on a 5-point scale (1 = “a great deal”, 5 = “not at all”).

Results

Difficulty in making the joint decision. A 2 (perspective) \times 3 (perception of hidden preferences) ANOVA revealed a significant main effect of perspective: recipients experienced greater difficulty ($M = 3.57$, $SD = 1.22$) than anticipated by communicators ($M = 3.11$, $SD = 1.16$; $F(5,777) = 29.52$, $p < .001$, $\eta_p^2 = .037$). No main effect was found for perception of hidden preferences ($F(5,777) = 1.19$, $p = .304$, $\eta_p^2 = .003$). Importantly, as we predicted, the interaction between perspective and perception of hidden preferences was significant ($F(5,777) = 5.60$, $p = .004$, $\eta_p^2 = .014$; see Figure 13). Replicating the results of the previous studies, in the *control* condition, recipients felt significantly greater decision difficulty ($M = 3.52$, $SD = 1.21$) compared to what communicators anticipated ($M = 3.16$, $SD = 1.09$; $F(1,772) = 6.12$, $p = .014$, $\eta_p^2 = .008$). In the *hidden preference confirmed* condition, the discrepancy was replicated and amplified, such that recipients felt greater decision difficulty ($M = 3.84$, $SD = .995$) compared to what communicators anticipated ($M = 2.99$, $SD = 1.17$; $F(1,772) = 33.03$, $p < .001$, $\eta_p^2 = .041$). However, when recipients were told not to be suspicious of hidden preferences (*hidden preference eliminated* condition), the discrepancy effect was attenuated; the recipients' decision difficulty was significantly reduced ($M = 3.17$, $SD = 1.21$) and not significantly different than what the communicator anticipated ($M = 3.34$, $SD = 1.39$; $F(1,772) = 1.38$, $p = .240$, $\eta_p^2 = .002$).

Insert Figure 13 about here

Discussion

Taken together, the results of study 3 supports the moderating role of the proposed hidden preference account. While the discrepancy in decision difficulty

replicated both in the *control* condition and in the *hidden preference confirmed* condition, it was attenuated in the *hidden preference eliminated* condition. Our findings thus far suggest that expressing no preference (rather than explicitly expressing one's preference) actually increases recipients' decision difficulty due to their belief that communicators are hiding their preferences.

In the next studies, we further examine the downstream consumption consequences of no preference communication. Experiencing decision difficulty is a key predictor that impacts numerous dimensions of consumption utility, including choice outcomes (e.g., Schrift, Netzer, and Kivetz 2011) and satisfaction (e.g., Steffel and Williams 2018). In this paper, we examine how experiencing decision difficulty due to the perception of hidden preferences can impact recipients' consumption utility, both in the decision-making stage (i.e., choice outcomes) and in the post-consumption stage (i.e., enjoyment).

STUDY 4: THE IMPACT ON CHOICE

As previously theorized, one relevant consumption outcome of feeling greater decision difficulty from no preference communication is whether the recipient ends up choosing an option that is aligned with their own preferences. When making an independent decision (i.e., alone), consumers try to maximize their consumption utility and choose in accordance with their own preferences (e.g., Simpson et al. 2012). In joint decisions, however, preferences of both parties can be either congruent or incongruent. When one party communicates their explicit preferences to the other, if they are

congruent with the other party's preferences, the recipient should simply choose the option that is aligned with both parties' preferences and thus will maximize everyone's consumption utility. Conversely, if the parties' preferences are incongruent, they balance the self's and other's preferences, and often more heavily weigh the other party's preferences (Garcia-Rada et al. 2019; Liu et al. 2019).

One might predict that after receiving a no preference communication, recipients will choose their own most preferred option, similar to when choosing independently, and similar to when choosing with a partner whose preferences are congruent with their own. However, based on our theorizing that recipients perceive communicators of no preference to have hidden preferences, we predicted the opposite. That is, recipients will choose an option they prefer *less*, similar to what they would choose following an incongruent-preference communication. Study 4 tests this prediction.

STUDY 4A: DISSIMILAR PREFERENCE PERCEPTION

Building on prior research demonstrating that when people doubt that another person is being truthful, they tend to think that their true dispositions are opposite to one's own (Depaulo et al. 1996; Schul, Mayo, and Burnstein 2004), we predicted that when recipients perceive that the communicator is hiding their preferences (as in the case of no preference communication), they would make the inference that the communicator has a true preference that is dissimilar to the recipients'. Study 4a tested this prediction.

Design, Procedure, and Measures

A total of 161 students at a large North American university ($M_{\text{age}} = 19.83$, 53.9% female) participated in the study. Participants were welcomed to a study about movie preferences and were asked to rank-order five different movie genres (comedy, action, drama, science-fiction, and romance) according to their preferences. After ranking their own preference, all participants were asked to imagine that they are paired with another student to watch a movie clip together. Then, participants were randomly assigned to one of three conditions. In the *no preference* condition, participants read a message ostensibly sent by their partner saying, “I have no preference, it’s your call!”. In the *congruent preference* condition, recipients received a message stating “I like [participant’s highest-ranked option] the best, but it’s your call!”, where [participant’s highest-ranked option] was filled in with the genre the participant indicated earlier to prefer the most. In the *incongruent preference* condition, recipients received a message stating “I like [participant’s lowest-ranked option] the best, but it’s your call!”, where [participant’s lowest-ranked option] was filled in with the participants indicated earlier to prefer the least.

All participants then rated “Do you think the other student’s true movie preferences are similar to your own movie preferences or dissimilar?” (1 = “very similar, 7 = “very dissimilar”).

Results

A one-way ANOVA revealed that a significant omnibus effect of the three communication conditions on the perceived dissimilarity of preferences ($F(2,158) = 91.83, p < .001, \eta_p^2 = .538$). Specifically, participants in the *no preference* condition

thought that the communicator's true preferences would be more dissimilar ($M = 4.17$, $SD = 1.28$) than participants in the *congruent preference* condition ($M = 2.30$, $SD = 1.33$; $F(1,105) = 55.17$, $p < .001$, $\eta_p^2 = .344$). At the same time, participants in the *no preference* condition thought that the communicator's true preferences would be less dissimilar ($M = 4.17$, $SD = 1.28$) compared to participants in the *incongruent preference* condition ($M = 5.78$, $SD = 1.40$; $F(1,105) = 38.46$, $p < .001$, $\eta_p^2 = .268$).

STUDY 4B: CHOICE OF LESS PREFERRED OPTIONS

Building on the results of study 4a, we predict that when recipients hear that the communicator has no preference, they would choose an option that is less preferred, as if they are making a decision to compromise with a communicator who has preferences that are dissimilar to their own.

Design, Procedure, and Measures

A total of 165 students at a large North American university ($M_{\text{age}} = 19.83$, 53.9% female) participated in the main study 4. Consistent with the set-up of study 4a, participants were welcomed to a movie clip viewing study and were asked to rank-order five different movie genres. After ranking the movies but prior to selecting which movie clip to watch, participants were randomly assigned to one of four conditions. In the *control* condition, participants were not told anything about a partner or a communication, and learned that they would watch a movie clip by themselves. The other three conditions were consistent with those employed in study 4a. They learned that they

would watch a movie clip together with a partner and that they would be in charge of selecting which movie clip the two of them would watch. However, before choosing a movie clip, they were allowed to exchange a short message with their partner.

Participants then wrote a brief message to send to their partner. This task was a guise to make it believable that their partner wrote the communication message they would receive on the next page. Thus, all participants in these three conditions took on the role of “recipient” from our previous studies, and we manipulated what the communicator expressed in that message.

In the *no preference* condition, participants read a message ostensibly sent by their partner saying, “I have no preference, it’s your call!” In the *congruent preference* condition, recipients received a message stating “I like [highest-ranked option] the best, but it’s your call!”, where [highest-ranked option] was filled in with the genre they most preferred (based on their earlier rankings). In the *incongruent preference* condition, recipients received a message stating “I like [lowest-ranked option] the best, but it’s your call!”, where [lowest-ranked option] was filled in with the genre they least preferred (based on their earlier rankings).

Our dependent variable in this study was participants’ movie choice and how close or far their choice was from their originally preferred genre. That is, we coded their choice to capture the distance between the genre participants’ chose to watch and their preference rankings. Thus, a choice coded closer to 1 indicates that the participant chose a movie that is closer to their most preferred options, while a choice closer to 5 indicates that the participant chose a movie that is closer to their least preferred options. After choosing which movie to watch with their partner, all participants actually watched that

movie clip and were told that their partner was doing the same (except in the control condition, where there was no reference to a partner).

Results

Movie choice. A one-way ANOVA revealed a significant omnibus effect ($F(3,161) = 18.79, p < .001, \eta_p^2 = .259$). As predicted, participants in the *no preference* condition chose movies that were less preferred ($M = 3.80, SD = 1.29$) compared to participants in the *congruent preference* condition ($M = 2.57, SD = .93; F(1,84) = 24.06, p < .001, \eta_p^2 = .223$) and the *control* condition ($M = 2.56, SD = 1.32; F(1,88) = 19.96, p < .001, \eta_p^2 = .185$). In fact, participants in the *no preference* condition chose movies that were similarly less preferred as those chosen in the *incongruent preference* condition ($M = 4.29, SD = 1.47; F(1,85) = 2.77, p = .100, \eta_p^2 = .032$). Figure 14 displays these results. See Appendix S for the full distributions of movie choices by condition.

