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The Effects of Linguistic Devices on Consumer Information Processing and Persuasion: A Language Complexity × Processing Mode Framework

Ruth Pogacar
University of Calgary

L. J. Shrum, and Tina M. Lowrey
HEC Paris

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People—be they politicians, marketers, job candidates, product reviewers, or romantic interests—often use linguistic devices to persuade others, and there is a sizeable literature that has documented the effects of numerous linguistic devices. However, understanding the implications of these effects is difficult without an organizing framework. To this end, we introduce a Language Complexity × Processing Mode Framework for classifying linguistic devices based on two continuous dimensions: language complexity, ranging from simple to complex, and processing mode, ranging from automatic to controlled. We then use the framework as a basis for reviewing and synthesizing extant research on the effects of the linguistic devices on persuasion, determining the conditions under which the effectiveness of the linguistic devices can be maximized, and reconciling inconsistencies in prior research.

Keywords Language; Linguistics; Congruence; Persuasion

Introduction

People use language to not only express ideas but also to sell them. Communicators—be they marketers, politicians, job candidates, product reviewers, or romantic interests—carefully choose arguments that they believe will maximize the persuasive impact of their messages. However, along with what is said (the content of the appeals), *how* it is said also makes a difference. In particular, communicators may use linguistic devices to make their claims more persuasive. For example, metaphors may be used to position a benefit in relation to something else, rhymes and alliteration may be used to enhance memory and ease of processing, rhetorical questions may be used to stimulate greater depth of processing, and phonetic symbolism may be used to frame expectations.

In fact, there is a sizeable and growing literature that attests to the effects of linguistic devices on persuasion (Lowrey, 2007). However, comprehending the implications of this research is difficult without an organizing framework. Not only are there many different types of linguistic devices that have been investigated, they often differ dramatically on a number of dimensions that have critical implications for their effectiveness, including underlying cognitive processes (automatic, controlled; depth of processing), type of response elicited (cognitive, affective), and effort.

The purpose of this review is to provide such a framework. We begin by developing a framework for classifying linguistic devices based on two continuous dimensions: language complexity, ranging from simple to complex, and processing mode, ranging from automatic to controlled. We then map the linguistic devices onto the four quadrants of the 2 × 2 matrix, and use the framework as a basis to review research on the effects of the linguistic devices, with a particular emphasis on the processes underlying the effects. Next, we discuss implications of the framework for understanding the conditions that will maximize the persuasive effects of the devices. Following that, we use the model to account for seemingly contradictory findings regarding the effects of congruence between marketing or message elements and propose avenues for future research.

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Correspondence concerning this article should be addressed to L. J. Shrum, HEC Paris, 1 rue de la Liberation, Jouy-en-Josas 78351, France. Electronic mail may be sent to shrum@hec.fr.

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Language Complexity × Processing Mode Framework

Although there are undoubtedly many ways that linguistic devices might be categorized (cf. Carnevale, Luna, & Lerman, 2017; McQuarrie & Mick, 1996), we focus on two dimensions: language complexity and processing mode. We chose these two dimensions because they relate directly to—and therefore facilitate understanding of—persuasion and its underlying processes, one of our primary objectives. Both language complexity and processing mode have critical implications for processes underlying persuasion, including typical components of hierarchy-of-effects models (attention, comprehension, attitudes, etc.; see McGuire, 1978), affective or cognitive processing, memory, and ease of processing, among others.

We conceptualize *language complexity* as a continuum from simple (e.g., individual sounds or words) to complex (e.g., phrases, sentences, paragraphs). For our purposes, the primary determinant of language complexity is the unit of language (e.g., phonemes, words, sentences). All else equal, the larger the language unit, the more complex the language. Further, language complexity has two components. The primary component is the linguistic device itself, and its unit of language. For example, brand names are for the most part simple, as they typically consist of only one or two words. However, brand names can nevertheless vary in complexity, within the simple category, as a function of such things as word length and number of syllables. Some devices, such as alliteration, rhyme, and metaphors, may appear in multiple word brand names (simple), or in slogans and tag lines (moderately complex). Other devices, such as syntactic complexity, necessarily appear in sentences or paragraphs, and thus are more complex.

A second component of language complexity is the marketing communication in which the linguistic device is typically embedded. For example, although speech rate and voice pitch are themselves simple devices that are independent of the unit of language (to some degree), they are invariably embedded in marketing communications that represent complex units of language (multiple sentences). Thus, even though the marketing communication is not a characteristic of the linguistic device per se, for our purposes such devices are classified as complex.

We view *processing mode* in terms of the extent to which the processes are automatic or controlled. Automatic processing occurs when the presentation of a stimulus automatically activates related concepts stored in memory. More specifically, we adopt recent conceptualizations of automaticity as existing along a continuum (Moors, 2016), and automatic processes are ones that meet one or more of the following criteria: They are uncontrollable, occur outside of conscious awareness, occur at the earliest stages of information processing (e.g., perception), are effortless, and thus are not affected by restrictions on cognitive capacity or motivation (i.e., load-independent; for reviews, see Bargh, 1989; Moors, 2016). The more criteria met, the more automatic the process. Controlled processes are typically viewed as the opposite of automatic processes: They are intentional, require attention, and are effortful, and thus are subject to cognitive capacity and motivational constraints. Unlike automatic processes, people are generally aware of the consequences or application of the controlled processing (although they may not always be accurate about them).

The next step in developing our framework is to identify a focal set of linguistic devices, and then categorize them based on the extent to which the language is simple or complex, and the extent to which the processing is automatic or controlled. Identifying the set of linguistic devices to include in this review required some arbitrary choices in order to keep the size of the set manageable. First, we restricted the choice of linguistic devices to those that have received sufficient research attention to allow us to address both their effects and their underlying processes. Thus, some well-known linguistic devices that have been included in other reviews and frameworks (e.g., puns, irony, sarcasm; see McQuarrie & Mick, 1996), but have received relatively little if any empirical attention, are omitted. Second, we considered only devices that pertain to word or phrases themselves (i.e., phonetics, orthography, semantics, etc.), and omitted broader, message-based devices or strategies (e.g., one- vs. two-sided messages, message framing, humor, etc.).

We believe it is important to emphasize that the categorization of the devices as a function of complexity and processing mode is best viewed in terms of heuristic value, and is necessarily imprecise. We have categorized devices in terms of complexity and processing based on which categorization is most dominant. As noted, we view both dimensions as continuous. Treating the dimensions as continuous allows us to map each linguistic device onto a two-dimensional space in which complexity is aligned along one (x-) axis and processing mode along the other (y-) axis. Each linguistic device is then placed in the two-dimensional space to reflect its *relative* degree of complexity or processing mode. This representation can be seen in Figure 1.

The mapping of linguistic devices as a function of language complexity and processing mode

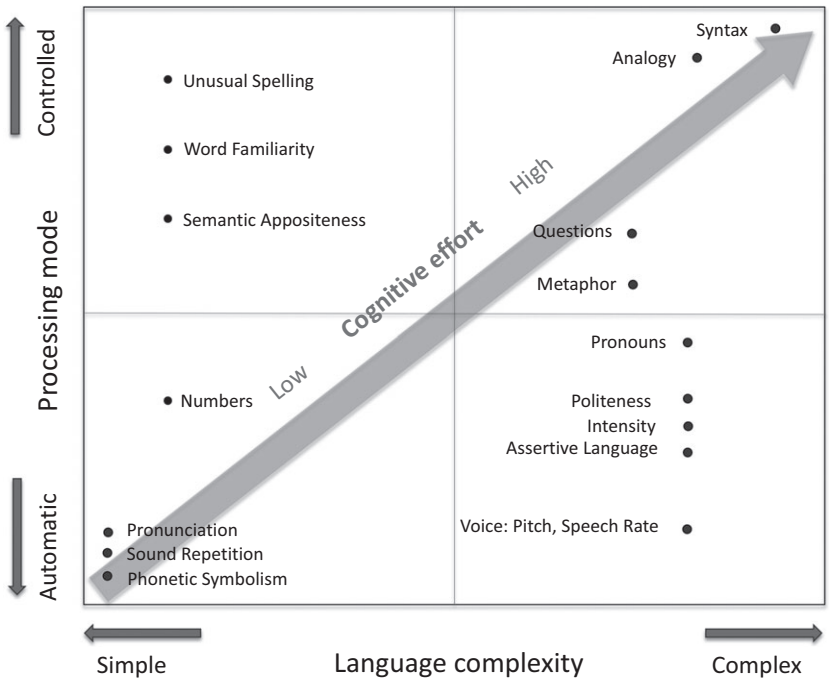

Figure 1. Language Complexity × Processing Mode Framework.

allows for inferences regarding the amount of cognitive effort required. As Figure 1 shows, cognitive effort increases as a function of increases in both language complexity and controlled processing, and is represented by the diagonal arrow moving from bottom left to top right. The level of cognitive effort can be estimated by plotting a line from the linguistic device perpendicular to the diagonal arrow indicating cognitive effort. The amount of cognitive effort has direct implications for the conditions under which the different linguistic devices will be effective in persuasion.

