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How language abstractness affects service referral persuasiveness

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ABSTRACT

Due to the inherent risk and uncertainty characterizing pre-purchase service evaluation, consumers tend to rely on referrals from other consumers who already have experiences with that service. Thus, companies are eager to stimulate such referrals and improve their effectiveness. To this end, this research investigates how consumers' linguistic framing of service recommendations influences recipients' attitudes and behavioral intentions. Specifically, this study focuses on one key dimension of language—its abstractness (vs. concreteness)—and hypothesizes that the effect of language abstractness on referral persuasiveness depends on recipients' prior knowledge about the service in question. The results of two experiments in the context of financial and medical services demonstrate that abstract language is more effective than concrete language for recipients with high prior knowledge. Moreover, this research shows that recipients' engagement in mental imagery processing is that makes abstract language more effective for those with high prior knowledge. This article ends with a discussion of the study's implications for academic research, social communication and service management, along with its limitations and future research directions.

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1. Introduction

Customer referrals (or recommendations), that is as a form of favorable word-of-mouth (WOM) whereby a customer advises others to purchase a product or service (Helm, 2003; Verhoef et al., 2002; Wheeler, 1987), represent one of the most widespread and influential types of information sharing. Referrals may occur both offline, typically in the form of conversations among family members, friends or work colleagues, and online, often in the form of online reviews written by and for other consumers (e.g., Chevalier and Mayzlin, 2006; Lee and Bradlow, 2011; Moore, 2015). In today's interconnected world, where seven billion devices are connected to the Internet (Babic et al., 2015), 35% of people consult blogs and forums before making purchase decisions (The Boston Consulting Group, 2015). In light of this finding, understanding the conditions in which online referrals become more or less persuasive may be relevant for both companies and consumers.

While customer referrals offer important support in product decision-making, their role is particularly prominent in service settings. Indeed, service experiences entail, on average, higher risk and uncertainty when compared with product experiences (Eiglier and Langeard, 1977; Guseman, 1981; Zeithaml, 1981), due to specific features such as intangibility, pre-purchase evaluation difficulty and

no standardization (e.g., Flipo, 1988; Harrison-Walker, 2001; Murray, 1991; Ostrom and Iacobucci, 1995; Young, 1981). As a consequence, when making their purchase decisions about a service, customers tend to rely on unbiased, non-commercial information that other customers who have prior experience with that service pass on (Bansal and Voyer, 2000; Engel et al., 1995; Lovelock, 1981; Mizerski, 1982; Voyer and Ranaweera, 2015). Indeed, past research suggests that referrals are the most important tool for attracting new customers to services (Murray, 1991; Tax and Chandrashekar, 1992). For instance, 67% of US Internet users find a new physician based on recommendations by their friends, family and co-workers (Voyer and Ranaweera, 2015). Notably, service recommendations strongly impact purchase decisions even when individuals provide them as anonymous online reviews. For instance, in a 2014 survey, ProCusWright, a leading travel market research company, reveals that 75% of travelers today book a hotel after checking TripAdvisor and 53% would avoid booking a hotel that has no reviews.

The service literature contains a number of empirical studies that generally substantiate the importance of customer referrals. Indeed, the bulk of past work focuses on the drivers of service customer referral behavior, such as satisfaction, quality perceptions, trust and loyalty (e.g., De Matos and Rossi, 2008; Garbarino and Johnson, 1999; Verhoef et al., 2002; Zeithaml et al., 1996), as well as on the monetary and economic implications of referral behavior for the service provider (Helm, 2003; Schmitt et al., 2011). However, missing in the extant literature is the study of the effect of referrals on recipients' attitudinal and behavioral responses, with the exception of some studies that consider

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a few factors behind the influence of service referrals on recipients' responses, such as the tie strength between the referral sender and recipient (Bansal and Voyer, 2000; Sweeney et al., 2014; Voyer and Ranaweera, 2015).

To address this gap, the present research examines the role of one previously overlooked factor in how referrals affect recipients' attitudes and behaviors—namely, the type of language consumers use when they recommend services to others. Specifically, this research focuses on a well-known dimension of language—its degree of concreteness/abstractness (e.g., Schellekens et al., 2010, 2012; Semin and Fiedler, 1988)—and examines the conditions under which whether other consumers recommend a service in abstract or concrete language affects service consumers' attitudes and intentions to purchase that service. The present research further proposes that the impact of abstract versus concrete language may crucially depend on a recipient's prior knowledge about the service in question (Bansal and Voyer, 2000). One can define prior knowledge as a set of personal information about the service that a consumer possesses based on work experience, education or other means (Shepherd and DeTienne, 2005).

This research predicts that abstract language will be more persuasive for recipients with a high level of prior knowledge about the service in question. Additionally, this research predicts that what explains the relatively higher persuasiveness of abstract language for consumers with a high level of prior knowledge is the stimulation of mental imagery processing (e.g., Bone and Ellen, 1992) in those consumers. Two experiments using online referrals about two high-risk and complex services—financial advisory and (homeopathic) medical services—as empirical settings test such a proposed effect and underlying mechanism.