Insert Figure 14 about here

Discussion

The results of study 4a and 4b together demonstrate a consumption consequence of no preference communication: Recipients ultimately make sub-optimal decisions for themselves, compared to when they are making an individual decision and when they receive an explicitly congruent preference communication in a joint decision. We find that although participants are told that the communicator has no preference, they believe that the communicators actually have preferences for a genre that they themselves prefer less (i.e., dissimilar preference). As a result, they end up shifting away from their own

most preferred option, rather than choosing an option that would maximize their consumption utility. Paradoxically, no preference expression from the communicator produced similar outcomes as the communication that one has a completely different (i.e., incongruent) preference from those of the recipient.

Follow-up study

One may wonder if communicators are able to anticipate this negative impact on choice outcomes, akin to how communicators were not able to anticipate the negative impact of no preference communication on decision difficulty (study 2). We conducted a follow-up study from the communicator's perspective with different student participants from the same pool as the participants in the main study ($N = 159$; $M_{\text{age}} = 19.80$, 35.2% female). The follow-up study closely followed the scenario from the main study and used the same three conditions (*no preference* vs. *congruent preference* vs. *incongruent preference*; excluding the *control* condition, where the communicator was not a part of the decision-making). Participants were asked to imagine that they sent their partner the same three respective messages of preference expression. Next, participants were asked to predict which movie they think their partner would have chosen ("Which movie do you think they would have chosen?") on the same movie choices that were coded from 1 (closer to recipient's most preferred option) to 5 (closer to recipient's least preferred option). A one-way ANOVA on the predicted movie choice revealed a significant omnibus effect ($F(2,156) = 5.09$, $p = .007$, $\eta_p^2 = .061$). Interestingly, participants in the *no preference* condition predicted that the recipient would choose a movie that the recipient prefers ($M = 2.25$, $SD = 1.59$) similar to what the participants in the *congruent*

preference condition predicted ($M = 2.51$, $SD = 1.68$; $F(1,120) = .41$, $p = .523$, $\eta_p^2 = .223$), suggesting that communicators of no preference do not anticipate the recipient to choose a less preferred option, and supporting our hypothesis. In fact, the results show that no preference communicators anticipate that the recipient will be free to choose their most preferred option. Meanwhile, the *incongruent preference* condition participants correctly predicted that the recipient would choose a less preferred option ($M = 3.54$; $SD = 1.22$), than the *no preference* condition ($F(1,114) = 7.90$, $p = .006$, $\eta_p^2 = .065$).

STUDY 5: SERIAL MEDIATION

Study 5's objective was to test the full theoretical model by testing for statistical serial mediation of hidden preference and choice difficulty on choice outcomes, in a real incentive compatible setting. In addition, we also measure how much participants enjoyed the joint consumption experience, and provide preliminary evidence that beyond decision making outcomes, no preference communication can also impact consumption experiences.

Design, Procedure, and Measures

A total of 531 students at a large university in Israel ($M_{age} = 23.45$, 54.0% female) remotely participated in the study. Participants were welcomed to the study and were asked to rank-order their preference among four different trivia topics (Money/Finance, Entrepreneurs, Politics, and Technology). After rank-ordering the topics, participants were informed that they will be playing a trivia game with another student who will be

their virtual task partner. Specifically, they were told that they will play a trivia game virtually with their partner, by one person taking the first turn and eliminating two wrong answers (out of five options), and then the other person taking the next turn to submit a final answer. Then, participants took a moment to wait while the system ostensibly matched them with another student, and received and sent a message to their task partner to increase realism.

All participants were told that to begin the trivia game, the participant and their task partner can choose one topic to receive a question for. Next, participants received one of three different messages that were ostensibly sent from their task partner. In the *no preference* condition, participants received a message stating “Hey, I don’t have a preference. It’s your call!” In the *congruent preference* condition, participants received a message stating “Hey, I like [highest-ranked option] the best, but it’s your call!”, where [highest-ranked option] was filled in with the topic they most preferred (based on their earlier rankings). In the *incongruent preference* condition, recipients received a message stating “Hey, I like [lowest-ranked option] the best, but it’s your call!”, where [lowest-ranked option] was filled in with the topic they least preferred (based on their earlier rankings).

After receiving a message from their task partner, participants chose one trivia topic to receive a question on. The choice item was set up similar to that of study 4b; we coded participants’ choice to measure the distance between the topic participants ended up choosing and their most preferred topic that they previously indicated. Thus, a choice coded closer to 1 indicates that the participant chose a trivia topic that is their most preferred topic, and a choice closer to 5 indicates that the participant chose a trivia topic

that is their least preferred topic. After choosing a topic to play trivia on, participants actually played one trivia game with their task partner. All participants received the same trivia question (“Who is the richest person in the world, as of 2020?”), to control for the quality of different questions.

After playing the game, participants indicated their enjoyment of the joint consumption experience by rating “How much did you like playing Trivia with your task partner?” (on a 7-point scale; 1 = “not liked at all”, 7 = “liked very much”). Then, participants rated decision difficulty on the same item employed in studies 1 and 3. To measure the perception of hidden preferences, we used two new items that more directly tap into the communicator’s perceived intention to hide their preferences: “Did you think that your task partner was hiding his/her true preferences from you?” (on a 7-point scale; 1 = “s/he was definitely not hiding their true preference”, 7 = “s/he was definitely hiding their true preference”) and “To what extent did you think that your task partner was trying to keep their true preference from you?” (on a 7-point scale; 1 = “s/he was definitely not trying to keep their true preference from me”, 7 = “s/he was definitely trying to keep their true preference from me”). These two items were highly correlated were averaged to form the perception of hidden preference measure ($r = .61, p < .001$).

Results

Choice of trivia topic. A one-way ANOVA on choice revealed a significant omnibus effect ($F(2,528) = 188.93, p < .001, \eta_p^2 = .417$). Participants in the *no preference* condition chose topics that were significantly less preferred ($M = 1.71, SD = .83$) compared to participants in the *congruent preference* condition ($M = 1.32, SD = .60$;

$F(1,352) = 25.59, p < .001, \eta_p^2 = .068$). At the same time, participants in the *no preference* condition chose a topic that is not as less preferred ($M = 1.71, SD = .83$) than those in the *incongruent preference* condition ($M = 2.93, SD = .97; F(1,352) = 162.91, p < .001, \eta_p^2 = .316$), replicating the results from study 4b.

Difficulty in making the joint decision. A one-way ANOVA on choice revealed a significant omnibus effect ($F(2,528) = 11.66, p < .001, \eta_p^2 = .042$). Participants in the *no preference* condition reported feeling significantly greater decision difficulty ($M = 3.43, SD = 1.94$) than participants in the *congruent preference* condition ($M = 2.94, SD = 1.96; F(1,352) = 5.51, p = .019, \eta_p^2 = .015$). At the same time, participants in the *no preference* condition experienced less decision difficulty ($M = 3.43, SD = 1.94$) than those in the *incongruent preference* condition ($M = 3.93, SD = 1.85; F(1,352) = 6.10, p = .014, \eta_p^2 = .017$).

Perception of hidden preference. A one-way ANOVA on choice revealed a significant omnibus effect ($F(2,528) = 32.95, p < .001, \eta_p^2 = .111$). Participants in the *no preference* condition were significantly more likely to believe that the communicator was hiding their preference ($M = 3.26, SD = 1.74$) than both participants in the *congruent preference* condition ($M = 2.08, SD = 1.30; F(1,352) = 51.91, p < .001, \eta_p^2 = .129$) and those in the *incongruent preference* condition ($M = 2.21, SD = 1.42; F(1,352) = 38.98, p < .001, \eta_p^2 = .100$).

Serial Mediation analysis. Next, we ran a serial mediation analysis using bootstrap procedure to test the process by which no preference communication affects the two consumption utility consequences: choice and enjoyment. The first serial mediation model (Model 6, Hayes 2017) included preference communication as the independent

variable, hidden preference as the first mediator, decision difficulty was the second mediator, and choice as the dependent measure. Consistent with our theorizing, we find a significant indirect effect with both mediators sequentially impacting choice ($b = -.01$; $SE = .00$; 95% CI: $[-.023, -.005]$)¹¹.

Enjoyment. A one-way ANOVA on choice revealed a marginally significant omnibus effect ($F(2,528) = 2.89$, $p = .056$, $\eta_p^2 = .011$). Participants in the *no preference* condition enjoyed the trivia game significantly less ($M = 4.17$, $SD = 2.04$) than participants in the *congruent preference* condition ($M = 4.67$, $SD = 1.91$; $F(1,352) = 5.59$, $p = .019$, $\eta_p^2 = .016$). Moreover, participants in the *no preference* condition derived similarly low levels of enjoyment ($M = 4.17$, $SD = 2.04$) as those in the *incongruent preference* condition ($M = 4.35$, $SD = 1.95$; $F(1,352) = .726$, $p = .395$, $\eta_p^2 = .002$).

Discussion

Study 5 replicated the results of study 4b, such that recipients of no preference communication made sub-optimal decisions for themselves compared to an explicit communication of congruent preferences, though those receiving an incongruent preference communication made an even more sub-optimal decision. As predicted, hidden preference perceptions increased decision difficulty, which ultimately led to the recipient's sub-optimal choice. Moreover, the results revealed that no preference communication further impacts the enjoyment that recipients derive from the joint consumption experience of their choice. Strikingly, no preference communication

¹¹ Hidden preference alone did not mediate the effects of preference communication on choice (95% CI: $[-.047, .01]$). Decision difficulty alone significantly mediated the effects of preference communication on choice ($b = .04$; $SE = .01$; 95% CI: $[.014, .066]$).

recipients derived similarly low levels of enjoyment from the joint consumption as those who received incongruent preferences, compared to when they received congruent preference communications. These results provide insight into the robustness of the impacts of no preference communication on joint decision making as well as its consequences on joint consumption experiences.