In the next sections, we review representative research for each linguistic device, organized by quadrant. The first sections begin with simple language devices, subcategorized by dominant processing mode, followed by complex language devices, also subcategorized by dominant processing mode.

Simple Language

Automatic Processing

Four linguistic devices fit the classification of simple language that is automatically processed: phonetic symbolism, numbers, sound repetition, and pronunciation. Although these devices share commonalities in terms of language complexity and processing mode, the actual underlying processes differ, as do the nature of the effects they produce. Table 1 provides a summary of the general findings for each device along with relevant citations.

Phonetic symbolism. Phonetic symbolism refers to a nonarbitrary relation between sound and meaning, and suggests that the sound of a word can convey meaning apart from its definition. The sounds of words derive from phonemes, which are the smallest units of sound (e.g., the sound of the letter *b* in *bat* or the sound of the letter *a* in *cat*). Both vowel and consonant sounds are associated with a large array of sensory perceptions, including size, speed, weight, and color. For example, relative to back vowel sounds (lower pitch), front vowel sounds (higher pitch) are associated with concepts such as harder, sharper, faster, smaller, lighter, psychologically closer, and more feminine. Back vowel sounds are correspondingly associated with softer, duller, slower, larger, heavier, psychologically farther, and more masculine concepts. Similarly, consonants such as fricatives (sounds formed via air friction through open articulators; e.g., *s*, *f*) are associated with the same perceptions as front vowel sounds. Conversely, plosives (sounds formed via air stoppage by closed articulators; e.g., *p*, *b*) are associated with the same perceptions as back vowel sounds (French, 1977; Shrum & Lowrey, 2007; Spence, 2012).

Consumer research has applied these basic findings to marketing communications. For example,

Table 1
Summary of Simple–Automatic Device Effects

Linguistic device	Effects	Representative citations
Phonetic symbolism	• Sounds based on vowels and consonants influence consumer perceptions, expectations • Positive effects on preferences maximized when symbolism is congruent with expectations	Klink (2000), Lowrey and Shrum (2007), Maglio et al. (2014), Topolinski et al. (2015), Yorkston and Menon (2004)
Numbers	• Associated with perceptions of technology • Granularity influences inferences and expectations • Roundedness associated with perceptions of completeness	Gunasti and Ozcan (2016), Pavia and Costa (1993), Yan and Pena-Marin (2017), Zhang and Schwarz (2012)
Sound repetition: alliteration and rhyme	• Alliteration and rhyme aid memory • Rhymes increase processing fluency • Influence liking, perceptions of truthfulness	Argo et al. (2010), Davis et al. (2016), Filkuková and Klempe (2013), McGlone and Tofighbakhsh (2000)
Pronunciation (Ease)	• Easier-to-pronounce words are easier to process (greater fluency) • Associated fluency influences perceptions of familiarity • Associated familiarity influences perceptions of risk, novelty, liking	Laham et al. (2012), Song and Schwarz (2009)

the sounds of brand names have been shown to relate to product perceptions (Klink, 2000), brand name preferences (Lowrey & Shrum, 2007; Shrum, Lowrey, Luna, Lerman, & Liu, 2012), product attitudes (Yorkston & Menon, 2004), product recommendations (Guèvremont & Grohmann, 2015), and willingness to pay (Maglio, Rabaglia, Feder, Krehm, & Trope, 2014). More specifically, across all of the research just noted, the effects on persuasion are more positive when the fit (congruence) between the sound-symbolic perceptions and expected or preferred attributes of the products is maximized.

Finally, although not precisely a phonetic effect, motor movements involved in word pronunciation also influence judgments (Topolinski, Zürn, & Schneider, 2015). For example, consonant sequences can be structured such that the consonant sounds proceed from front to back (e.g., PADAK) or back to front (e.g., KADAP). The motor movements of a front-to-back (inward) sequence mimic those of ingestion (which produces a positive feeling), whereas motor movements of a back-to-front (outward) sequence mimic those of expectoration (which produces a negative feeling; Kronrod, Lowrey, & Ackerman, 2014). Generally, consumers prefer inward brand names more than outward brand names, but like phonetic symbolism effects, preferences are more positive when there is a fit (congruence) between the oral motor movements and type of product (Topolinski, Boecker, Erle, Bakhtiari, & Pecher, 2017).

Numbers. Numbers are similar to sounds in that they are fundamental building blocks that can evoke conceptual associations independent of their numerical meaning. For example, although numerical components of a brand name often convey objective information (V8, iPhone 6), in other cases the letter and number combinations may have no apparent meaning to consumers (WD-40). In such instances, consumers may use implicit or naïve theories about what the numbers imply to form judgments about the product. For example, alphanumeric brand names tend to automatically evoke associations with technology, and thus may be employed or avoided depending on the attributes to be emphasized (e.g., a car positioned on performance vs. comfort; Pavia & Costa, 1993). Similar attributions are made based on whether the number is in digital or written form or expressed as round numbers. Numbers in digital form are perceived to be more technological (Pavia & Costa, 1993), and round numbers are associated with greater product completeness (Gunasti & Ozcan, 2016; Yan & Pena-Marin, 2017) and femininity (Yan, 2016).

Similar to the associations that round numbers invoke, consumers may also make inferences based on the granularity of the number's expression. Because finer-grained numbers are considered more precise, and message recipients infer that communicators use granularity to communicate precision, such things as repair estimates and durations are considered more accurate (and thus more preferred) when the granularity is higher (e.g., 30 days) than when it is lower (e.g., 1 month; Zhang & Schwarz, 2012). Granularity effects have also been observed in the use of integers (3) versus finer-grain decimals (2.4). Not only does the granularity of the number

provide objective information, but changes from decimals to integers (and vice versa) also affect consumer perceptions. For example, changes from decimals to an integer are perceived as crossing a threshold, and thus when a product's rating, attribute value, or version number changes from a decimal to an integer (e.g., 3.2 to 4), the product is evaluated more favorably than when the change is between two integers (e.g., 3 to 4), despite the fact that the latter difference is larger (Shoham, Moldovan, & Steinhart, 2018).

Sound repetition. Sound repetition is multiple occurrences of the same sound in a word or phrase. One type of sound repetition is alliteration—the repetition of the first (or sometimes second) sound of a stressed syllable, usually a consonant, in a series of successive syllables or words. Alliteration can occur in brand names (e.g., PayPal), or longer word passages such as slogans and sentences ("Britain's Best Business Bank").

Alliteration has a number of beneficial effects. First, alliteration acts as a mnemonic and memory cue, and tends to be more effective than other memory cues such as imagery (Rubin, 1995). Second, alliteration also affects other consumer-related judgments. For example, products were evaluated more favorably when their brand names were alliterative than when they were not (e.g., Sepsop vs. Sepfut; Argo, Popa, & Smith, 2010), and this effect was mediated by affect, with alliteration producing more positive affect. Similarly, price promotions were evaluated more favorably when they were alliterative than when they were not (e.g., "3 Theybles $30" vs. "3 Theybles $29"; Davis, Bagchi, & Block, 2016), even though the nonalliterative promotion was objectively better. This effect was mediated by processing fluency. Alliterative promotions were easier to process, which presumably led to more positive evaluations.

Another example of sound repetition is rhyme, which is a repetition of the same or similar sounds in multiple words, usually in the final syllable. Like alliteration, rhyme can be found in brand names (7-Eleven) and slogans ("Don't just book it. Thomas Cook it."), and acts as a memory cue that can increase recall (Carr & Miles, 1997) and influence product evaluations, choice, and affect (Argo et al., 2010). Rhyme also influences perceptions of truthfulness. For example, aphorisms that rhyme (e.g., "woes unite foes") are judged to be more truthful than the semantically equivalent nonrhyming aphorism (e.g., "woes unite enemies"; McGlone & Tofighbakhsh, 2000), and rhyming slogans are liked better, easier to remember, and more persuasive, and are also considered more original and more trustworthy, than equivalent nonrhyming slogans (Filkuková & Klempe, 2013).