Overall, this research offers several contributions. First and foremost, this work contributes to the literature about customer referrals in services by exploring the effect that an under-investigated, message-related factor—namely, the language used by the person recommending the service—has on recipient responses. In this way, this work also bolsters the current knowledge on the dynamics of social communications about services. Second, this research contributes to the literature about language in services by exploring the linguistic frames that service consumers use to address one another. This investigation is in contrast to much past research in services, which focuses on the language used by service providers in their interactions with customers (Holmqvist, 2011; Holmqvist and Grönroos, 2012; Van Vaerenbergh and Holmqvist, 2013, 2014). Third, the present study offers novel insights into the effect of message recipients' prior knowledge on the influence of service referrals—a factor that past research suggests to be non-significant (Bansal and Voyer, 2000). Fourth, this work contributes to research about the role of language abstractness in consumer-to-consumer information sharing, that the work of Schellekens et al. (2010), who similarly study the prevalence and impact of concrete versus abstract language in consumers' WOM messages, quite well represents.

However, the present research is distinct from the work of Schellekens et al. (2010) in five ways. First, this study analyzes a recipient-related factor that moderates the persuasiveness of abstract versus concrete language (recipients' prior knowledge), while Schellekens et al. (2010) analyze a sender-related factor that moderates consumers' tendency to use one or the other type of language (i.e., senders' pre-established product attitude). Second, while Schellekens et al. (2010) conclude that abstract language is more persuasive than concrete language, this study predicts and shows that the persuasiveness of either type depends on recipients' prior knowledge. Third, this study focuses conceptually and empirically on information sharing involving services, while Schellekens et al.'s (2010) experiments test the case of information sharing with regard to tangible products. Fourth, the present research explores the mental processes stimulated in recipients with high prior knowledge when they receive a message that senders deliver in abstract versus concrete

language. Lastly, unlike past work studying service referrals in offline contexts (Bansal and Voyer, 2000; Sweeney et al., 2014; Voyer and Ranaweera, 2015), and unlike Schellekens et al.'s (2010) study, this work focuses on the case of online service referrals, whereby consumers receive comments from an unknown sender recommending a service.

In the following section, the authors briefly review the literatures most relevant to the present research, such as those on service referral behavior, language in services, and language abstractness versus concreteness. Next, the authors develop their conceptual framework and hypotheses. Then, they present two experiments aimed at testing two hypotheses about the differential persuasiveness of abstract versus concrete language and the role of mental imagery processing as evoked by abstract language. Finally, the authors discuss the theoretical and practical implications of this work, as well as its limitations and some directions for future research.

2. Theoretical background

2.1. Service referral behavior

Looking at the literature about customer referrals in services, most past work focuses on the effect that transaction-specific or relational factors have on consumers' likelihood of engaging in referral behavior. With regard to transaction-specific factors (between a service provider and customer), past work suggests that referral behavior is positively correlated with service consumers' satisfaction judgments (Bontis et al., 2007; Hennig-Thurau et al., 2002; Price and Arnould, 1999; Verhoef et al., 2002) as well as with quality and value perceptions (Bolton and Drew, 1991; Stein and Ramaseshan, 2014; Zeithaml et al., 1996). With regard to relational factors, past work suggests that referral behavior is positively correlated with trust (Garbarino and Johnson, 1999; Hennig-Thurau et al., 2002; Verhoef et al., 2002), commitment (Brown et al., 2005; Harrison-Walker, 2001; Verhoef et al., 2002) and loyalty (Sirdeshmukh et al., 2002).

Other studies investigate whether rewards from the service company can stimulate referral behavior. Indeed, offering a reward seems to increase referral likelihood (Ryu and Feick, 2007), although such a positive relationship is more likely to occur when the customer is highly satisfied (Wirtz and Chew, 2002), as well as when the recommendation giver and recipient are in a strong tie relationship (Wirtz et al., 2013). More recent work even demonstrates that merely asking customers to recommend a service provider positively impacts information sharing (Söderlund and Mattsson, 2015). Additionally, another stream of research focuses on quantifying referrals in terms of their monetary value to service companies (Helm, 2003), as well as the economic value of customers that companies acquire through referrals compared to customers companies acquire through other channels (Schmitt et al., 2011).