STUDY 6: BOUNDARY CONDITION: RECIPIENT'S OWN PREFERENCE STRENGTH

Is no preference communication always worse than explicit preference communication? Our theory posits that when no preference is communicated, recipients infer that the communicator actually has a preference that is hidden. While the joint decision situations we examine are relatively low involvement decisions, for which recipients would often have weak or unstable preference toward (e.g., what a consumer wants for dinner can vary on a given day), there may be situations where recipients have strong preferences. We propose a boundary condition, where if the recipient's preference is very strong, their decisions will not become more difficult, if not easier, by hearing that the other person has no preferences, even if they suspect that the communicator has hidden preferences. Study 6 tests this boundary condition.

Design, Procedure, and Measures

We recruited 232 participants on MTurk ($M_{age} = 35.96$, 60.3% female). Participants were asked to imagine jointly deciding which restaurant to go to for dinner with a friend. This study employed a 2 (preference communication: *no preference* vs.

explicit preference) × 2 (recipient's own preference strength: *not strong* vs. *strong*) between-subjects design.

Participants imagined that there are three restaurants nearby, and that the two of them are trying to decide where to go. Then, participants in the *not strong recipient preference* condition were told that they had personally been to the three restaurants and that they liked them similarly. They were instructed to imagine that they personally don't have a strong preference for which restaurant they go to. Meanwhile, participants in the *strong recipient preference* condition were told that they had personally been to the three restaurants and that they like one more than the other two. They were instructed to imagine that they personally have a strong preference for which restaurant they go to. Then, participants assigned to the *no preference* condition read "imagine that your friend told you that they have no preference among the three restaurants." Conversely, those assigned to the *explicit preference* condition read "imagine that your friend told you that they have a preference for one restaurant over the others."

As our main dependent variable, participants rated decision difficulty on the same item employed in studies 1, 3, and 5. To measure the perception of hidden preferences, we used the same two items employed in study 5. These two items were highly correlated and were averaged to form the perception of hidden preference measure ($r = .83, p < .001$). All items were measured on a 7-point Likert scale.

Results

Difficulty in making the decision. As predicted, a 2 (preference communication) × 2 (recipient's own preference strength) ANOVA revealed a significant interaction

between preference communication and recipient's own preference strength ($F(3,228) = 50.80, p < .001, \eta_p^2 = .182$). Specifically, the results revealed that when recipients themselves did not have a strong preference for the joint decision, no preference expression led to significantly greater decision difficulty ($M = 4.05, SD = 2.16$) compared to explicit preference expression ($M = 2.05, SD = 1.56; F(1,228) = 39.82, p < .001, \eta_p^2 = .149$), consistent with the results from previous studies. However, when recipients themselves had a strong preference for the joint decision, no preference expression led to significantly lower decision difficulty ($M_{no\ preference} = 1.88, SD = 1.45$ vs. $M_{explicit\ preference} = 3.09, SD = 1.60; F(1,228) = 14.29, p < .001, \eta_p^2 = .059$). Interestingly, there remained a marginally significant main effect of preference communication, such that overall, no preference communication led to greater decision difficulty ($M = 2.97, SD = 2.13$) compared to explicit preference communication ($M = 2.56, SD = 1.66; F(3,228) = 3.09, p = .08, \eta_p^2 = .013$). In addition, the main effect of recipient's own preference strength was also significant, such that recipients whose own preferences are not strong reported greater decision difficulty ($M = 3.05, SD = 2.12$) compared to recipients whose own preferences are strong ($M = 2.48, SD = 1.64; F(3,228) = 6.40, p = .012, \eta_p^2 = .027$). Figure 15a depicts these results.

Perception of hidden preferences. A similar 2-way ANOVA on perception of hidden preference revealed no significant interaction between preference communication and recipient's own preference strength ($F(3,228) = .39, p = .531, \eta_p^2 = .002$). Importantly, there was a significant main effect of preference communication, such that no preference communication evoked greater perception of hidden preferences ($M = 3.40, SD = 1.70$) compared to explicit preference communication ($M = 2.08, SD = 1.48$;

$F(3,228) = 39.43, p < .001, \eta_p^2 = .147$). In addition, there was no significant main effect of recipient's own preference strength ($F(3,228) = .21, p = .647, \eta_p^2 = .001$). Figure 15b displays these results.

Insert Figures 15a and 15b about here

Moderated Mediation analysis. Next, we ran a moderated mediation analysis using bootstrap procedure to test the process by which no preference communication affects decision difficulty. Specifically, we predicted that while no preference (vs. explicit preference) communication would evoke hidden preference perceptions regardless of recipient's own preference strength, the perception that the communicator is hiding their preference would negatively impact the recipient's decision difficulty only when recipients themselves do not have a strong preference. However, when the recipient has a strong preference themselves, perception of hidden preference will not impact decision difficulty. Our moderated mediation model (Model 14, Hayes 2017) included preference communication as the independent variable, perception of hidden preferences as the mediator variable, recipient's own preference strength as the moderator variable, and decision difficulty as the dependent measure. Consistent with our theorizing, we find a significant indirect effect for the *not strong recipient preference* condition ($b = -1.05$; $SE = .22$; 95% CI: [-1.524, -.648]), but not for the *strong recipient preference* condition ($b = -.25$; $SE = .16$; 95% CI: [-.542, .106]).

GENERAL DISCUSSION

Taken together, seven studies demonstrate that communicating no preference in joint decisions unexpectedly makes the decision feel more difficult for the recipient, and ultimately impacts the recipient to choose a less preferred option. We find that this negative impact of no preference communication is driven by the perception that the recipient perceives hidden preferences of the communicator, even when they express having none. Specifically, we show that no preference communication makes the decision more difficult for the recipient, compared to an explicit preference communication (study 1), and that this impact is not anticipated by the communicator (study 2). Moreover, we find that no preference expression has more negative impacts than one would expect because recipients believe that the communicator must have at least a slight preference that they are hiding (studies 2 and 3). Because the perception of hidden preference leads recipients to infer that the communicator actually has preferences that are incongruent with their own, they end up choosing an option that they personally less prefer (studies 4 and 5) – a consequence that communicators do not anticipate (follow-up to study 4). Finally, we identify a boundary condition for when hidden preference perception impacts decision difficulty: when the recipients themselves have a very strong preference (study 6).

Contributions and Implications

Our findings make several important contributions. First, while prior research on joint decision making mainly focused on how parties resolve preference conflicts to reach a joint decision (e.g., Park 1982; Spiro 1983), it did not examine how those parties came to understand (or misunderstand) each other's preferences to begin with. The current

research contributes to this line of work by focusing on the preceding stage and identifying a common, yet unexplored way that consumers use to express their preferences (or lack thereof) in joint decisions.

Second, our findings illustrate the unexpected negative consequences of no preference communication in joint decisions, on both consumption and social dimensions. Our demonstration of the cost of no preference communication adds to a recent and growing body of literature on the impact of “costless” communications on consumption outcomes. Although mundane verbal expressions (e.g., saying “thank you”) may seem to be unimportant, they can in fact significantly impact interpersonal relationships (e.g., Chaudhry and Loewenstein 2019; Lambert and Fincham 2011; Maio et al. 2008; Park et al. 2019) and create tangible business benefits (e.g., Abeler et al. 2010). We add to this line of work by documenting important negative consequences of a seemingly benign verbal communication in joint decisions.

Finally, the current work contributes to the study of consumer suspicion. In the business literature (e.g., marketing and management), most of the research concerning consumers’ suspicion focused on firm-to-consumer contexts (e.g., Campbell and Kirmani 2000) and salesperson-to-consumer interactions (e.g., DeCarlo 2005; DePaulo and DePaulo 1989). We make a novel contribution to this investigation by examining when messages might not be taken at face value in consumer-to-consumer contexts. To the best of our knowledge, this is the first paper in marketing to examine how suspicion among consumers may impact consumption decisions and subsequent utilities.

From an applied perspective, consumers’ online communications are now more prevalent than ever and can often replace face-to-face social interactions (for a review,

see Godes et al. 2005). While communications that occur in-person could potentially include non-verbal cues (e.g., facial expressions, body language, etc.) that can help alleviate recipients' suspicion, online communication tends to be less informative. Whether through text messages, emails, or social media, consumers' online communications are often short and quick, making it even more difficult for recipients to alleviate their suspicion. Consequently, the online environment may be a particularly important context where consumers may be attuned to interpreting the underlying meaning behind messages from other consumers (Kozinets et al. 2010), and as such, would be important to understand the negative impacts of no preference communication.

Finally, for marketers, much of consumers' day-to-day joint consumption entail low involvement contexts, such as choosing which TV show to watch or picking a snack to share with a co-worker. Given our findings, communicating no preference in such real-life instances may have broad negative consequences for consumption utility, which can hurt evaluations of the consumed product or service. Understanding this potential communication pitfall and its impact could help companies mitigate some of its negative effects. Our findings suggest that marketers should encourage consumers in joint consumption to explicitly communicate their preferences to each other. For example, a TV streaming service can offer friends or family members to share a profile that incorporates both parties' preferences, thus decreasing the likelihood that this discrepancy will manifest itself in the decision of what to watch together.

Future Directions

We demonstrate that no preference communication increases decision difficulty and decreases consumption utility for the recipient because recipients perceive a hidden preference of the communicator. While hidden preference is one mechanism that assumes that the communicator has preferences, there are also joint consumption situations where consumers do not know their own preferences. For example, a consumer may communicate having no preference between restaurants at a new city that they have never visited before. One can imagine that in these contexts, no preference communication might still make the decision difficult for the recipient, because they are seen as shirking their responsibility (e.g., searching and learning about the restaurants; Steffel and Williams 2018). Recipients may anticipate that even though the communicator claims to have no preference, their preferences will be revealed post-consumption, and that they can blame them should they not like the chosen option. Future work could investigate the moderating role of familiarity of the available options and the specific process in which no preference communication impacts decision difficulty in such contexts.