Pronunciation. Ease of pronunciation can be manipulated by making words (brand names) easier or harder to pronounce, and ease of pronunciation is positively related to processing fluency (Schwarz, 2004). Research suggests that ease of processing influences perceptions of familiarity. Because things that are familiar are usually easier to process, people assume, often erroneously, that things that are easier to process are more familiar (Schwarz, 2004). In turn, familiarity influences other judgments, including perceptions of risk, novelty, and liking. For example, food additives and carnival rides with names that were difficult to pronounce were judged to be more harmful or risky than those with names that were easy to pronounce (Song & Schwarz, 2009). However, disfluency can also lead to favorable outcomes, depending on the attributions that arise from processing fluency. Because familiarity is also related to novelty (less familiar is more novel), the same carnival rides that were judged to be more harmful when the names were harder to pronounce were also considered more exciting.

Familiarity (via processing fluency) also affects liking. Things that are more familiar are generally liked better (Zajonc, 1968). Consequently, people with easier-to-pronounce names are better-liked than those with difficult-to-pronounce names (Laham, Koval, & Alter, 2012).

Complexity and processing mode. We have classified the preceding four linguistic devices in the categories of simple and automatic. In terms of complexity, the devices are confined primarily to one or two words (e.g., brand names, names of ingredients) or short phrases (e.g., slogans), and thus fall at the more extreme simple end of the complexity continuum. However, as noted earlier, even though each of the devices themselves are low in complexity, their complexity also depends on the context in which they are used. For example, alphanumeric brand names are at the very simple end of the continuum. However, in some situations, numbers may be used in more complex communications (e.g., terms of a warranty, repair time, negotiations, etc.). Thus, complexity is also a function of the mode of communication. Given this range, we have classified numbers as more complex than the other three devices, but still within the simple language category.

In terms of processing mode, although we have placed the four devices in the category of automatic

processing, they differ in terms of where they fall along the continuum. For example, research clearly indicates that the effects of phonetic symbolism occur automatically: they occur very rapidly, outside of conscious awareness, are uncontrollable, and load-independent (cf. Baxter, Kulczynski, & Ilicic, 2014; Coulter & Coulter, 2010; Parise & Spence, 2012; Yorkston & Menon, 2004). Thus, phonetic symbolism meets all of the criteria for automaticity. Sound repetition and ease of pronunciation effects also occur relatively automatically. Even though people are aware of the prime (they are aware of the rhyme, alliteration, or pronunciation ease), they are usually unaware of the influence of these phenomena on their judgments.

Numbers also tend to be processed relatively automatically, but the degree of automaticity may vary across situations. For example, consumers may not be aware that they associate round numbers with completeness, or that this perception influences judgments such as likelihood to close a deal in negotiations (Yan & Pena-Marin, 2017). In such cases, the level of automaticity may be similar to levels for phonetic symbolism, sound repetition, and pronunciation. However, in other instances, the process of using numerical associations to make judgments may be more controlled. For example, consumers are generally aware of the connotations of alphanumeric brand names with respect to technology (Pavia & Costa, 1993), and also likely aware of the possible influence of alphanumerics on judgments such as attitudes and preferences, which suggests that the process may be a conscious one. Thus, the extent to which the associations are applied to judgments depends on the conditions under which they are processed. Higher levels of involvement may result in a more elaborative, controlled process (Petty & Cacioppo, 1986), and thus consumers may be more likely to consider the implications of the numeric component, such as the relation between the brand and the implied attributes. In contrast, when involvement is low, consumers may use a heuristic decision process ("higher number is better" heuristic) as a basis for judgment (Gunasti & Ross, 2010).

Effects of numerical granularity also result from slightly more controlled processes (Zhang & Schwarz, 2012). The effects of granularity described earlier are couched in terms of Grice's (1975) logic of conversation, in which recipients expect information to be truthful, relevant, understandable, and provide only the amount of detail that is needed. Thus, message recipients infer that a higher-grained numerical expression is intended to convey more precision than a lower-grained one. However, this effect is attenuated if the source is not considered trustworthy (violating one of Grice's maxims). In this case, consumers presumably make inferences based on granularity and make conscious decisions to use the implications as a basis for judgment.

In sum, across various situations, numbers tend to be processed relatively automatically, but meet fewer of the criteria for automaticity than the other three linguistic devices. Thus, we have classified them as less automatic (more controlled) along the processing mode continuum (see Figure 1).

Controlled Processing

Three linguistic devices fit the classification of simple language that is processed in a more controlled manner: semantic appositeness, word familiarity, and unusual spelling (see Table 2). These devices are typically used in the context of brand

Table 2
Summary of Simple–Controlled Device Effects

Linguistic device	Marketing outcomes	Citations
Semantic appositeness	• Aids recall and recognition • Increases depth of processing	Keller et al. (1998), Lowrey et al. (2003), Lutz and Lutz (1977)
Word familiarity	• Familiar words usually easier to recall, but can also have more competing associations, reducing memorability • Unfamiliar words are more distinctive, which increases depth of processing, which has positive effects on memory	Hulme et al. (1991), Lerman and Garbarino (2002), Meyers-Levy (1989)
Unusual spelling	• Attracts attention, which enhances memory • Affects perceptions of casualness • Can be associated with consumer identities • But can inhibit processing fluency	Lowrey et al. (2003), McNeel (2017), Wong (2013)

names, but evoke different types of cognitions, which has implications for the ways in which the effects are applied.

Semantic appositeness. In marketing contexts, semantic appositeness refers to the extent to which a brand name conveys meaningful information about a product's functions or attributes (Anandan, 2009), such as Lean Cuisine or Land Rover, and is considered one criterion for a good brand name (Keller, Apéria, & Georgson, 2012). Semantic appositeness conveys an advantage primarily through recall and recognition. Words that are more meaningful are more memorable (Leahey & Harris, 1996), and this recall advantage is due at least in part to semantic associability in memory (Paivio, 1971) and depth of processing (Craik & Tulving, 1975). For example, brand names that are more integratively related to the product via interactive imagery are better recalled than brand names that are unrelated to the product's attributes or functions (Lutz & Lutz, 1977). Similarly, recall of advertising claims is greater when the claim is related to the brand name meaning than when the claim is unrelated, although brand name meaningfulness can also inhibit recall of claims unrelated to the brand name meaning (Keller, Heckler, & Houston, 1998). This memory advantage also diminishes as brand names become more familiar, with semantic appositeness positively correlated with brand name memorability for familiar but not unfamiliar brands (Lowrey, Shrum, & Dubitsky, 2003).

Word familiarity. Familiar words may increase memorability, which is another key criterion for a good brand name (Keller et al., 2012). Some words occur more often than others in everyday language, and those that occur or are encountered more frequently are usually more memorable (Hulme, Maughan, & Brown, 1991). The enhanced memorability for familiar words can be explained in terms of spreading activation theories of memory (Collins & Loftus, 1975). Repeated activation of a word (or concept) increases its accessibility, which in turn increases the probability that it will be used as a basis for judgment. Thus, more familiar brand names might be expected to have an advantage in memorability over less familiar brand names.

However, there are at least two competing processes that may actually reduce the memorability advantage of familiar words. The first is distinctiveness. Distinctiveness refers to the extent to which a word is novel or unique, and things that are more distinctive are more likely to be noticed (McArthur, 1981) and processed more deeply (Berlyne, 1971). Consistent with this reasoning, research on memory for nonwords versus real words finds that nonwords produce greater brain activation than do real words (Price, Wise, & Frackowiak, 1996). Thus, the distinctiveness of a word may increase memorability, and less familiar words are usually more distinctive (Lockhart, Craik, & Jacoby, 1976). Marketers seem to be at least implicitly aware of the advantages of distinctiveness. For example, the proportion of brand names beginning with the letter *K* is much greater than the proportion of occurrence of all such words in the English language, which has been attributed to the distinctiveness of words beginning with *K* (Vanden Bergh, 1990).