Surprisingly, studies about factors that might affect the persuasiveness of referrals, which Gilly et al. (1998, p. 84) define as “the change in attitude and/or behavioral intention resulting from an interpersonal informational exchange,” appear quite scant. Building on the seminal work by Bansal and Voyer (2000), which shows that the strength of a sender and receiver's relationship is positively associated with the influence of WOM recommendations, Voyer and Ranaweera (2015) show that said influence also depends on a recipient-related factor, namely his/her involvement in the service decision. Meanwhile, Sweeney et al. (2014) investigate additional factors that might affect the influence of positive and negative WOM recommendations, such as brand equity, the strength of the message, and differential expertise between the sender and recipient. Notably, all these studies focus on face-to-face WOM. The present research thus extends this body of work in two major ways: first, and most important, by investigating the type of language consumers use in service referrals (abstract vs. concrete), and second, by focusing on referrals service consumers provide in virtual settings.

2.2. Language in service research

Recent research on services investigates consumers' perceptions about the language consumers use in service encounters, mainly focusing on the effect of language convergence and divergence on service customers' perceptions and behaviors (e.g., [Holmqvist, 2011](#)). Language convergence occurs when, during service encounters, the service provider speaks a language the customer considers his/her first (or native) language, while language divergence occurs when the service provider speaks a language the customer considers his/her second (or non-native) language ([Van Vaerenbergh and Holmqvist, 2014](#)). The main idea of this research stream is that the service provider's language might influence consumers' decision to use the service, their propensity to return to the service provider, their intention to spread positive WOM about their service experience, and even their tipping behavior ([Holmqvist and Grönroos, 2012](#); [Van Vaerenbergh and Holmqvist, 2013, 2014](#)).

To the best of authors' knowledge, the investigation of whether and how the language consumers use in service recommendations might affect those messages' effectiveness and recipients' purchasing intentions is missing in the literature on services. To address this gap, this research focuses on a specific, well-known dimension of language, which is its level of abstractness or concreteness. The following section illustrates this language dimensions.

2.3. Language abstractness and the linguistic category model

Language abstractness refers to the extent to which people use more versus less abstract verbs and predicates when describing experiences and events. One well-established framework that helps to classify language along an abstract-concrete spectrum is the Linguistic Category Model (hereafter, LCM; [Semin and Fiedler, 1988, 1991](#)). LCM identifies four different levels of language abstractness that people can use to describe single events ([Maass et al., 1989](#)). The most concrete level corresponds to descriptive action verbs, which refer to observable behaviors with a clear beginning and end (e.g., to hit somebody); next are the interpretive action verbs, which provide a description and interpretation of the behavior (e.g., to hurt somebody); the third level includes state verbs, which refer to the unobservable psychological state of the actor (e.g., to hate somebody), while the most abstract level corresponds to the adjectives, which allow people to generalize the behavior to the trait level (e.g., to be aggressive).

In the context of language's role in WOM (e.g., [Kronrod and Danziger, 2013](#); [Moore, 2015](#)), the work of [Schellekens et al. \(2010\)](#) represents the first application of LCM to consumer-to-consumer information sharing. These scholars study the conditions under which consumers are more likely to use abstract versus concrete language to generate WOM about products, as well as when such language is more likely to influence recipients' attitudes and product purchasing intentions. Their experiments show that consumers are more likely to use abstract language when describing product experiences that align with the valence of their pre-established product attitude, whereas they are more likely to use concrete language when describing product experiences that diverge from the valence of their pre-established product attitude. On the recipient side, they find that abstract language heightened purchase intention in positive product descriptions, and lowered purchase intentions in negative product descriptions. They thus conclude that abstract language has an overall higher persuasive power than concrete language, regardless of message valence. In their following 2012 work, the same authors demonstrate that individuals tend to use more abstract (concrete) language when describing their experiences with objects (e.g., a music player, a T-shirt, or a glass) if such experiences are congruent (incongruent) with their expectations, as well as that individuals with a persuasion goal (i.e., the goal to convince recipients about the quality of a product) describe their positive

(negative) product experiences more abstractly (concretely) than individuals without such a goal ([Schellekens et al., 2012](#)).

The present research applies LCM to the study of three issues: one, how the language used in service referrals might affect recipients' attitudes and purchasing intentions; two, how the recipients' prior knowledge might moderate this effect, and three, what kind of underlying mechanism might explain this effect.

3. Conceptual development

This research predicts that the differential persuasiveness of abstract versus concrete language in service referrals crucially depends on the recipient's level of prior knowledge regarding the service field being discussed. The concept of prior knowledge is particularly relevant in services, not only because prior knowledge is crucial in reducing pre-purchase risk and ambiguity (e.g., [Engel et al., 1995](#)), but also because the level of prior knowledge may determine the way in which consumers process information (e.g., referrals) about services, and ultimately affect the influence of that information on their attitudes and behaviors. Indeed, since services are intangible, not standardized and experiential, consumers cannot objectively evaluate them before purchasing them. Consequently, consumers might rely on their own prior knowledge to interpret service-related information they receive ([Murray, 1991](#)). Some past work on this subject finds a weak, non-significant relationship between WOM recipients' prior knowledge and their purchase intentions after receiving a service referral ([Bansal and Voyer, 2000](#)). By contrast, the present research proposes that the influence of prior knowledge on a referral is bound up in whether consumers frame the referral in abstract or concrete language. In formal terms, this research hypothesizes that recipients' prior service knowledge moderates the effect of language abstractness on recipients' attitudinal and behavioral responses. The present study also supplements the literature by investigating referrals consumers provide online rather than during face-to-face WOM exchanges.