While the current research focuses on choice and consumption-related outcomes of no preference communication, we suspect that no preference communication can engender a myriad of social consequences. For instance, when asked about overall liking of the communicator in study 1, recipients of no preference communication liked the communicator significantly less than those who received an explicit preference communication. These patterns coincide with the results from recent work by Liu and Min (2020), and start to speak to the importance of communications in decision making situations that are social in nature. In another follow-up study, we observe some evidence that a person expressing no preference in a joint decision is also seen as significantly

more annoying ($p = .003$) and less helpful ($p = .001$), than a person explicitly expressing their preference. That being said, our theorizing suggests that communicators of no preference have good intentions, and would understandably be seen as trying to be more kind toward the recipient and putting in effort to avoid social conflicts. Future research could investigate different boundary conditions and moderators that would lead to positive versus negative social outcomes of no preference communication. For example, it is conceivable that when friends know that they will engage in a similar joint consumption again, that no preference communication will be seen as an act of kindness. Alternatively, it may be that in the long run, no preference communication promotes greater relationship closeness.

Our theory is that when recipients perceive hidden preference from no preference communication, it makes the joint decision more difficult. It may be particularly difficult to predict another person's preference for mundane decisions such as choosing which restaurant to eat dinner at, or which TV show to watch, as preferences are less rigid, compared to more significant purchase decisions such as choosing a car to buy. We find that when recipients suspect hidden preference, they erroneously infer that the communicator's true preferences are dissimilar from their own. Future research can further examine the underlying reasons for this inference. One account could be that the mere act of communicating no preference evokes the belief that the communicator may have dissimilar preferences. However, a different account may be that the recipient infers that the communicator knowingly communicates no preference because they are aware of dissimilarities. A question that follows is whether the negative impacts of no preference communication persist for different types of relationships at varying levels of closeness.

For instance, if the second account is true, the negative impact of no preference communication should be stronger for close relationships, such as a spouse, compared to people who are meeting for the first time. In a follow-up study, we directly tested whether relationship closeness moderates the effects. In a 2 (communication: no preference vs. explicit preference) \times 3 (relationship closeness: new person vs. friend vs. spouse) design ($N = 550$), participants took the “recipient” perspective and imagined receiving either a no preference expression or an explicit preference expression from another person with whom they are jointly deciding which restaurant to visit for dinner. The other person was described as either a “someone that you just met for the first time”, a “friend”, or a “spouse”. All participants were asked to rate the decision difficulty they would experience using the same three items used in studies 1b and 4b ($\alpha = .85$). Interestingly, a two-way ANOVA revealed a significant main effect of communication ($F(1,544) = 318.61, p < .001, \eta_p^2 = .369$), and a marginally significant main effect of relationship closeness ($F(2,544) = 2.35, p = .097, \eta_p^2 = .009$), but there was no interaction effect ($F(2,544) = .58, p = .559, \eta_p^2 = .002$). One limitation of this follow-up study is that the options were described rather abstractly. It may be that when recipients are given exact options to choose from, the dyad’s knowledge of each others’ preferences for the available options will become more salient, and relationship closeness could moderate the effects.

It may also be fruitful to examine how individual differences could help identify which consumers may be more prone to communicating no preference and unknowingly cause friction with the recipient. In a dyad (or a group), there are often consumers who are more likely to prioritize maintaining the relationship over maximizing their

consumption experience (Dzhogleva and Lamberton 2014; Lowe et al. 2019; Mead et al. 2011), and thus will be more attuned to the other person's needs (Liu, Dallas, and Fitzsimons 2019; Yang, Chartrand, Fitzsimons 2015). Our theorizing suggests that cooperative consumers might be more likely to express having no preference, aiming to send a signal of their willingness to cooperate. Individual differences such as may also be worthwhile to investigate from the recipients' perspective. For instance, understanding the type of consumers that are more likely to question the authenticity of messages received from other consumers, versus who would be more convinced by the sincerity of no preference expression, would shed more light on how to mitigate the impact of hidden preference perception.

To conclude, our research offers important implications for consumers and managers. Joint consumption is a significant part of consumers' daily purchases (National Endowment for the Arts, Survey of Public Participation in the Arts 2014; US Bureau of Labor Statistics 2017), which speaks to the frequency of situations where no preference communications might be employed by consumers. Contrary to what communicators believe, our results suggest that explicitly expressing one's preference might be the best way to communicate in these contexts, both to increase consumption utility for the recipient and to increase social utility for themselves. There is also an opportunity for managers to preempt these negative outcomes, by facilitating natural and easy ways for consumers to learn about each other's true preferences, both online as well as in retail environments.

FIGURE 11
CONCEPTUAL MODEL

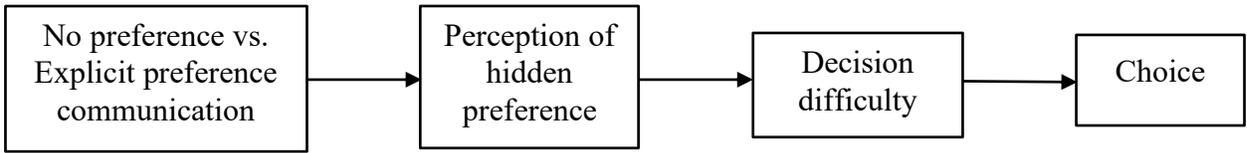


FIGURE 12
RESULTS OF STUDY 2

FIGURE 2A. DECISION DIFFICULTY

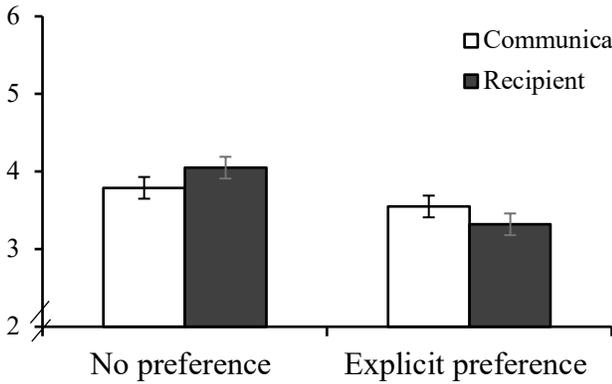


FIGURE 2B. PERCEPTION OF COMMUNICATOR'S TRUE PREFERENCE

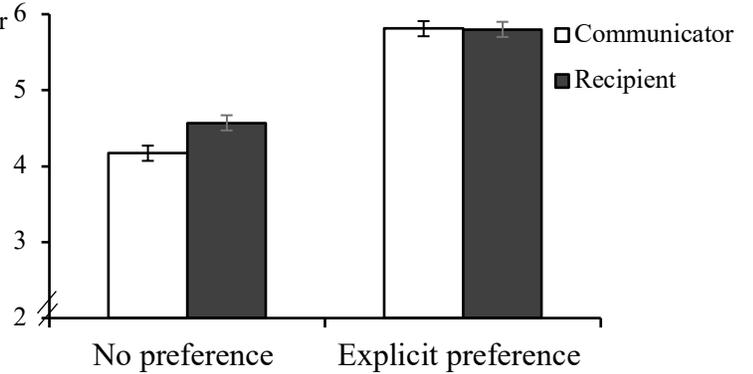


FIGURE 13
DECISION DIFFICULTY (STUDY 3)

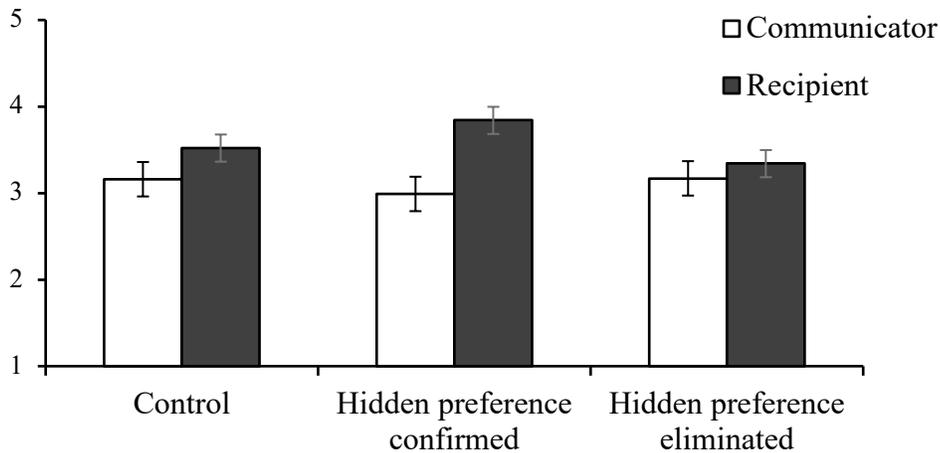


FIGURE 14
 RECIPIENT'S CHOICE (STUDY 4B)