A second consideration, raised by Meyers-Levy (1989), is that although familiar words should be more accessible from memory based on frequency of activation, they may also have more competing associations with other concepts. A large number of associations (large association set size) linked to a brand name may decrease the strength of each link, or retrieval path, thus inhibiting recall. Consequently, high-frequency brand names, and their associated attributes, are better recalled than low-frequency names when the association set size is small, but the reverse is true when the set size is large.

Lerman and Garbarino (2002) also addressed the issue of word familiarity by measuring both recall, which is a multistep process involving retrieval of a particular item from memory (Lynch & Srull, 1982), and recognition, which bypasses the retrieval stage (Nedungadi, Mitchell, & Berger, 1993). They found that recall is better for real-word than nonword brand names, but the reverse is true for recognition.

Unusual spelling. Unusual spellings are a common convention in constructing brand names. Examples include misspellings that replace certain letters in a correctly spelled word (e.g., Froot Loops), substitute a letter for a word (e.g., U-Haul), drop a letter that does not affect the desired pronunciation (e.g., Flickr), or use a single letter as a phonetic substitute for a word (e.g., Shop n' Save, Toys R Us; for a review, see Wong, 2013). Unusual spellings presumably work through the same distinctiveness process we noted for unfamiliar words. The deviations from conventional spelling may attract attention because they are unexpected, different, and new (Wong, 2013), thus increasing the memorability of unusually spelled brand names (Lowrey et al., 2003).

Aside from increasing attention and memory, unusual spellings can also provide meaning. For example, the type of unusual or unconventional spellings may contribute to brand meaning and

brand identity. The use of a single letter as a phonetic substitute for a word (e.g., Shop n' Save) may connote casualness, and certain types of misspellings may be common to particular demographic groups (e.g., children, subcultures such as gaming, skateboarding, etc.). Thus, unusual spellings can provide a signal to the target market (Wong, 2013).

Although unusual spellings appear to be beneficial for brand name recall, they may be problematic for other marketing outcomes. For example, like pronunciation difficulty, unusual spellings may inhibit processing fluency, which can adversely affect crossmodal correspondences (McNeel, 2017).

Complexity and processing mode. Semantic appositeness, word familiarity, and unusual spellings pertain almost exclusively to their use in brand names. Thus, they are necessarily very simple in terms of complexity. However, even though one- or two-word brand names are easy to process, the processing mode is more controlled, and the extent to which the process is controlled varies somewhat across the three linguistic devices. For example, the advantage of semantic appositeness is primarily through enhanced recall. Even though the brand name itself is easy to comprehend, when consumers encounter a suggestively meaningful brand name, they must consciously map the implications of the name onto the product category or attributes, and this conscious mapping increases depth of processing, which makes the semantic associations in memory stronger (Craik & Lockhart, 1972), and thus makes the brand names more memorable. This is clearly a controlled process, in that consumers are aware of the semantic connotations of the brand name, but the process is not particularly effortful. Thus, we classify semantic appositeness in the controlled portion of Figure 1, but at the lowest level.

Similar considerations apply to word familiarity and unusual spellings. The implications of word familiarity and unusual spellings operate through more controlled processes, and the extent of the processing may vary as a function of familiarity. For example, familiar words or brand names may require relatively little processing, and in many ways may fall closer to an automatic process. However, unfamiliar or unusually spelled brand names attract attention and increase depth of processing, both of which are conscious processes (although they may occur very quickly, depending on how unusual or unfamiliar the brand names are). Although unusual spellings or unfamiliar words may reduce ease of processing (fluency), they stimulate more thought about the brand name. In addition, unusual spellings (more so than unfamiliar words) can provide meaning and links to consumer identities and target markets. In such cases, the processes are even more elaborate, and thus more controlled, than the simple process of comprehending the unusual spelling. Thus, we classify unusual spellings as more controlled than word familiarity.

Complex Language

Automatic Processing

Five linguistic devices fit the classification of complex language that is automatically processed: pronouns, assertive language, politeness, language intensity, and voice (pitch and speech rate). Table 3 summarizes the effects for these linguistic devices. Although these devices share commonalities in terms of language complexity and processing mode, they also vary, relative to each other, along both the complexity and processing continua.

Pronouns. Pronouns are a subcategory of particles (along with articles, prepositions, and auxiliary verbs) that are often referred to as function words (Campbell & Pennebaker, 2003; Pennebaker, 2011), which take the place of other words but have little meaning themselves. Pronouns are often used in persuasive communications to induce self-referencing (processing information in relation to the self). For example, a spokesperson in an ad may speak directly to the consumer by including the pronoun "you" ("you may remember" vs. "one may remember"; Burnkrant & Unnava, 1989, 1995). Self-referencing generally increases message elaboration, and thus enhances persuasion, but only when motivation to process information is high. However, excessive self-referencing can lead to too much elaboration, which can cause critical or irrelevant thoughts, and thus reduce persuasion (cf. Burnkrant & Unnava, 1995; Meyers-Levy & Peracchio, 1996; Sujan, Bettman, & Baumgartner, 1993).

Pronouns are also used to reflect or imply relationships. The use of the word "we," as opposed to "you and I," suggests a closer relationship, and this relation has implications for how speakers are perceived by listeners (Fitzsimons & Kay, 2004). For example, in the context of ads, closeness-implying pronouns (e.g., "we") can enhance persuasion, but only when the closeness implications are considered appropriate (e.g., current customers). In such cases, the closeness-implying pronouns increase brand trust (Sela, Wheeler, & Sarial-Abi, 2012).

Table 3
Summary of Complex–Automatic Device Effects

Linguistic device	Marketing outcomes	Citations
Pronouns	• Induces self-referencing • Enhances persuasion when there is sufficient motivation and ability to process information • Can increase message elaboration, which can enhance persuasion, but too much elaboration can be distracting • Can imply relationships, which enhances persuasion if the implied relationships are considered appropriate	Burnkrant and Unnava (1989, 1995), Fitzsimons and Kay (2004), Packard et al. (2018), Sela et al. (2012)
Assertive language	• More effective for hedonic than for utilitarian products • Can induce reactance, and thus have negative effects on persuasion	Kronrod et al. (2012a, 2012b), Zemack-Rugar et al. (2017)
Politeness	• Can temper assertive language (reduce reactance) • Lessens impact of negative information • Influences perceptions of brand personality	Brown and Levinson (1987), Hamilton et al. (2014), Zemack-Rugar et al. (2017)
Intensity	• Can increase message elaboration • Effective if message recipients themselves are prone to using intensive language • Effective if attitudes toward source are positive, backfires if negative • Influences perceptions of source credibility and trustworthiness	Andersen and Blackburn (2004), Aune and Kikuchi (1993), Buller et al. (2000), Clementson et al. (2016), Craig and Blankenship (2011)
Voice: pitch, speech rate	• Lower pitch liked better, but primarily when communicator is male • Pitch affects perceptions of source (potency, truthfulness) • Slightly faster (than normal) speech rates evaluated more favorably • Rate affects perceptions of source (credibility, trustworthiness) • But may impair attention and recall	Apple et al. (1979), Bond et al. (1987), Chattopadhyay et al. (2003), Gelinas-Chebat and Chebat (1992), Sharf and Lehman (1984)

Pronouns can also signal emphasis on the self (vs. other) in interpersonal interactions (Fahnestock, 2011). However, research suggests that the effects can be counterintuitive. The use of the self-referencing "you" fits with a customer-centric approach in company–consumer interactions. Indeed, marketers seem to have a naïve theory that more customer-referencing pronoun use is better, but this may not always be the case. For instance, Packard, Moore, and McFerran (2018) found that sales and service agents' use of pronouns to emphasize how "we" (the firm) can serve "you" (the customer) has no effect on attitudes or purchase behavior. In contrast, when sales and service providers use the pronoun "I" to refer to how they can help the customer, customers perceive that the agent has more empathy and agency, resulting in more positive attitudes and purchase behavior.