According to [Petty and Cacioppo \(1986, p. 165\)](#), prior knowledge is "the extent to which a person has an organized structure of knowledge (schema) concerning an issue." In other words, prior knowledge refers to information about a topic that people might have as a result of their experiences, education or other means ([Shepherd and DeTienne, 2005](#)). Prior knowledge is an important element of the well-established Elaboration Likelihood Model of persuasion (e.g., [Cacioppo and Petty, 1984](#)). In particular, prior knowledge is a key factor in individuals' ability to process information they receive: The more people know about the topic at hand, the more likely they will be to process topic-related information carefully ([Wood et al., 1985](#)).

According to past research on mental imagery, individuals typically store prior knowledge as a set of images in their memory (e.g., [Bugelski, 1983](#); [Kieras, 1978](#); [Kosslyn, 1976](#)). Therefore, mental imagery is a cognitive process by which people form images in their memory and associate these images with information they receive. As such, one can describe mental imagery as visualizing or seeing in the mind's eye ([MacInnis and Price, 1987](#)), with three dimensions composing this construct: vividness, quantity, and elaboration ([Babin and Burns, 1998](#)). Vividness refers to the extent to which the information an individual receives elicits clear and distinct images in his/her mind ([Marks, 1973](#)). Quantity refers to the number of images a stimulus evokes ([McGill and Anand, 1989](#)). Finally, elaboration refers to an individual's production of mental images beyond what the stimulus provides ([Babin and Burns, 1998](#)). Thus, elaboration is the only one of the three dimensions that implies a deep engagement in information processing. For this reason, referral recipients' prior knowledge about the service in question is likely to shape the elaboration dimension.

Indeed, previous research suggests that higher prior knowledge about a received stimulus triggers more imagination than lower prior knowledge ([MacInnis and Price, 1987](#)). Building on this positive link between prior knowledge and mental imagery, this research hypothesizes

that abstract language will be more influential than concrete language when consumers have pre-established knowledge about the topic at hand. The underlying reasoning behind research hypotheses is that referral recipients need a higher level of prior knowledge regarding the service in question in order to produce relevant mental images. Also, abstract language typically requires that recipients take an active role in the elaboration process, as they must look beyond the message's literal words in order to ascertain its full meaning. In order to do so, individuals may need to draw upon stored mental images that are associated with their knowledge of and experiences with the service in question. To illustrate, if a financial advisor describes an investment option as "worthwhile," thus using an adjective (i.e., the most abstract level in the LCM), then the recipient of this message will need a relatively high level of prior knowledge about finance to fully understand what "worthwhile" means in that context. In contrast, concrete language does not typically require that recipients look beyond the words used, thus allowing them to derive meaning without engaging in a deep and highly active mental elaboration process. For instance, using descriptive verbs (i.e., the most concrete level in the LCM) to relate experiences with services is often enough for recipients to fully understand the communication object.

As a consequence, this study predicts that consumers with relatively higher prior knowledge about services are better able to engage in mental imagery processing when exposed to messages conveyed in abstract language. For those consumers, the abstract message will spur higher engagement in the elaboration process, thus rendering the referral more effective in influencing their behavior. Formally:

H1. For recipients with higher prior knowledge about the service, a referral worded in abstract language will be more persuasive than a referral worded in concrete language, while for recipients with lower prior knowledge about the service such an effect is not likely to be shown.

H2. Service referrals worded in abstract language will be more effective for recipients with high versus low prior knowledge, due to the higher imagery-evoking triggered by abstract language for recipients with high prior knowledge.

Next, this article presents two experimental studies designed to test H1 and H2. Study 1 is an online experiment intended to test H1, while Study 2 is a laboratory experiment intended to test H2. Importantly, the service settings of both experiments, that is financial advisory (Study 1) and medical services (Study 2), are fairly complex in that they typically bear a higher degree of perceived risk and consumer involvement than, for instance, the choice of a restaurant or a hotel (e.g., Bansal and Voyer, 2000; Voyer and Ranaweera, 2015).

4. Study 1

Focusing on H1, this study aims to provide evidence for the interaction effect between language abstractness and recipients' service-related prior knowledge. According to H1, the persuasiveness of abstract versus concrete language should depend on the recipients' degree (high or low) of prior knowledge about the service in question.