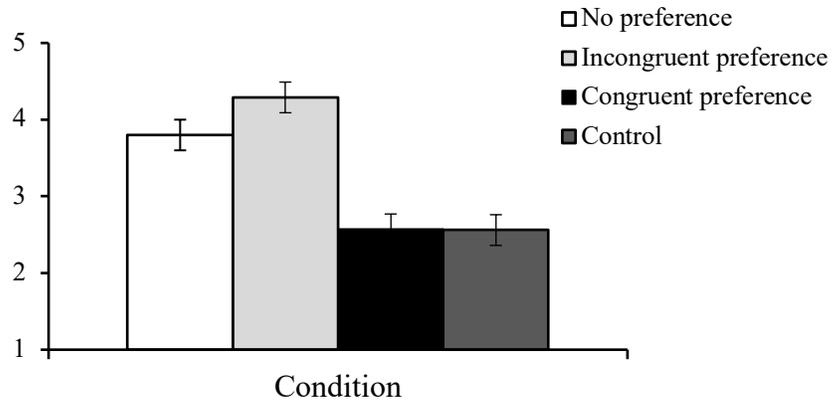


FIGURE 15
 RESULTS OF STUDY 6

FIGURE 5A. DECISION DIFFICULTY

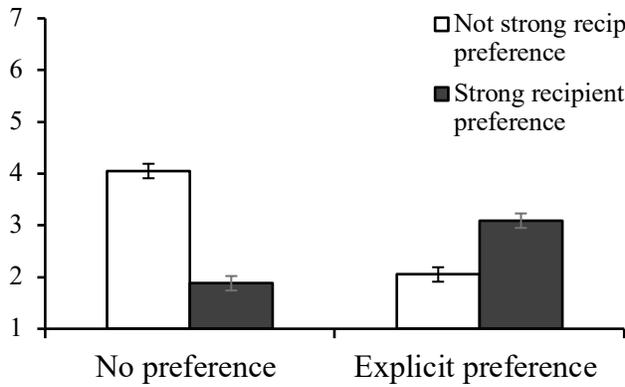
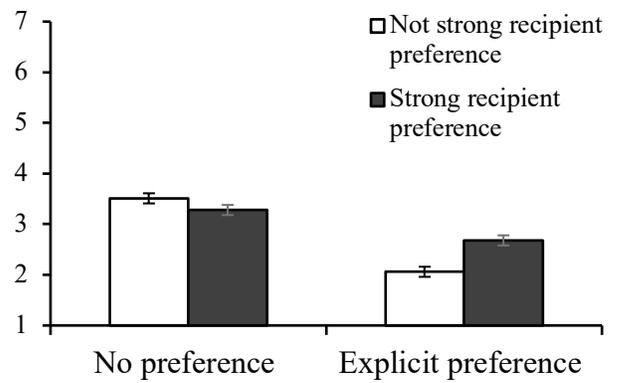


FIGURE 5B. HIDDEN PREFERENCE PERCEPTION



APPENDIX A
COMMUNICATION TASK (ADOPTED FROM SEDIKIDES ET AL. 1999;
IN STUDIES 1 AND 2; Chapter II, STUDY 1; Chapter IV)

LIST I

1. What is your first name?
2. Where are you from?
3. What year are you at UMD?
4. What are your hobbies?
5. What would you like to do after graduating from UMD?

LIST II

1. If you could travel anywhere in the world, where would you go and why?
2. What is one thing happening in your life that makes you stressed out?
3. If you could have one wish granted, what would that be?
4. What is one recent accomplishment that you are proud of?

APPENDIX B
SAMPLE DECISION SLIPS IN STUDY 1 (SIMILAR FORM USED IN STUDY 2;
Chapter II)

Public condition:

Your session letter. ____

Your station number. ____

As a thank you for your participation, we are offering you either a mint chocolate cookie or a granola bar. **We will put whichever you choose into a clear plastic bag and hand it to you now**, before you start the browsing task.

Would you like a mint chocolate cookie or a granola bar?

_____ Mint chocolate cookie _____ Granola bar

Private condition:

Your session letter. ____

Your station number. ____

As a thank you for your participation, we are offering you either a mint chocolate cookie or a granola bar. **We will put whichever you choose into a brown paper bag and hand it to you now**, before you start the browsing task.

Would you like a mint chocolate cookie or a granola bar?

_____ Mint chocolate cookie _____ Granola bar

APPENDIX C
HEDONIC AND UTILITARIAN ITEMS USED IN STUDY 1 (Chapter II)

Heonic item:



Utilitarian item:



APPENDIX D
HEDONIC AND UTILITARIAN ITEMS USED IN STUDY 2 (Chapter II)

Heonic item:



Utilitarian item:



APPENDIX E
ANSWER SHEET DISTRIBUTED IN STUDY 3 (Chapter II)

Which accessories would you wear if you were getting your photo taken at a photobooth? (CHECK AS MANY AS YOU WOULD LIKE TO WEAR)

- | | |
|---|---|
| <input type="checkbox"/> Purple feather boa | <input type="checkbox"/> Crylaugh emoji prop |
| <input type="checkbox"/> Magician's hat | <input type="checkbox"/> Handheld sign "#selfie" |
| <input type="checkbox"/> Blue wig | <input type="checkbox"/> Yellow balloon |
| <input type="checkbox"/> Santa pants | <input type="checkbox"/> A mustache |
| <input type="checkbox"/> A bandana | <input type="checkbox"/> Handheld sign "Party time" |
| <input type="checkbox"/> N/A | |

APPENDIX F
ZOOM VIRTUAL BACKGROUND STIMULI USED IN STUDY 5 (Chapter II)

More Hedonic Background:



Less Hedonic Background:



APPENDIX G BROCHURES FOR COFFEE SHOP (STUDY 1A; Chapter III)

More consumer learning:

Less consumer learning:

VIGILANTE COFFEE

Vigilante is a gourmet coffee bean seller. It specializes in the craft and art of making coffee, and source the best coffee beans in the world. It is considered as one of the most expensive coffee available on the global market today.



Below are some of the selections of beans Vigilante sells, and their flavor notes:

Ethiopia Tchembe - Blueberry, Jasmine, Sweet, Delicate Acidity, Balanced
Nicaragua El Lovo - Maple Syrup, Tangerine, Silky body, Sweet finish
Honduras La Fortuna - Brown Sugar, Dark Chocolate, Currant, Full-bodied

VIGILANTE COFFEE

Vigilante Coffee is a store-brand coffee bean seller. It has its own branch of stores and is considered as one of the most affordable and good-tasting coffee available on the global market today.



Below are some of the selections of beans Vigilante sells:

Light Roast
Medium Roast
Dark Roast

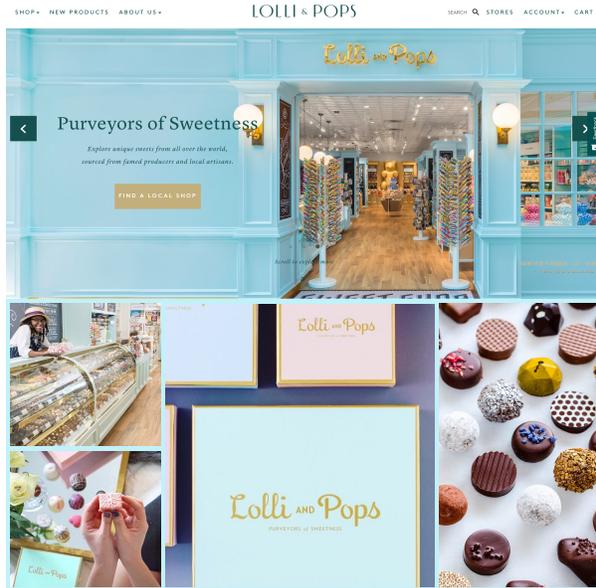
APPENDIX H DESCRIPTION OF VOILA CHOCOLATIER (STUDY 1B; Chapter III)

“Voila Chocolatier is a premium luxury chocolate brand. Its chocolate creations are made with the finest ingredients from around the world. Its intriguing fusion of indigenous spices, flowers, roots, herbs, and liquors with premium chocolate creates a sensory experience that nurtures appreciation for culinary art. Voila Chocolatier has received numerous accolades for its creations, including being awarded Food Artisan of the Year Award by Food & Wine Magazine in 2015, and named one of the 10 best chocolatiers in the world by National Geographic.”

APPENDIX I

LEAFLETS FOR LOLLI AND POPS (STUDY 2; Chapter III)

Lolli AND Pops
PURVEYORS OF SWEETNESS



Lolli AND Pops
PURVEYORS OF SWEETNESS



APPENDIX J
TRUFFLE FLAVOR DESCRIPTIONS AND STUDY SET UP (STUDY 2; Chapter III)



TRUFFLES

OUR SELECTION FOR YOU TODAY

*Out of our finest candied truffles,
we have three flavor selections available for you today.*

LAVENDER CARAMEL

*French lavender, Dark chocolate,
whipped caramel*

VANILLA BEAN

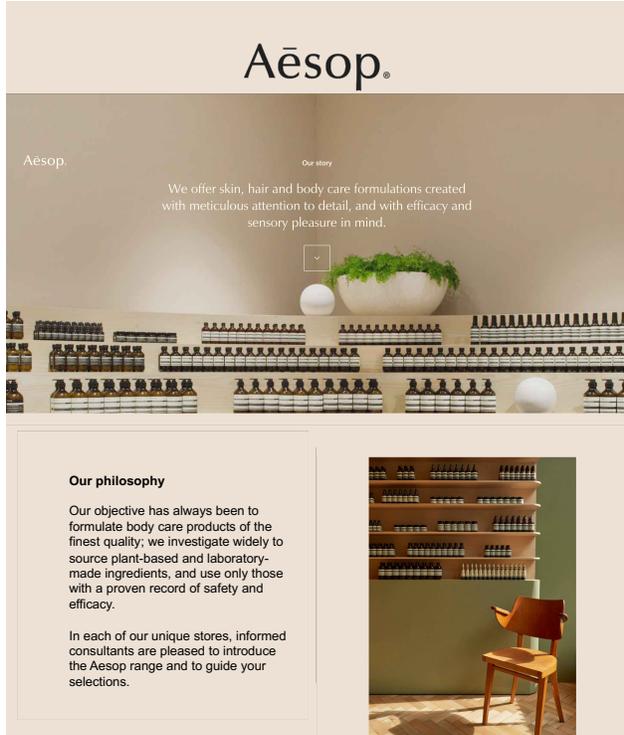
*Caramel infused with
Madagascar vanilla beans*

FRESH LEMON

*White chocolate lemon ganache,
lemon marmalade*



APPENDIX K
DESCRIPTION OF AESOP BRAND AND THREE TYPES OF LOTION (STUDY 3;
Chapter III)



APPENDIX L
CODING METHOD USED IN STUDY 3 (Chapter III)

Dependent Measure Coding Method.