Assertive language. Assertive language refers to statements that are confident, forceful, or bold. Assertive language can be seen in slogans and tag lines, such as "Think small" (Volkswagen), and "Live in your world. Play in ours" (PlayStation), or advertising appeals ("Buy now!"). Although being confident, forceful, or bold may be useful at times, perhaps not surprisingly, these traits are not always well-received. In fact, the effectiveness of assertive language depends on a number of factors. One factor that influences the effectiveness of assertive language is type of product. Assertive language enhances persuasion for hedonic products, but the reverse is true for utilitarian products (Kronrod, Grinstein, & Wathieu, 2012a). These differential effects of product type can be explained in terms of communication expectations: Consumers expect assertive language for hedonic (but not utilitarian)

products, and the congruence between expectations and outcomes increases liking and persuasion (Kim, Rao, & Lee, 2009). Another factor that influences effectiveness of assertive language is mood. Message recipients who are in a more positive mood may expect greater levels of assertiveness because the positive mood loosens perceptions of social norms, and hedonic products are associated with more positive moods than utilitarian products (Kronrod et al., 2012a).

One potential pitfall for the effectiveness of assertive language is its propensity to induce reactance in message recipients. Reactance occurs when message recipients feel they are being ordered or commanded, which threatens their feelings of autonomy and freedom (Brehm, 1966). Reactance effects are often observed in persuasive communications that use fear appeals, which can have negative rather than positive effects on persuasion. Similar processes have been found to underlie the effects of assertive language. For example, the use of assertive language has been shown to be effective in environmental message appeals, but only for those who already view environmental issues as important. For those who do not think environmental issues are important, assertive language is perceived as more threatening, and in line with reactance theory, produces negative effects (Kronrod, Grinstein, & Wathieu, 2012b). Similar effects were reported by Zemack-Rugar, Moore, and Fitzsimons (2017), who found that assertive ads reduced compliance (e.g., purchase frequency) for those who were committed to a brand (i.e., had a strong consumer—brand connection), and this effect was serially mediated by anticipated guilt for ignoring the message and pressure to comply.

Politeness. This linguistic factor refers to the use of words and phrases that are normatively considered to be polite. In some instances, language politeness might be viewed as less assertive. The use of the word "please" in "Please recycle" adds politeness to an assertive statement, and thus politeness can potentially serve to soften the perceived pushiness of a strongly assertive slogan or appeal. However, in the only research of which we are aware that tested this possibility, the addition of a politeness marker to an assertive ad appeal ("Buy now" vs. "Please buy now") had no effect (Zemack-Rugar et al., 2017).

In other instances, polite words or phrases can be used at the beginning of a communication to lessen the negative impact of the remainder of the communication. For example, dispreferred markers, such as "I'll be honest," or "I don't mean to be rude, but," function as a form of social etiquette by allowing speakers to downplay the negativity of statements and soften the delivery of criticism. This use of politeness may ease the social costs of negative, face-threatening pronouncements for both speakers and listeners (Brown & Levinson, 1987; Holtgraves, 1997). Such politeness can in turn increase persuasion. For example, across various word-of-mouth situations (reviews, conversation), communicators were rated as more credible, likable, and more likely to be sought out for advice when they used dispreferred markers than when they did not. The use of dispreferred markers also influenced perceptions of brand personality (more sincere) and increased willingness to pay for the product (Hamilton, Vohs, & McGill, 2014).

Intensity. Language intensity refers to the extent to which a message deviates from neutrality (Bowers, 1963). Deviations from neutrality can be accomplished by the addition of adjectives (intensifiers) such as "very," "really," or "extremely," or the use of stronger adjectives (e.g., "detested" vs. "didn't like"). Some studies have documented the positive effects of language intensity on message persuasiveness and its components (e.g., source credibility, trustworthiness, etc.). For example, e-mail solicitations to college alumni featuring more intense language yielded higher response rates than e-mails featuring less intense language (Andersen & Blackburn, 2004), and health intervention brochures sent to parents were more effective when the language was more intensive compared to when it was less intensive (Buller et al., 2000).

However, the effects of language intensity also depend on individual differences of message recipients. One individual difference is the tendency for message recipients themselves to use intensive language in their everyday communications: The greater the tendency for message recipients to use intensive language, the more positive are the effects of intensive language use on source credibility and message agreement (Aune & Kikuchi, 1993). The effects of language intensity may also depend on pre-existing attitudes toward the source. For communicators who lack trustworthiness (e.g., politicians), the use of intensive language can backfire. For example, in a study that manipulated language intensity for a hypothetical presidential candidate, candidates using more intensive language were rated lower on character than candidates using less intensive language (Clementson, Pascual-Ferrá, & Beatty, 2016).

Finally, some research suggests that the underlying mechanism for language intensity effects relates to message processing. Craig and Blankenship

(2011) demonstrated that the use of more intensive language led to greater intentions to comply with a request, and this effect was mediated by message elaboration. Intensive language increased message elaboration and compliance when the message arguments were strong, suggesting that sufficient motivation and ability to process message arguments may be needed for intensive language to be effective.

Voice: Pitch and speech rate. Voice pitch is the perceptual representation of fundamental frequency, which is the rate at which the vocal folds in the throat vibrate during speech (Dahl, 2010).[1] Numerous studies in psychology and linguistics suggest that voice pitch influences a variety of judgments (for a review, see Dahl, 2010). For example, lower-pitched voices are generally evaluated more favorably than higher-pitched voices (Bond, Welkowitz, Goldschmidt, & Wattenberg, 1987), and speakers with lower-pitched voices are considered more potent, calm, emphatic, and truthful than speakers with higher-pitched voices (Apple, Streeter, & Krauss, 1979).

In marketing contexts, voice pitch typically applies to the speech of spokespersons in ads, and research shows that acceptance of an advertising message is greater when the spokesperson's voice is lower-pitched than when it is higher-pitched, at least in low-involvement conditions (Gelinas-Chebat & Chebat, 1992), and attitudes toward the ad and the product are more favorable when the spokesperson's voice pitch is lower than when it is higher (Chattopadhyay, Dahl, Ritchie, & Shahin, 2003). However, some research also suggests that gender may moderate these voice pitch effects. For example, in studies of marketing research telephone interviewers, those with higher-pitched voices had lower refusal rates and were generally more successful than those with lower-pitched voices (Oksenberg, Coleman, & Cannell, 1986; Sharf & Lehman, 1984). However, unlike the research just noted showing positive effects of lower voice pitch, in which the spokespersons were men, the marketing telephone interviewers were women.

Speech rate refers to how fast information is transmitted by a speaker. Research suggests that faster speech rates are more persuasive than slower speech rates and have similar effects as lower voice pitch. The rationale is that people have a generally preferred rate of speech that is slightly faster than normal speed (Chattopadhyay et al., 2003), and people who speak within this slightly faster range are considered more credible, intelligent, knowledgeable, truthful, and persuasive (Miller, Maruyama, Beaber, & Valone, 1976; for a review, see Dahl, 2010). However, not all of the effects of speech rate are positive. Because faster speech rates necessarily occur over shorter amounts of time (time compression), listeners have less time to process the information, which can impair attention and recall (Chattopadhyay et al., 2003). Moreover, listeners may use speech rate to make inferences about the difficulty of the task, and thus elect not to devote sufficient cognitive processing resources in evaluating an ad (Moore, Hausknecht, & Thamodaran, 1986). Indeed, some research suggests that voice and speech rate may interact. For example, in the research that showed more favorable attitudes when speech rates were faster than when they were slower, this relation held only when voice pitch was low. Thus, the faster speech rates may have led to more peripheral processing (Petty & Cacioppo, 1986), and message recipients used peripheral cues such as voice pitch as a basis for their attitude judgments.

Complexity and processing mode. Classifying assertive, polite, and intense language in terms of complexity presents some challenges. Although the words used to convey assertiveness, politeness, and intensity are themselves very simple, their use in persuasive communications varies greatly. These devices can easily be employed in short slogans that are relatively simple (e.g., "Go green," "Please go green," etc.), or in more complex persuasive communications such as e-mail solicitations, brochures, or ad copy. We have classified assertive, polite, and intense language toward the more complex end of the continuum because most of the research that has investigated their effects has used more complex language. The same attributions pertain to voice pitch, speech rate, and pronouns, as their use is typically in more complex communications. However, we also recognize that the complexity will differ across contexts.