4.1. Method

One hundred and thirty-six students from a European university participated in a 2 (type of language: abstract vs. concrete) \times 2 (prior knowledge: high vs. low) between-subjects online experiment in which they read a message about financial services. Indeed, literature on financial services marketing suggests that typical in financial services is the tendency of customers to heavily rely on referrals originating from others' experiences in the form of WOM recommendations (Ennew and Waite, 2013). The experimenters excluded sixteen respondents from the analysis because they only signed up for the study but, after reading the scenario, decided not to answer any questions. Therefore,

120 observations are suitable for the analysis (74 females, 46 males). The experimenters manipulated the type of language by randomly assigning respondents to either the abstract or concrete condition, while they measured prior knowledge by asking respondents if they had ever taken a course about finance. In order to have enough variance in students' prior knowledge, the experimenters emailed the electronic questionnaire to students from the department of business management and the department of political science.

At the onset, respondents read a fictional scenario, which the authors framed as an online review from a financial blog in which the unknown sender shared her/his experience about a financial consultant advising her/him to purchase forward contracts. To manipulate type of language, the authors designed the scenarios according to the LCM framework: In the abstract condition, the message mainly contained adjectives (e.g., expert, unbeatable, wise), while in the concrete condition, the message mainly contained descriptive verbs (e.g., presents, shows, tells) (see Appendix A).

After reading their respective scenario, participants rated the language's level of abstraction on a seven-point scale (1 = very concrete; 7 = very abstract; Schellekens et al., 2010), which served as a check of language abstractness manipulation. Next, participants rated how much they intended to buy forward contracts in the following months/years (1 = not at all; 7 = very much). This variable served as dependent variable. Then, respondents indicated whether or not they had ever attended a course on finance or similar subject matters, which served as measure of prior knowledge. Finally, to prove the reliability of the prior knowledge measure, respondents rated their perceived level of expertise regarding financial services (1 = not at all; 7 = very much). The questionnaire ended with socio-demographic questions.

4.2. Results and discussion

Manipulation check confirms that the message in the abstract condition is more abstract ($M = 4.70$; $SD = 1.55$) than the message in the concrete condition ($M = 3.69$; $SD = 1.66$; $F = 10.95$, $p < 0.01$). Moreover, expertise ratings are significantly higher for those respondents who have taken a course about finance ($M = 3.81$; $SD = 1.20$) than for those who have never taken such a course ($M = 2.02$; $SD = 1.01$; $F = 70.20$, $p < 0.001$).

In the two-way ANOVA aimed to test H1, type of language (abstract vs. concrete) and prior knowledge (high vs. low) act as factors and intention to buy forward contracts as the dependent variable. The analysis reveals that while neither language ($F(1, 116) = 0.08$, ns) nor prior knowledge ($F(1, 116) = 0.11$, ns) has a significant effect on the dependent variable, the interaction between these factors is indeed significant ($F(1, 116) = 7.25$, $p = 0.01$). The results of planned contrasts, aimed at examining this interaction more closely (see Fig. 1), show that, for respondents with high prior knowledge, the intention

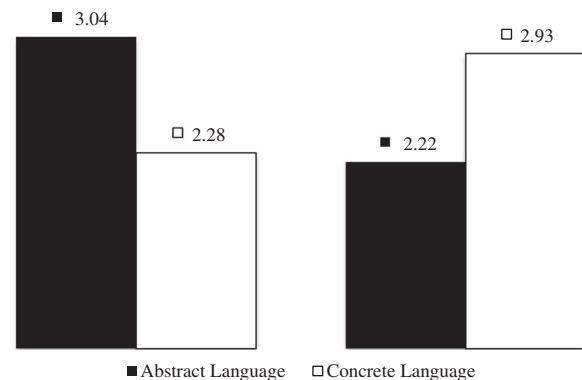


Fig. 1. The effect of language abstractness and prior knowledge on consumers' intention to buy forward contracts (Study 1).

to buy forward contracts is higher when the recommendation contains abstract rather than concrete language ($M_{\text{abstract}} = 3.04$, $SD = 1.52$ vs. $M_{\text{concrete}} = 2.28$, $SD = 1.39$, $t(116) = 2.07$, $p = 0.04$), while for respondents with low prior knowledge, the difference in persuasiveness between abstract and concrete language takes an opposite direction, although such a difference is only marginally significant ($M_{\text{abstract}} = 2.22$, $SD = 1.38$ vs. $M_{\text{concrete}} = 2.93$, $SD = 1.49$, $t(116) = -1.76$, $p = 0.08$). (See Fig. 2.)

Overall, these findings provide full support for the hypotheses about the joint effect of language abstractness and recipients' prior knowledge on referral persuasiveness.

5. Study 2

Aimed at testing H2, this study provides evidence for the underlying role of mental imagery in explaining why abstract language might be more effective in persuading recipients with higher prior knowledge than those with lower prior knowledge. Consistently with the reasoning behind H2, recipients with high service-related prior knowledge should be better able to produce mental images when receiving messages conveyed in abstract words compared to recipients with low service-related prior knowledge. Unlike Study 1, Study 2 is a laboratory study.