(Similar coding method was used for study 2)

Low choice variety condition: Each participant's choice was coded as either 1 or 0, depending on whether their choice matched customer #23's choice. As the low choice variety condition only consisted of one type of lotion (e.g., 3 trial samples of Rind Concentrate), participant's choice was coded as "1" was when their own choice matched the type of lotion chosen by customer #23 (e.g., Rind Concentrate). In contrast, those who chose a different type of lotion were coded as "0" (e.g., Rejuvenate Intensive or Geranium Leaf).

High choice variety condition: As customer #23 in the high choice variety condition chooses all three type of lotion (e.g., 1 trial sample of each Rind concentrate, Rejuvenate Intensive, and Geranium Leaf), there is not one type of lotion that we can code as "matching" with customer #23's choice. Thus, each participant in the high choice variety condition were pre-assigned one type of lotion using a random number generator. Participants were blind to the type of lotion they were assigned to, and this type of lotion was only used to code participants' choice in the analysis. Specifically, a participant in the high choice variety condition was coded "1" if their chosen lotion matched the pre-assigned type of lotion (e.g., Rind Concentrate), and "0" if they chose a different type of lotion (e.g., Rejuvenate Intensive or Geranium Leaf).

APPENDIX M

FOLLOW-UP WINE STUDY (Chapter III)

Our theory is that people infer greater expertise from low choice variety because it suggests that the consumer has gone through the narrow-down process in the product category, which led to them to choose an option that they prefer. Such expertise in a product category is often defined by one's ability to discern among options (Alba and Hutchinson 1987; Bettman, Luce, and Payne 2008), or in the case of purchasing wine, the ability to know which wine is better. For instance, a consumer with low choice variety (e.g., choose three bottles of Bordeaux) is perceived to have formed a preference for Bordeaux wine, by tasting other types of wine (e.g., Pinot Noir, Sauvignon Blanc) in the past and learning that Bordeaux is their personal best. In contrast, high choice variety signals that one is still in the learning process of trying several wines to gain experience in the product category. Following this line of reasoning, if high choice variety can also convey that the consumer has gone through the narrow-down process, we should see a boost in perceived expertise. This follow-up study directly tests this boundary condition. We argue that if the consumer choosing high variety appears to have chosen the best of each sub-category (e.g., the best Bordeaux wine, the best Pinot Noir wine), observers would also infer that this consumer has gone through the narrow-down process, and thus infer expertise.

Method & Procedure

One hundred and nineteen students ($M_{age} = 23.24$, 43.7% female, 55.5% male, .8% prefer not to answer) at a large North American university participated in the study as part of an introductory business course for credit. The study used a 3 condition (low variety vs. high variety vs. high variety-high quality) between-subjects design.

To provide a context for the choice quality manipulation and to introduce participants to the study, participants were first given a brief description of a real wine magazine, *Wine Enthusiast Magazine*. They were also given an excerpt from the magazine identifying factors such as complexity, intensity, and balance, which are criteria that distinguish good wines from others.

After reading the magazine excerpt, participants were told to imagine a consumer shopping at a high-end French wine store to purchase wine for themselves. They were told that the wine store carried three types of French wine: Bordeaux, Pinot Noir, and Sauvignon Blanc. For each type of wine, the store offered five different brands that were sold at similarly expensive prices. They were then informed that the wine store was currently offering 3 bottles of wine for \$200. Next, participants in the *low choice variety* condition were told that the target consumer purchased "three bottles of Bordeaux." Participants in the *high choice variety* condition were told that the target consumer purchased "one bottle of Bordeaux, one bottle of Pinot Noir, and one bottle of Sauvignon Blanc." Participants in the *high variety-high quality* condition were given additional information about the target consumer's wine choices. Specifically, participants read that, "This consumer bought 3 bottles of wine: one Bordeaux, one Pinot Noir, and one Sauvignon Blanc. All three bottles are brands that are ranked number one for each type of wine based on the three quality criteria by *Wine Enthusiast Magazine*." After reading the

scenario, participants were asked about their impressions of the target consumer in the scenario on the following measures.

Measures

Narrow-Down Inference. Consistent with the three items used in studies 2 and 3 in the main manuscript, participants first indicated their inference of the target consumer's stage in the narrow-down process for the wine product category. They loaded on one factor and were averaged to form a narrow-down inference index ($\alpha = .82$).

Perceived Expertise. Participants then rated the perceived expertise of the target consumer (i.e., "Do you think this consumer is a wine expert?": 1=not at all, 7=to a great extent).

Perceived Status. Next, to measure the social downstream consequences of perceived expertise, participants rated the perceived status of the target consumer on four items (i.e., "To what degree do you think this consumer 1) is superior to others; 2) is powerful; 3) has the power to influence others; and 4) has high status" (1=not at all, 7=very much); items adapted from Fiske et al. 2002; Dreze and Nunes 2009). The four items loaded on one factor and were averaged to form the status perception index ($\alpha = .88$).

Credibility of Magazine. To ensure that participants found the excerpt of the *Wine Enthusiast Magazine* and the magazine itself believable, participants were asked how credible they thought the magazine was (1=not credible at all, 7=very credible). All items were measured using 7-point Likert scales. Finally, after reporting demographic information, the participants were debriefed and thanked for their participation.

Results & Discussion

Credibility of Magazine. A one-sample t-test was conducted on the degree to which participants trusted the wine quality information provided by *Wine Enthusiast Magazine*. Participants reported that they found the information provided by the magazine to be credible ($M = 5.07$ vs. 4; $t(118) = 8.39$, $p < .001$) compared to the mid-point (4).

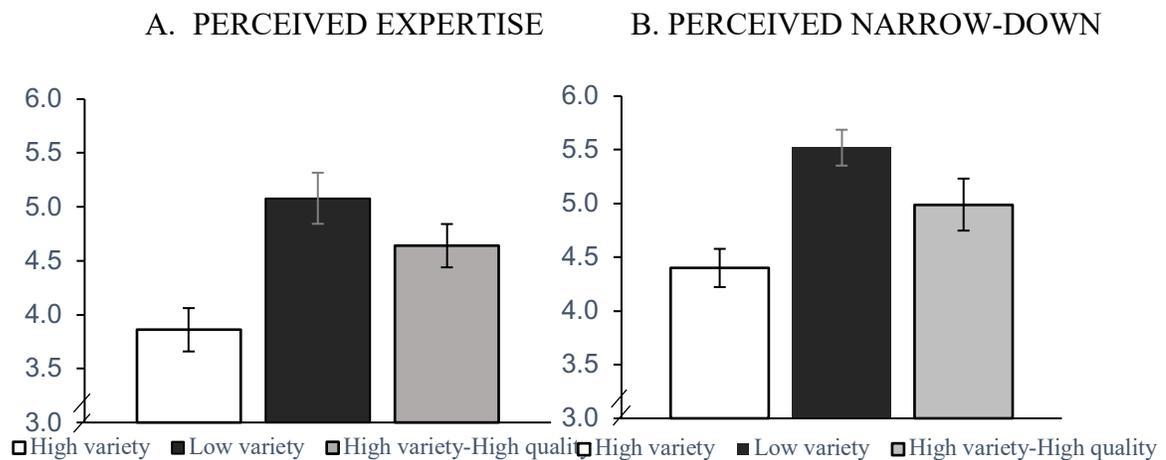
Narrow-Down Inference. As expected, a one-way ANOVA (condition: low variety vs. high variety vs. high variety-high quality) on the narrow-down inference measure revealed a significant main effect of the condition ($F(2,116) = 7.68$, $p = .001$, $\eta_p^2 = .117$). Paired contrast between low vs. high choice variety replicated patterns from our main studies, such that the consumer who chose low variety was perceived as being further along in the narrow-down process compared to the consumer who chose high variety ($M_{\text{low variety}} = 5.52$, $SD = 1.03$ vs. $M_{\text{high variety}} = 4.40$, $SD = 1.48$, $F(1,116) = 15.34$, $p < .001$, $\eta_p^2 = .117$). Importantly, as predicted, compared to the high variety condition, informing participants that high choice variety was comprised of the best options boosted their narrow-down inference ($M_{\text{high variety-high quality}} = 4.99$, $SD = 1.18$ vs. $M_{\text{high variety}} = 4.40$, $SD = 1.48$, $F(1,116) = 4.65$, $p = .033$, $\eta_p^2 = .039$). Finally, there was a marginally significant difference between the low variety and high variety-high quality conditions ($M_{\text{low variety}} = 5.52$, $SD = 1.03$ vs. $M_{\text{high variety-high quality}} = 4.99$, $SD = 1.18$, $F(1,116) = 3.66$, $p = .058$, $\eta_p^2 = .031$).