Even though the context may typically be within complex language, we have classified the processing mode as more toward the automatic end of the continuum, but close to the midpoint (see Figure 1). Generally, the effects of these devices appear to occur relatively spontaneously, and people seem to be unaware of the effects of the linguistic devices. For example, voice pitch and speech rate are automatically processed, and message recipients are usually unaware of either increases or decreases in speech rate or the effects of speech rates on their judgments (assuming that the speech rate changes do not surpass the threshold of a just-noticeable-difference). Moreover, speech rate and voice pitch are generally effective only under peripheral

Table 4
Summary of Complex–Controlled Device Effects

Linguistic device	Marketing outcomes	Citations
Metaphor	• Effective when comparison is novel, appears at beginning, and recipients familiar with topic • Influences expectations • Influences source credibility, attitudes, perceptions • Problematic when metaphor is not fully understood	Ang and Lim (2006), Kronrod and Danziger (2013), Landau et al. (2018), McQuarrie and Mick (1999), Ottati et al. (1999), Sopory and Dillard (2002)
Analogy	• Enhances persuasion under high-involvement conditions • Enhances persuasion if comparison is well-understood • Less effective when used in rebuttals	McCroskey and Combs (1969), Roehm and Sternthal (2001), Whaley and Holloway (1996), Whaley and Wagner (2000)
Questions	• Increases elaboration because often unexpected • Excessive use can be distracting and reduce persuasion • More effective at beginning than end of communication	Ahluwalia and Burnkrant (2004), Burnkrant and Howard (1984), Fitzsimons and Shiv (2001), Moore et al. (2012)
Syntax	• Affects copy complexity and ease of processing • Moderately complex copy more persuasive under high-involvement conditions	Lowrey (1998, 2006), Miller (1962)

processing conditions (Chattopadhyay et al., 2003; Gelinas-Chebat & Chebat, 1992).

For assertive, intensive, and polite language, message recipients may be aware of their use, but they are effortlessly processed, although disfluency between their use and expectations may induce somewhat more elaborative processing. In addition, the devices exhibit the same congruency effects noted for other automatically processed linguistic devices. Congruency between a person's tendency to use intensive language in everyday communications and the intensity of the language used in an appeal is positively correlated with source credibility and message agreement. Similarly, the positive effects of assertive language are observed when there is a fit (congruence) between the use of assertive language and expectations regarding product category (hedonic vs. utilitarian).

The effects of pronoun use also occur relatively automatically, but their use tends to prompt less automatic (more controlled) processing relative to the other four linguistic devices. The self-referencing effects of pronoun use can induce more elaboration, which can be beneficial for persuasion. In addition, when self-referencing is in a narrative form, it increases narrative transportation (Green & Brock, 2000), which increases elaboration but results in less critical evaluation of the arguments, thereby enhancing persuasion. Thus, the processing mode is automatic, but toward the midpoint of the continuum. In addition, the same congruency effects noted for other linguistic devices hold for certain types of pronoun use. The positive effects of closeness-implying pronouns are maximized when the pronoun use is consistent with message recipients' expectations (e.g., for current customers).

Controlled Processing

Four linguistic devices fit the classification of complex language that is processed in a more controlled manner: metaphor, analogy, questions, and syntax (Table 4). These devices vary in terms of their complexity and their underlying processes, depending on the types of communications in which they are embedded.

Metaphor. Metaphor is a figure of speech in which a word or phrase regarding one thing is used to suggest a comparison to another thing. Metaphors can be used for brand names (e.g., Arrid, to imply dryness), as well as slogans and other appeals (e.g., "Budweiser, the king of beers"). Numerous studies have investigated the effects of metaphors on persuasion across disciplines (e.g., linguistics, psychology, communication, business; for a review, see Landau, Zhong, & Swanson, 2018). The general conclusion is that metaphors produce an assimilation effect (positive effects for positive metaphors, negative effects for negative

metaphors), and thus enhance persuasion, but these effects are dependent on a number of moderating conditions. In particular, metaphors are more persuasive when the comparison is novel, they appear at the beginning of related arguments (Ottati & Renstrom, 2010; Sopory & Dillard, 2002), and the message recipient is familiar with the topic or an expert in the domain (Johnson & Taylor, 1981; Sopory & Dillard, 2002). However, metaphors can also have a negative effect on persuasion, particularly if there is not a sufficiently clear semantic link with literal arguments in the persuasive communication (Krumdick, Ottati, & Deiger, 2004).

In marketing contexts, metaphors have been shown to have positive effects on ad and brand attitudes and purchase intentions (Ang & Lim, 2006; McQuarrie & Mick, 1999). Metaphors can also influence expectations and predictions. For example, using agent metaphors (those that describe action or movement) to describe a current day stock price trend increased expectations and predictions of a continuation of the trend in the future compared to descriptions that did not use metaphor (Morris, Sheldon, Ames, & Young, 2007). In the context of consumer reviews, the use of metaphors has been shown to be more persuasive than literal language, but only for product categories (hedonic) in which the use of metaphors and other figurative language is consistent with communication norms (Kronrod & Danziger, 2013).

The underlying mechanisms of metaphor effects have also been investigated. Metaphors affect perceptions of source credibility (Bowers & Osborn, 1966), source attractiveness (Sopory & Dillard, 2002), and source personality (Ang & Lim, 2006), although these effects are not always consistent (Ottati & Renstrom, 2010). Metaphors also influence message processing, for example by increasing attention to argument strength. However, these effects depend on message recipients' attitudes toward the metaphor topic (Ottati, Rhoads, & Graesser, 1999).

Analogy. Analogy refers to a comparison of one thing to another to show similarities between the two. In this regard, it has a similar function as metaphor, but differs in how the comparison is made. Whereas a metaphor involves a figure of speech to make a comparison, analogy is more of a logical argument, and thus is typically more complex.

Analogies can be persuasive because they provide an effective means of comparing a known base referent to an unknown referent, which quickly links properties of the base referent that are stored in memory to the target referent (e.g., a new product; Landau et al., 2018). Some research suggests that analogies have a positive influence on persuasion (McCroskey & Combs, 1969). However, the effectiveness of analogies depends on certain factors. Analogy that is used in the context of rebuttals results in decreased liking for the communicator (Whaley & Wagner, 2000), and in some cases more negative attitudes (Whaley & Holloway, 1996). Research has also demonstrated the beneficial use of analogies in marketing contexts. Analogies can increase the persuasiveness of an ad, but only when motivation and ability to process the communication is high (Roehm & Sternthal, 2001).

Questions. In the context of linguistic devices, there are primarily three types of questions: rhetorical questions, tag questions, and hypothetical questions. Rhetorical questions refer to questions in which the answer is implicit (Ahluwalia & Burnkrant, 2004), such as "Isn't this coffee great?" As an example of figurative language, rhetorical questions are an artful deviation from message recipient expectations (McQuarrie & Mick, 1996), and thus are expected to increase elaboration. However, the effects of questions on persuasion depend on the nature of the increased elaborations, and in particular whether they are message-based or source-based. For message-based elaborations, the basic finding is that under conditions of low involvement, rhetorical questions increase message attention and elaboration, and thus enhance persuasion (Burnkrant & Howard, 1984; Petty, Cacioppo, & Heesacker, 1981). However, under high-involvement situations, rhetorical questions can distract message recipients from processing the arguments, which can decrease persuasion, and can also lead to perceptions of being pressured by the source, which can further decrease persuasion (Swasy & Munch, 1985). Still other research suggests that the pattern of effects may depend on where the rhetorical questions are positioned in a (lengthy) persuasive communication. For example, the positive effects of rhetorical questions may hold only when the questions occur at the beginning of a persuasive communication (Howard, 1990).

Research has also documented the effects of rhetorical questions on source evaluation and elaboration, but again the effects on persuasion depend on particular factors. When message recipients have high persuasion knowledge (Friestad & Wright, 1994), rhetorical questions may cause them to attempt to infer why the communicator asked the question. Consequently, rhetorical questions posed by positively perceived sources are considered

less pressuring and more persuasive, whereas the opposite is true for negatively perceived sources (Ahluwalia & Burnkrant, 2004).

Tag questions—short rhetorical question phrases at the end of a statement (e.g., "don't you think?")—may also increase or decrease persuasion, depending on source credibility (Blankenship & Craig, 2007). Tag questions can soften the impact of assertions (Lakoff, 1972), and can affect message processing, but like rhetorical questions, the effects depend on perceptions of the communication source. Tag questions increase message processing but decrease persuasiveness when source credibility is low, whereas they increase both message processing and persuasiveness when source credibility is high (Blankenship & Craig, 2007).