5.1. Method

One hundred and sixty-four students from the same European university as in Study 1 participated in this experiment, but the mediation analysis considered 158 observations (63 females, 95 males) because of the exclusion of six participants who either did not answer any of the questions (three out of six) or did not answer the question that served as dependent variable (three out of six). In a 2 (type of language: abstract vs. concrete) \times 2 (prior knowledge: high vs. low) between-subjects laboratory experiment, participants watched and listened to a fabricated video containing a message about homeopathic medical services. The experimenters manipulated the type of language by randomly assigning respondents to either the abstract or concrete condition, while they measured prior knowledge by asking respondents about whether or not they had ever received a homeopathic medical examination.

Regarding the manipulation of language, the experimenters told respondents that the video, allegedly created by a research team, featured an unidentified person sharing information about how a homeopathic doctor behaves during a typical medical examination. In essence, the person in the video promoted the effectiveness of homeopathic medical services. Similar to Study 1, the video in the abstract condition mainly contained adjectives (e.g., expert, unbeatable, reliable), while the video in the concrete condition mainly contained descriptive verbs (e.g., tells, gives, writes) (see Appendix B for video transcripts).

Next, the experimenters asked participants to rate the language's degree of abstraction on a four-point scale (1 = most concrete; 4 =

most abstract; Semin & Fiedler, 1989), which served as a manipulation check. Next, participants rated how much the message evoked images in their mind (1 = not at all; 7 = very much; adapted from Bone and Ellen, 1992), which serves as mediating variable. Then, they rated the effectiveness of homeopathic medical services on a scale from 1 to 10 (1 = not effective at all; 10 = very effective); this variable served as dependent variable. Then, respondents indicated whether or not they had ever received a homeopathic medical examination on a dichotomous measure. The questionnaire ended with socio-demographic questions.

5.2. Results and discussion

The manipulation check reveals that the message in the abstract condition is more abstract ($M = 2.51$; $SD = 0.68$) than the message in the concrete condition ($M = 2.23$; $SD = 0.56$; $F = 8.17$, $p < 0.01$). In the moderated mediation model from the PROCESS SPSS macro (Hayes, 2013) needed to test H2, prior knowledge serves as the independent variable, type of language serves as the moderator, imagery evoking serves as the mediator, and homeopathic medicine effectiveness serves as the dependent variable.

The first step of this analysis is a regression of imagery evoking on prior knowledge and type of language individually, as well as on their interaction. The findings of this analysis reveal a non-significant main effect of prior knowledge (0 for low prior knowledge and 1 for high prior knowledge) ($b = -0.04$, $t = -0.18$, ns). In contrast, the main effect of type of language (-1 for concrete and 1 for abstract) turns out to be significant ($b = -0.87$, $t = -3.01$, $p < 0.01$). More importantly, the effect of the prior knowledge \times type of language interaction on imagery evoking is significant ($b = 0.57$, $t = 2.48$, $p = 0.01$).

The next step of the analysis consists in the test of the mediation of imagery evoking through a regression of homeopathic medicine effectiveness on prior knowledge and imagery evoking. The results of this analysis show that the effect of imagery evoking on homeopathic medicine effectiveness is positive and significant ($b = 0.24$, $t = 1.90$, $p = 0.05$), while the effect of prior knowledge becomes non-significant ($b = -0.24$, $t = -0.63$, ns). Moreover, the direct effect of prior knowledge on the dependent variable is not significant ($p > 0.05$). These results provide evidence for the mediating role of imagery evoking.

As a further test, the analysis of the conditional indirect effects aimed to see whether imagery evoking mediates the effect of prior knowledge on homeopathic medicine effectiveness for referrals containing abstract language, as predicted in H2, follows. After applying the bootstrapping technique, the results show that, when participants convey the referral in abstract language, prior knowledge has a positive and significant indirect effect on homeopathic medicine effectiveness ($b = 0.13$, 95% C.I. = 0.01, 0.46, the confidence interval does not include 0). In other words, an increase in recipients' prior knowledge generates a significant increase in the dependent variable mediated by imagery evoking. In contrast, when participants convey the referral in concrete language, prior knowledge has a non-significant, indirect effect on homeopathic medicine effectiveness ($b = -0.15$, 95% C.I. = -0.59 , 0.02, the confidence interval includes 0). Lastly, the index of moderated mediation presents a significant result ($b = 0.28$, 95% C.I. = 0.02, 0.87), solidifying the mediating role of imagery evoking.

In support of H2, these results demonstrate that respondents with high prior knowledge perceive the referral containing abstract language as more effective than respondents with low prior knowledge due to the mediating effect of imagery evoking.