Perceived Expertise and Mediation. As predicted, the same one-way ANOVA on perceived expertise also revealed a significant main effect of the condition ($F(2,116) =$

6.33, $p = .002$, $\eta_p^2 = .098$). Again, observers thought the consumer who chose low variety had significantly more expertise than the customer who chose high variety ($M_{\text{low variety}} = 5.08$, $SD = 1.46$ vs. $M_{\text{high variety}} = 3.86$, $SD = 1.70$, $F(1,116) = 12.36$, $p = .001$, $\eta_p^2 = .096$; see Figure 4). As predicted, informing participants that high choice variety was comprised of the best options boosted their perceived expertise, compared to observers' natural inferences of high variety with no explicit quality information ($M_{\text{high variety-high quality}} = 4.64$, $SD = 1.33$ vs. $M_{\text{high variety}} = 3.86$, $SD = 1.70$, $F(1,116) = 5.35$, $p = .022$, $\eta_p^2 = .044$).

Finally, there was no significant difference in the perceived expertise between low variety and high variety with high quality information ($M_{\text{low variety}} = 5.08$, $SD = 1.46$ vs. $M_{\text{high variety-high quality}} = 4.64$, $SD = 1.33$, $F(1,116) = 1.79$, $p = .184$, $\eta_p^2 = .015$). Furthermore, supporting our theorizing, such shifts in perceived expertise was significantly mediated by a narrow-down inference (Hayes 2012, Model 4; $b = -.1990$; $SE = .1048$; 95% CI: $[-.4138, -.0029]$). This mediation analysis shows that when observers knew that high variety was comprised of the best options in each sub-category of wine (high variety-high quality), observers inferred that the consumer's high choice variety was also a result of a narrow-down process. Thus, the consumer was seen as much of a wine expert as the consumer who chose low choice variety.

PERCEPTION OF THE CONSUMER



Perceived Status. Our prediction was that because expensive products are more costly to obtain, the perception that a target consumer has accumulated such costly consumption experiences in the past would positively impact status perception. The same one-way ANOVA on perceived status also revealed a significant main effect of the condition ($F(2,116) = 3.10$, $p = .049$, $\eta_p^2 = .098$). As predicted, observers thought that low variety signaled significantly higher status compared to high variety ($M_{\text{low variety}} = 4.59$, $SD = 1.37$ vs. $M_{\text{high variety}} = 3.94$, $SD = 1.29$, $F(1,116) = 4.61$, $p = .034$, $\eta_p^2 = .038$). This pattern replicates the results of perceived status measured in study 1b in the main manuscript (results reported in the Appendix N). Similarly, high variety-high quality also signaled higher status of the consumer compared to high variety ($M_{\text{high variety-high quality}} = 4.59$, $SD = 1.30$ vs. $M_{\text{high variety}} = 3.94$, $SD = 1.29$, $F(1,116) = 4.84$, $p = .030$, $\eta_p^2 = .040$). There was no significant difference of perceived status between low variety and high

variety with high quality information ($M_{\text{low variety}} = 4.59$, $SD = 1.37$ vs. $M_{\text{high variety-high quality}} = 4.59$, $SD = 1.30$, $p = .981$).

Serial Mediation. To examine whether the effects on status perception was indeed driven by perceived expertise which comes from a narrow-down inference, a serial mediation analysis (Hayes 2012, Model 6) was conducted with the narrow-down inference and expertise as the mediating variables. The analysis confirmed that the effects of condition on perceived status were first mediated by the narrow-down inference, which then led to perceived expertise, and finally perceived status ($b = -.1046$; $SE = .0584$; 95% CI: $[-.2409, -.0043]$). Neither the narrow-down inference (95% CI: $[-.1004, .0385]$) nor perceived expertise (95% CI: $[-.1296, .1350]$) mediated the effects alone.

APPENDIX N
FULL RESULTS OF STUDY 1B (Chapter III)

Full Contrasts of Perceived Expertise.

		Consumer learning		
		More learning	Less learning	Contrast
Choice variety	Low choice variety	4.90 (1.13)	4.03 (1.60)	$F(1,270) = 12.611,$ $p < .001$
	High choice variety	4.22 (1.54)	4.04 (1.54)	$F(1,270) = .449,$ $p = .504$
Contrast		$F(1,270) = 7.378,$ $p = .007$	$F(1,270) = .005,$ $p = .945$	

Additional Measure: Perceived Status (not reported in manuscript).

Items: To what degree do you think this consumer 1) is superior to others; 2) is powerful; 3) has the power to influence others; and 4) has high status (1=Not at all, 7=Very much); items adapted from Fiske et al. 2002; Dreze and Nunes 2009. The four items loaded on one factor ($\alpha = .86$).

Results:

Overall interaction: $F(1,270) = 3.577, p = .060, \eta_p^2 = .013$

		Consumer learning		
		More learning	Less learning	Contrast
Choice variety	Low choice variety	4.61 (1.13)	4.26 (1.18)	$F(1,270) = 2.93,$ $p = .088$
	High choice variety	4.11 (1.32)	4.31 (1.21)	$F(1,270) = .96,$ $p = .329$
Contrast		$F(1,270) = 5.84,$ $p = .016$	$F(1,270) = .06,$ $p = .809$	

APPENDIX O
DESCRIPTION OF GELATI & GELATO (STUDY 5; Chapter III)

“Gelati & Gelato is a premium gelato (Italian ice-cream) chain created by two Italian founders Cristiano and Paolo. They have pursued the creation of the highest quality, eye-opening flavor experience using traditional gelato-making techniques handed down to them through generations from their Italian ancestors. Gelati & Gelato is prestigiously known for their high quality gelato using the most natural, fresh ingredients and absolutely no artificial coloring or flavoring.

The founders make sure that each flavor creation is overseen by their Michelin-star chefs, to allow the flavor to reach its full potential and deliver the magic of delightful taste experiences to customers. Gelati & Gelato is known for their delightfully unique combinations of unexpected flavors. The founders’ belief that certain flavors can enhance each other and create a magical experience has led the brand to offer the most unique mixture of natural flavors, so that each flavor could reach its full potential.”

The flavors of gelato and sorbet available at the shop include 10 unique flavors: Avocado & Apple, Banana & Smoked Paprika, Basil & Strawberry, Cotton Candy & Celery, Espresso & Sweet Corn, Grapefruit & Cream Cheese, Matcha & Tangerine, Mint & Gold Kiwi, Pumpkin & Plum, Rice & Cucumber.

APPENDIX P
SUPPLEMENTAL STUDY:
RECALLING PAST USAGE OF NO PREFERENCE EXPRESSIONS (Chapter IV)

This supplemental study had several goals. First, we aimed to demonstrate the effects using consumers' recalled past experiences of real joint decision making. Second, we aimed to use consumers' recollection of these past experiences to gather real-world evidence for our proposed mechanism of hidden preferences. We measured the frequency of instances that consumers recalled having a preference yet communicated that they have none (*communicators*), as well as the frequency of instances consumers recalled being told by others that they have no preference, yet suspected that they actually did (*recipients*). Finally, we explored communicators' stated motives for expressing that they have no preference, and compared them to recipients' stated interpretation of such motives. To demonstrate the prevalence of no preference communication, we also measured the frequency at which consumers receive or communicate no preference expressions in real-life joint decisions.

Design and Procedure

We recruited 327 participants ($M_{age} = 35.26$, 49.5% female) from Amazon Mechanical Turk ("MTurk") in exchange for monetary compensation. Participants were asked to recall a situation where they made a joint consumption decision with another person. Specifically, they were asked to "think about situations in which you and someone you know needed to make a joint decision such as which restaurant to go to, which movie to watch, which food to order, which gift to buy together for a third party, etc." Participants were then randomly assigned to one of two perspective conditions in a between-subjects design and were asked to recall a situation where either the other party (*recipient* condition) or they themselves (*communicator* condition) expressed having no specific preference.

Measures

Recalled frequency of no preference communications. We first measured the frequency with which participants recalled either communicating to others or receiving from others a no preference expression in a joint decision making context (1 = "never", 2 = "sometimes", 3 = "about half of the time", 4 = "most of the time", 5 = "always").

Recalled difficulty in making the joint decision. Participants were then asked to evaluate their [the recipients'] difficulty in making a decision after receiving the communicator's no preference expression. Specifically, *recipients* [*communicators*] were asked "When hearing they [stating you] had no specific preferences, to what extent did you feel they [you] were making it easier for you [the other person] to decide?" on a 5-point scale (1 = "a great deal", 5 = "not at all").

Recalled frequency of suspected (actual) hidden preferences. Next, we measured recipients' belief that the communicator would have actually had a specific preference (although they expressed no preference). Specifically, participants in the *recipient* condition rated "How frequently do you believe that other people mentioned to you having no specific preferences, although they did have at least a slight preference for one option over the others?", on a 7-point scale (1 = "never", 7 = "always"). Conversely, in

the *communicator* condition, participants indicated their recollection of expressing no preferences while actually having a specific preference. Specifically, participants rated “How frequently have you mentioned having no specific preferences although you did have at least a slight preference for one option over the others?”, also on a 7-point scale (1 = “never”, 7 = “always”).