A third category—a hypothetical question—presents a hypothetical situation (e.g., "If you knew Candidate A voted against Proposition 1, would you vote for her?"). Even though such questions are purely hypothetical, they can serve as a prime that makes the implications of the question more accessible, and thus enhance persuasion in a variety of contexts (e.g., voting, legal decisions, food choice; cf. Fitzsimons & Shiv, 2001; Moore, Neal, Fitzsimons, & Shiv, 2012). Moreover, people are generally unaware of these accessibility effects, making it difficult to debias the effects of the hypothetical questions.

Syntax. Syntax refers to sentence structure (how words are arranged to create sentences). Syntax can be used to manipulate ad copy complexity. For example, sentences using negations, passive constructions, and left-branching structures are more difficult to process than sentences that are affirmative and use active constructions and right-branching structures (Mehler, 1963; Miller, 1962). Although the usual rule of thumb for advertising copy is KISS (Keep It Simple, Stupid), research suggests that simple may not always be best. In fact, the research findings are mixed in terms of whether complexity reduces or enhances advertising effectiveness (for a review, see Lowrey, 2008).

One factor that may explain these conflicting findings is motivation to process information (involvement). Although ad copy complexity is generally not viewed favorably, complex syntax leads to more favorable attitudes than simple syntax when involvement with the message is high (Lowrey, 1998, 2006). The findings across these and other studies may be explained by considering advertising copy along a *complexity continuum* (Lowrey, 2008). Although studies often manipulate (and label) level of complexity as high or low, in reality the more complex conditions are actually fairly moderate, which mimic more complex real-world ads. The general conclusion is that when motivation to process ad information is higher, moderately complex copy enhances attitudes toward products and improves memorability relative to low-complexity ads because it increases message elaboration (Lowrey, 1998).

Complexity and processing mode. The level of complexity for metaphor, analogy, questions, and syntax can vary substantially, depending on the type of communication in which they are embedded. For example, metaphor complexity will vary depending on whether the metaphor is in a brand name, a slogan, or a more lengthy advertising copy. The same is true for analogies and questions. Most instances will involve at least a series of words to form a question or state the analogy, and thus may be moderate to highly complex. In contrast, the use of either complex or simple syntax necessarily requires multiple words or sentences. Thus, syntax falls at the extreme complex end of the language complexity continuum.

In terms of processing mode, these four devices are clearly controlled, but the underlying processes vary and are dependent upon at least two factors. The first factor is comprehension and understanding of the linguistic device itself. For example, there is evidence that metaphors are processed automatically (Gildea & Glucksberg, 1983). This may be true of simple metaphors (e.g., "king of beers"), whereas others may require more thought (e.g., "a dream is a wish your heart makes"). Similarly, the addition of a tag question or phrasing a claim as a question rather than an assertion is easily comprehended as long as the questions are straightforward.

In contrast, analogies can be more complex and difficult to comprehend. An analogy compares a presumably known base referent to an unknown target referent. For example, consider the examples used by Roehm and Sternthal (2001). They used an analogy to Quicken (a financial management software) to explain a new nutritional management software. Comprehending the analogy requires both prior knowledge of the base referent (Quicken) and sufficient processing resources to map that knowledge onto inferences about the target. Consequently, analogies (compared to literal comparison conditions) are more persuasive for experts but less persuasive for novices.

The second factor that affects processing mode is how the information derived from the linguistic device is applied to subsequent judgments. For example, even when analogies are relatively easy to

comprehend because knowledge of the base referent is high, using those inferences to make judgments (e.g., person perceptions, attitudes, etc.) is a controlled process. Thus, aspects of the situation or person (e.g., motivation or ability to process information) will dictate the extent to which analogies are beneficial, with positive effects occurring through central route processing when both motivation and ability to process the persuasive communication is high (Roehm & Sternthal, 2001).

Effects of metaphor, questions, and syntactic complexity also require substantial processing resources. The effects of these devices are observed primarily under higher involvement conditions. Moreover, for both rhetorical questions and metaphor, placement position in the persuasive communication affects persuasion, but sometimes in opposite ways, and the differential effects are a function of how the linguistic device works. Metaphors stimulate message processing, and consequently they are most effective at the beginning of a communication, assuming that the persuasive arguments are strong ones, because they increase the scrutiny of the messages. Rhetorical questions that appear at the beginning of a communication can also stimulate online message processing, whereas questions that appear at the end serve to increase elaborative, memory-based processing of the message that has just been received (Howard, 1990).

Framework Application

Maximizing the Effectiveness of Linguistic Devices

We have reviewed research on the persuasive effects of linguistic devices in marketing and have categorized the devices in terms of their language complexity and the extent to which the related processing is automatic or controlled. Both of these factors govern the conditions under which the effectiveness of the linguistic devices can be maximized.

As Figure 1 shows, the classification framework allows for a direct mapping of the linguistic devices onto the cognitive effort required to process the persuasive communication. The Language Complexity × Processing Mode framework facilitates unique predictions regarding cognitive effort. For example, it may seem logical that cognitive effort should be predominantly—if not completely—a function of language complexity. This reasoning is consistent with most dual process models of persuasion. Presumably, the more complex the communication, the higher the level of motivation and ability needed to process the persuasive elements of the communication. But consider the case of voice pitch and speech rate. These devices most frequently occur in very complex communications. However, because the effects of voice are more automatic, higher involvement does not enhance the persuasiveness of the communication, but in fact reduces it. Because the effects of voice on source attributions are more automatic, the positive effects on persuasion occur primarily under low-involvement conditions and message recipients use voice effects in a heuristic manner.

Similar considerations apply to linguistic devices that are simple in terms of language but operate through controlled processes. For example, semantic appositeness is a characteristic of a brand name, the least complex of the devices, and its effects are predominantly related to enhanced memory. However, the effect of semantic appositeness (meaningfulness) operates through increased depth of processing. This process is effortful, and thus requires the motivation and ability to elaborate on the implications of the brand name (e.g., what it suggests about what the product is, what it does, how good it is, etc.). Alphanumeric brand names provide another example. Although we have classified them in the automatic portion of processing mode, and they are one of the least complex devices, the attributions about what the combination of numbers and letters mean requires a reasonable level of cognitive effort. When consumers are willing to expend the effort, then the desired effects on persuasion are observed. However, when consumers are unwilling or unable to devote sufficient cognitive resources, the numbers may be used in a heuristic fashion that can be counterproductive (Gunasti & Ross, 2010). For these reasons, we argue that the dual consideration of both language complexity and processing mode provides a more accurate estimate of cognitive effort than does language complexity alone.

The research we have reviewed also details the particular effects that linguistic devices have on different aspects (or stages) of persuasion. Some devices primarily affect memory, some devices affect downstream variables such as attitudes and intentions, and some devices affect intermediary (mediating) variables. Thus, whether the effects of linguistic devices enhance persuasion may depend on the objective (e.g., memory, attitudes, behavior). For example, consider the case of word familiarity, for which the effects can operate through different (competing) processes. On one hand, more familiar

words are generally easier to recall initially, but they also have more associations in memory, which can inhibit recall in certain situations. On the other hand, unfamiliar words are more distinctive, which can increase depth of processing, but only if consumers are willing and able to elaborate on the distinctiveness. Unusual spellings operate in ways similar to those of word familiarity. The nature of the unusualness itself can convey meaning (e.g., casualness, target markets), and thus have effects on persuasion-related outcomes such as attitudes and perceptions.

We have categorized the linguistic devices in terms of a single point in the two-dimensional Language Complexity × Processing Mode space (Figure 1). However, as we have noted throughout, the single-point categorization is for heuristic purposes, and both complexity and automaticity can vary depending on a variety of factors. In this regard, the framework is flexible, and the placement of any linguistic device can be adjusted based on these factors to arrive at an approximation of the required cognitive effort needed to maximize persuasion. Theoretically, such adjustments could place a particular linguistic device into a different quadrant entirely, but practically we expect that adjustments would move primarily within the same quadrant.