6. General discussion

Because services entail relatively high risk and uncertainty, consumers tend to consider referrals from other people who have prior experience with a service as particularly reliable and worthwhile information sources. However, a need to better understand

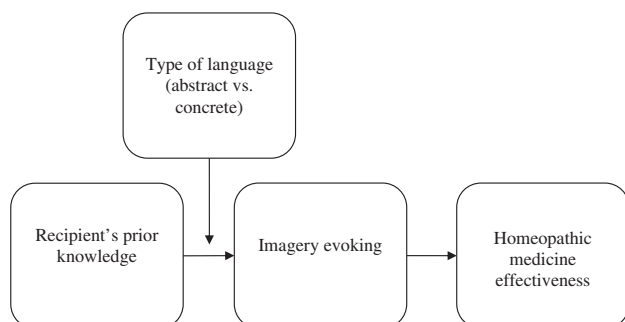


Fig. 2. Conceptual moderated mediation model (Study 2).

when and why service referrals are more influential on recipients' attitudes and behaviors seems to exist. To this end, the present research investigates the effects of a message-related factor (the use of abstract vs. concrete language by the person recommending a service) and a recipient-related factor (recipients' high vs. low prior knowledge about the service in question) on the persuasiveness of referrals people provide in online settings. The results of two experiments show that whether an abstract versus a concrete language is more likely to affect recipients' attitudes and behavioral intentions depends on recipients' prior knowledge. Moreover, this work sheds light on the underlying mechanism of those effects, demonstrating that high prior knowledge enables referral recipients to engage in mental imagery processing, thereby extracting the full meaning of the abstract message.

More specifically, Study 1, which focuses on financial services, shows that abstract language is more persuasive than concrete language for service consumers with high prior knowledge. Meanwhile, Study 2, which focuses on homeopathic medical services, shows that abstract language is more effective for service consumers with high prior knowledge because they are more likely to engage in service-related mental imagery processing than those with low prior knowledge.

6.1. Theoretical and practical contributions

The present research offers several theoretical contributions. First and foremost, this research contributes to the literature about customer referrals in services by advancing knowledge into the overlooked area of how referrals influence recipients' responses. While some past work investigates the effect of a few factors that might affect the influence of referrals, such as the strength of either the referral, the sender-recipient relationship, or the recipient's involvement in the service (Bansal and Voyer, 2000; Sweeney et al., 2014; Voyer and Ranaweera, 2015), the present study sheds light on how the type of language used influences referral effectiveness. In addition, by empirically showing that the type of language interacts with recipients' prior knowledge, this research provides a valuable counterpoint to the previous finding that prior knowledge exerts a non-significant effect on the persuasiveness of service referrals (Bansal and Voyer, 2000).

Second, this research contributes to the literature about language in services. In contrast to past work in this area, which mostly investigates the effect of the language used in service encounters between service providers and customers (Holmqvist, 2011; Holmqvist and Grönroos, 2012; Van Vaerenbergh and Holmqvist, 2013, 2014), the present study examines the effect that type of language exerts over consumers' service recommendations to other potential consumers.

Third, this work advances knowledge of the role that language abstractness plays in consumer-to-consumer transmission of information—and thus, more broadly, deepens the understanding about social communication dynamics. While prior research suggests that abstract language is uniformly more persuasive than concrete language (Schellekens et al., 2010), the present research highlights that the effectiveness of abstract versus concrete language in service settings depends on recipients' prior knowledge.

This study advances research by exploring the mental processes stimulated in recipients with high versus low prior knowledge by abstract versus concrete language. Specifically, the findings of this research demonstrate that referrals containing abstract language are more likely to evoke images for recipients with high prior knowledge, thus generating high engagement in information processing which, in turn, makes the referral more persuasive.

The present work also has some practical implications for consumer- and company-managed communication activity. Regarding the former, this research suggests that consumers can render their recommendations more effective by adopting abstract or a concrete language depending on recipients' prior knowledge, presumably in both offline (e.g., face-to-face conversations) and online settings (e.g., service-

focused forums or blogs vs. general review websites). This research offers similar suggestions to companies looking to refine the linguistic effectiveness of their advertising and communication actions. In order to enhance their service-related messages, companies might tailor the language they use on the basis of their target customers' degree of prior knowledge about the service being promoted. Beyond altering their direct communications with customers, companies might also collaborate with influencers (e.g., bloggers) who utilize a language style that matches their own target audience. Finally, this work suggests that service companies can stimulate an increase in customer engagement by using abstract messages that evoke mental imagery in experienced customers.

6.2. Limitations and future research

This research features some methodological and conceptual limitations that might open fruitful avenues for future studies. Methodologically, the experiments the authors present in this article use single-item measures to operationalize both prior knowledge and mental imagery. Moreover, this research uses a sample of students drawn from the same university, which might limit the generalizability of the findings, especially considering that the empirical settings of the experiments are complex and high-risk services such as financial and medical advice. On this point, the experiments the authors present do not capture the full complexity surrounding decisions such as buying financial products or undertaking medical examinations, as consumers often decide after consulting multiple sources over an extended period of time. Also, the experimenters do not control for relevant contextual variables—such as consumers' involvement, trust disposition or risk aversion—or content variables that are unrelated to language abstractness. Future research should thus strive to replicate the results of this research using multi-item measurement scales and different consumer samples, as well as control for relevant service- and consumer-related variables.