Recalled perceived (actual) reasons for no preference communication. Finally, we explored stated motives for no preference expression. Using an open-ended response, we asked participants in the *recipient* condition to write about reasons they believed others communicated to them that they had no preference. Participants in the *communicator* condition were asked to write about the reasons they had for stating that they had no preference. These written responses were then coded by two research assistants, blind to the hypotheses, into nine categories that convey various reasons for expressing no preference (e.g., impression management; 89.6% agreement; disagreements were resolved through discussion), using a binary scale (0 = absent, 1 = present). We present the full list of coded categories and comparisons below:

Category	Description and examples	% mentioned in Recipient condition	% mentioned in Communicator condition
Recipient’s preferences	If the reason indicated orientation/thoughts about the recipient’s preferences. (e.g., “I didn’t want to lead them a certain direction. I wanted them to choose, because I cared about making them happy.”)	26.5%	36.1%
Recipient’s decision-making process	If the reason indicated orientation/thoughts about the recipient’s decision-making process. (e.g., “I didn’t want someone else to compromise for my satisfaction.”)	7.1%	16.3%
Impression management	If the reason indicated orientation/thoughts about managing the communicator’s impression or how they will be perceived by the recipient. (e.g., “To be polite”)	24.1%	7.8%
Relationship management	If the reason indicated maintaining and/or developing relationships with the recipient. (e.g., “Usually I like to make sure the other person is happy and to avoid conflict.”)	28.8%	20.5%
Communicator’s preferences	If the reason indicated orientation/thoughts about the	69.4%	74.7%

	communicator’s preferences. (e.g., “I really didn’t care”)		
Knowledge and experience	If the reason indicated orientation/thoughts about the knowledge/expertise/skills in making the decision	11.8%	4.8%
Personality trait	If the reason indicated a personality trait	12.9%	25.3%
Other	If the reason did not fall into any of the aforementioned categories	1.2%	3%
Non-informative	If they did not give a specific reason	5.9%	3.6%

Results

Recalled frequency of no preference communications. Most participants indicated that they have encountered no preference expressions, whether as communicators or recipients. More than 60% of participants in both conditions reported communicating or receiving no preference expressions about half of the time they made joint decisions or more (i.e., selected 3 or above on the 5-point scale). Moreover, less than 2% of participants indicated they never communicate or receive no preference expressions (i.e., selected 1 on the scale). No difference was found across conditions ($p = .223$), suggesting that there was no differential recall of this common communication practice for participants in the role of a communicator versus a recipient. The full results are as follows:

Communicators

Always	3.1%
Most of the time	29.6%
About half the time	35.8%
Sometimes	29.6%
Never	1.9%

Recipients

Always	1.8%
Most of the time	23.5%
About half the time	38.6%
Sometimes	36.1%
Never	0.0%

Recalled difficulty in making the joint decision. Supporting our hypothesis, there was a significant discrepancy in decision difficulty between recipients and communicators. Specifically, according to participants’ recollection of their past joint decisions, recipients experienced significantly greater decision difficulty ($M = 3.59$, $SD =$

1.13) than communicators expected recipients would experience ($M = 2.77$, $SD = 1.03$; $t(326) = 6.87$, $p < .001$).

Recalled frequency of suspected (actual) hidden preferences. Supporting our theorizing that no preference makes the decision more difficult because recipients suspect that communicators are hiding their preferences, recipients were more likely to suspect that communicators had hidden preferences ($M = 3.96$, $SD = 1.24$) compared to communicators' reported likelihood of actually hiding their preferences ($M = 3.43$, $SD = 1.20$; $t(326) = -3.95$, $p < .001$). To illustrate, 57.8% of recipients suspected that the communicator actually had preferences half of the time or more (i.e., selected 4 or higher on the scale), while only 39.5% of communicators indicated actually had preferences when they expressed no preference ($\chi^2(1) = 11.02$, $p = .001$).

Recalled perceived (actual) reasons for no preference communication. From the coded results, several distinct and informative patterns emerged. First, communicators indicated that they consider the *recipient's* decision making process when they express no preference, significantly more than the recipients referred to such a motivation (16.3% vs. 7.1%; $\chi^2(1) = 6.93$, $p = .008$). Further, communicators more frequently indicated that they express no preference because they care about the recipient's preferences, while recipients themselves were less inclined to suggest that communicators would be motivated by this (36.1% vs. 26.5%; $\chi^2(1) = 3.66$, $p = .056$). Finally, recipients were significantly more likely to infer ulterior motives of the communicator, for instance, that impression management was driving their no preference expression, compared to what communicators actually reported (24.1% vs. 7.8%; $\chi^2(1) = 16.52$, $p < .001$).

APPENDIX Q
STIMULI USED IN STUDY 1 (Chapter IV)



APPENDIX R

SUPPLEMENTAL STUDY: USING FIVE DIFFERENT PHRASES TO OPERATIONALIZE NO PREFERENCE COMMUNICATION (Chapter IV)

The main objective of this supplemental study was to increase ecological validity of our effects. This study used a set of five different phrases that were found in a pretest to be frequently used as ways to express having no preference.

Pretest

Design and Procedure

A total of 100 individuals ($M_{\text{age}} = 32.34$, 43.0% female) were recruited on MTurk for this study. Participants were asked to recall one situation where they had “difficulties making a joint decision because the other person was not clear about what their preferences were.” Participants were prompted to think about what the other person said that made their preferences unclear and were asked to provide, as much as possible, direct quotes.

Results

Sixty-four participants provided direct quotes that were used often in real joint consumption decisions, and were retained for analysis. Remaining 36 participants indicated descriptions of the situation (e.g., “They did not offer an opinion” or “They were ambiguous”) or behaviors (e.g., “They just mumbled” or “They said nothing”), rather than a verbal quote.

The five phrases that were mentioned most frequently included (numbers in brackets represent the frequency of mention): “I don’t care” (26.6%), “I don’t know” (18.8%), “I’ll go wherever” (7.8%), “Let’s go where you want” (7.8%), and “You decide” (6.3%). These five phrases were employed as stimuli of no preference expressions in the main study 2. Other phrases mentioned include “whatever you want works for me” (3%) and “I don’t mind any of these places” (2%). The other 16 participants that provided direct quotes had more variation, such as answers more specific to their own decision task (e.g., “I had Mexican food yesterday. What else?”).

Main study

Design, Procedure, and Measures

We recruited 726 online participants from MTurk ($M_{\text{age}} = 38.24$, 49.6% female). Similar to the scenario used in study 1a, we asked them to imagine they were getting dinner with a friend and were trying to decide together which restaurant to go to out of three nearby restaurants. Participants were then randomly assigned to one of two perspective conditions: either their friend expressed no preference to them (*recipient* condition) or they expressed no preference to their friend (*communicator* condition) regarding which restaurant to choose. Across the experimental conditions, we also varied the phrase used to express no preference with five different phrases selected from the pretest. Thus, the study consisted of a 2 (perspective: *recipient* vs. *communicator*) \times 5 (no preference phrases: “I don’t care” vs. “I don’t know” vs. “I’ll go wherever” vs. “Let’s go where you want” vs. “You decide”) between-subjects design.

As our main dependent variable, we measured participants' decision difficulty using the same item employed in study 1b. Next, we measured perception of hidden preferences. Participants in the *recipient* condition indicated the extent to which they believed the communicator actually *does* prefer one option over the other, while participants in the *communicator* condition indicated the extent to which they thought the recipient would believe that they actually *do* prefer one option over the other (on a 7-point scale; 1 = "not at all", 7 = "very much"). Accordingly, the higher score on this item indicates greater perception that the communicator is hiding their true preferences when stating that they have no preference.

Results

Difficulty in making the joint decision. A 2 (perspective) \times 5 (phrases of no preference) ANOVA revealed a significant main effect of perspective ($F(1,725) = 5.42, p = .020, \eta_p^2 = .008$). Supporting our main hypothesis and replicating the previous studies, recipients felt that communicators who expressed no preference made the decision significantly more difficult for them ($M = 4.23, SD = 1.97$) than anticipated by communicators ($M = 3.90, SD = 1.92$). There was also a main effect for the different no preference phrases ($F(1,725) = 6.68, p < .001, \eta_p^2 = .036$). Importantly, the interaction between perspective and phrase was not significant ($F(1,725) = .69, p = .599$), indicating that regardless of the specific phrase used by the communicator to express no preference, recipients experienced greater difficulty in making a joint decision compared to the difficulty expected by the communicators.

Perception of hidden preferences. The same 2-way ANOVA on perception of hidden preferences supported our proposed mechanism. There was a significant main effect of perspective ($F(1,725) = 15.89, p < .001, \eta_p^2 = .021$), such that recipients suspected the communicators actually preferred one option over another ($M = 4.02, SD = 1.68$) significantly more than communicators expected ($M = 3.52, SD = 1.73$). There was no significant main effect for the different no preference phrases ($F(1,725) = .64, p = .632$) nor an interaction effect ($F(1,725) = .30, p = .877$) on the perception of hidden preferences.

Mediation analysis. We predicted that the difficulty discrepancy between recipients and communicators would be driven by the extent to which participants suspected hidden preferences. A bootstrap mediation (Model 4, Hayes 2017) confirmed that the difference in decision difficulty across the two conditions was mediated by recipients' perception that the communicator had hidden preferences ($\beta = .05, SE = .03, 95\% CI: [.008, .125]$).

APPENDIX S
BREAKDOWN OF MOVIE CHOICE (STUDY 4B; Chapter IV)

Joint-no preference condition

Movie 1 (most preferred)	10.2%
Movie 2	4.1%
Movie 3	20.4%
Movie 4	26.5%
Movie 5 (least preferred)	38.8%

Joint-explicit incongruence condition

Movie 1 (most preferred)	15.8%
Movie 2	0%
Movie 3	0%
Movie 4	7.9%
Movie 5 (least preferred)	76.3%

Joint-explicit congruence condition

Movie 1 (most preferred)	16.2%
Movie 2	21.6%
Movie 3	54.1%
Movie 4	5.4%
Movie 5 (least preferred)	2.7%

Individual condition

Movie 1 (most preferred)	26.8%
Movie 2	26.8%
Movie 3	19.5%
Movie 4	17.1%
Movie 5 (least preferred)	9.8%

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