On a separate point, the experimenters use two different measures of language abstractness in the two experiments (i.e., a 7-point and a 4-point measure) to check the validity of language manipulation. While one might see this choice as a lack of consistency, the experimenters' goal was to increase the robustness of the results. Moreover, this choice is motivated by the presence of two different measures of language abstractness in previous relevant literature.

From a conceptual standpoint, this research carries five main limitations: First, although abstractness is an important and unexplored dimension of language, other dimensions exist that might be worthy of investigation. For instance, referrals can vary in the amount of intensity consumers might use to express a position: To illustrate, one can express a positive or negative opinion about a service in an extreme or moderate way. Scholars might investigate how language intensity can affect the persuasiveness of service referrals, as well as how that factor interacts with the level of abstractness. Language complexity is another potentially worthwhile dimension. In both theorizing and experiments, the authors of this research do not vary the level of linguistic complexity consumers use in the referrals; they only alter the abstractness of the language by manipulating the use of either verbs or adjectives, in line with the LCM framework.

Second, while this study provides empirical evidence for the mental imagery account, other explanations for the present pattern of results might exist. For instance, one could think that abstract language is generally more informative about the quality of a service, but consumers with low prior knowledge merely require a more concrete language to understand the benefits of the service promoted. Moreover, one might predict that individuals with higher prior knowledge have higher absorptive capacity (Cohen and Levinthal, 1990) when receiving information worded in abstract language, while those with lower prior knowledge might perceive the same information as unreliable, misleading or irrelevant, thus rejecting it. However, while being different, both these explanations are not incompatible with the mental imagery account.

Third, the two experiments characterizing this research only focus on positive recommendations, in which message senders try to motivate recipients to purchase financial and medical services. Future research could investigate whether the results of this research still hold when considering negative recommendations, whereby consumers try to discourage others from purchasing a service.

Fourth, scholars might want to investigate variables other than recipients' prior knowledge that could moderate the effect of language abstractness on referral persuasiveness. One such variable might be the type of service. The experiments of this research specifically focus on two services, the financial and the medical, that require the provider to have specific skills and professional competencies in order to deliver said services. However, other studies might see if the results change when studying services where high specialization and competences are relatively less important for delivering high-quality service recommendations.

Fifth, this research investigates the case in which the source of service referrals is unknown or unidentified. Future research might try to investigate if and how the results of the present research change when varying the reputation and credibility of referral sender.

Appendix A. Scenarios used in Study 1 (manipulation of language abstractness)

Abstract language condition

The financial consultant is an *expert* about financial markets; he is *unbeatable* in detecting opportunities for making profits. The consultant seems *wise* in outlining the characteristics of forward contracts and in advising investments to households and companies, making the benefit of such investments *clear*.

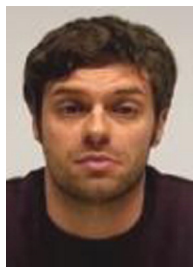
Concrete language condition

During the meeting, the financial consultant *tells* you about the forward contracts he *manages* and *presents* the available market opportunities. He *passes* on to the clients the documents with information about forward contracts. Then, he *shows* them on his laptop the market trends to *explain* to them how expected returns are realized, *demonstrating* that forward contracts *generate* profits for households and companies.

Note: the abstract scenario is mainly characterized by adjectives (reported in italics here in the appendix) while the concrete scenario is mainly characterized by descriptive and interpretive verbs (reported in italics here in the appendix).

Appendix B. Scenarios used in Study 2 (manipulation of language abstractness)

Illustrative screenshot of the video.



Abstract language condition (transcript from the video)

The homeopathic doctor is an *expert* of the causes of the symptoms. He is *unbeatable* in this type of research. The measurement machinery, that is the electronic acupuncturer, is highly *effective* and *reliable*. It is extremely *precise* and technologically *advanced*, not only for measuring the causes of disorders, but also for looking for the substances that will fix the problem. For this reason, homeopathic medicine has the maximum effectiveness as a cure.

Concrete language condition (transcript from the video)

During the examination, the homeopathic doctor *tells* to the patient the causes of the symptoms through a measurement machinery—that is, the electronic acupuncturer. The doctor *gives* the patient two electrodes and after *pressing* some parameters on the machinery, he *looks* at the results on the display. At the end, the doctor *writes* a report about the disorders found in a form, along with the substances that the patient should *ingest* to *fix* the problem. Both disequilibrium and substances are obtained through the acupuncturer. For this reason, the homeopathic medicine *works* to cure patients.

Note: the abstract scenario is mainly characterized by adjectives (reported in italics here in the appendix) while the concrete scenario is mainly characterized by descriptive and interpretive verbs (reported in italics here in the appendix).

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