Resolving Conflicting Findings: The Relative Benefits of Congruence versus Incongruence

We use the term *congruence* to refer to the degree of similarity between marketing or message elements. Congruence effects are generally explained in terms of schema congruity theory, which pertains to the relation between activated concepts and expectations, and people generally prefer things that conform to their expectations (Mandler, 1982). Consistent with this reasoning, we have reviewed a number of instances in which the effects of linguistic devices are stronger when congruence is maximized (high congruity). For example, the effects of phonetic symbolism on brand name preference are maximized when the sound symbolic (Guèvremont & Grohmann, 2015; Lowrey & Shrum, 2007; Yorkston & Menon, 2004) or motor movement (Topolinski et al., 2015) connotations of the brand name are congruent with expected or preferred attributes of the product. Similarly, the positive effects of assertive language are greater when the use of assertive language is congruent with expectations regarding product category (Kronrod et al., 2012a). Congruency effects are also observed in the use of intensive language, which is most effective for message recipients who themselves use intensive language in everyday communications (Aune & Kikuchi, 1993). In addition, congruence between the linguistic style (e.g., politeness) of the request and the receiver's expectations increases persuasion (e.g., Brown & Levinson, 1987; Forgas, 1998; Hamilton et al., 2014), and congruency between closeness-implying pronouns and message recipients' perceptions of conversation norms enhances persuasion (Sela et al., 2012).

Despite these very consistent findings, a sizeable literature also suggests that high congruence is not optimal, but instead, moderate levels of *in*congruence tend to produce the most positive persuasion-related outcomes (e.g., product evaluations). For example, Meyers-Levy, Louie, and Curren (1994) found that extensions in which the brand names were congruent with the product category of the parent brand were evaluated more favorably than brand names that were extremely incongruent, consistent with a congruency effect. However, they found that brand names that were moderately incongruent were actually the most preferred, and this enhancement for moderate incongruity was mediated by positive cognitive elaboration. This inverted-U-shaped relation has been demonstrated in numerous studies, typically ones that relate to preferences for new products or extensions (cf. Jhang, Grant, & Campbell, 2012; Kronrod & Lowrey, 2016; Maoz & Tybout, 2002; Meyers-Levy & Tybout, 1989; Noseworthy, Cotte, & Lee, 2011).

Mandler (1982) explained this U-shaped relation in terms of the comprehension and resolution processes. Congruent links are easy to comprehend, and no resolution of incongruency is required, making them predictable but also not overly stimulating. Extremely incongruent links are more difficult to process, and the incongruency is unlikely to be resolved, which creates negative affect because the inability to resolve the incongruency is frustrating. In contrast, moderately incongruent links increase elaboration in an effort to resolve the incongruence, and if successful, the resolution can be rewarding and pleasantly arousing (Maoz & Tybout, 2002; Noseworthy, Di Muro, & Murray, 2014). Consistent with this reasoning, a number of moderators have been identified that relate to arousal, such as perceived risk (Campbell & Goodstein, 2001), experiential processing (Noseworthy et al., 2011), and involvement (Maoz & Tybout, 2002).

The positive effects of other linguistic devices are also based on incongruence with expectations.

Unusual spellings are remembered better precisely because they are unusual (unexpected), and thus stimulate greater depth of processing. Rhetorical devices such as metaphor are unexpected artful deviations and are processed more deeply, and they increase elaboration and generate pleasure because their initial ambiguity stimulates interest, and resolving the ambiguity can feel rewarding (Berlyne, 1971; McQuarrie & Mick, 1992).

The framework we have presented provides a potential explanation for the apparent conflicting findings with respect to congruence. As Figure 1 shows, of the examples we just provided, all of the linguistic devices that show positive effects of congruence (phonetic symbolism, assertive, intensive, and polite language) fall in the automatic processing quadrants (bottom half of Figure 1, independent of complexity). Because of the automatic nature of the effects, perceptions that are related to congruence do not rely upon extensive processing, but instead are more sensory in nature. Message recipients rely upon general perceptions of fit, but they are typically unaware of either the reasons for the perceptions or how they are applied to judgments. Thus, positive congruence effects appear to occur when message recipients do not overly elaborate on the messages.

In contrast, the linguistic devices that show positive effects of incongruence (unusual spelling, metaphor) fall in the controlled processing quadrants (top half of Figure 1, independent of complexity). These linguistic devices benefit from message elaboration, which is a controlled process. Assuming cognitive processing resources are available and a person is willing to use them, moderate incongruency stimulates elaboration, which is often pleasurable, and enhances persuasion. Although the effects reported by Meyers-Levy et al. (1994) and others are based on stimuli that are not easily categorized as linguistic devices, the positive effects of moderate incongruence generally occur through more elaborative, controlled processing (e.g., high involvement; Maoz & Tybout, 2002).

The same reasoning applies to the finding that moderate levels of syntactic complexity are more persuasive than low and high levels (Lowrey, 1998). Although not concerned with congruence *per se*, moderate levels of complexity, like the moderate levels of congruence investigated by Meyers-Levy et al. (1994), increase positive message elaboration. However, in this case, because language complexity is high, the results hold only for those with sufficient motivation and ability to process the persuasive communication.

Research Opportunities

Although the review and framework we have proposed document the robustness of the use and effectiveness of linguistic devices in persuasion, they also reveal a number of potential research opportunities. First, one of the more glaring research gaps is the lack of work demonstrating the generalizability of linguistic devices across cultures. This issue is particularly important given recent reviews that suggest that what are considered fundamental psychological processes and effects often are not observed (and in fact may be reversed) in other cultures (cf., Henrich, Heine, & Norenzayan, 2010; Oyserman, Coon, & Kemmelmeier, 2002) or even subcultures (Carey & Markus, 2016). For example, although phonetic preferences (Pogacar, Peterlin, Pokorn, & Pogačar, 2017), the front/back vowel effect (Ultan, 1978), and phonetic congruence (Shrum et al., 2012) have been documented across languages, there is relatively less systematic evidence of the cross-linguistic persuasiveness of other phonetic effects, such as consonant symbolism (but see Blasi, Wichmann, Hammarström, Stadler, & Christiansen, 2016 for recent evidence of consonant effects more generally).

Although the lack of research documenting cross-cultural effects for certain types of phonetic symbolism clearly limits the extent to which current findings can be generalized, there is also a more fundamental theoretical issue that represents a research opportunity: the origins of the effects. For example, are phonetic effects innate, or are they learned over time (for a review, see Spence, 2012)? If innate, then relatively universal effects would be expected, and the effects should also be observed at the advent of language acquisition (e.g., young children). However, if they are learned over time, then shared meanings that frequently differ across cultures suggest that the effects may not be cross-culturally robust and are unlikely to be observed at the earliest stages of language development (cf. Baxter & Lowrey, 2011, 2014).

Similar considerations apply to other automatic effects, such as speech rate. For example, faster speech rates are believed to be more persuasive because research shows that people have a generally preferred rate of speech that is slightly faster than normal speed. However, the extent to which these effects may generalize to other languages likely depends on the origin of the effects. If the effects are for the most part innate (e.g., slightly higher levels of arousal that may be induced by faster speech rates are universally preferred), then the

effects are more likely to generalize (although the precise preferred rate may still differ across languages and cultures). In contrast, if the effects occur over time through a socialization process, then the meanings assigned to faster versus slower speech may differ across cultures, depending on cultural conversational norms.

For other linguistic devices, such as polite, assertive, and intense language, the effects relate directly to communication norms and expectations. Communication norms differ across cultures (Hall, 1976; Richardson & Smith, 2007), and have important consequences for how individuals respond to communications independent of the content of what is communicated (Lee, Shrum, & Yi, 2017). Consequently, to the extent that concepts such as politeness and assertiveness differ across cultures, it is likely that the effects of these linguistic devices may also vary. Given the role that communication norms and expectations play in these effects, as well as others (e.g., number granularity), research that addresses the role of culture and communication norms in the context of linguistic devices would be useful.

Another potentially useful avenue of research pertains to the role of individual differences in the effects of linguistic devices. For example, we noted earlier that the effects of communicator voice pitch are essentially opposite for male and female communicators. However, the evidence for such gender differences in spokesperson voice pitch effects is very limited, and no research to our knowledge has systematically investigated these differences. Perhaps more important, aside from simple individual difference effects, future research would benefit from a better understanding of the underlying processes. For example, the effects of voice pitch on persuasion appear to be mediated by the effects of voice pitch on source attributions (credibility, attractiveness, trustworthiness, etc.). If so, do the effects of voice pitch in such situations function similarly to phonetic symbolism effects (e.g., higher pitch associated with particular qualities, such as size, masculinity, power)? Additionally, is congruence important, such as the congruence between attributions of voice pitch, expectations of gender, and characteristics of the brand or product (e.g., perceived masculinity or femininity of the product, aside from actual gender use)? For both spokesperson voice pitch and phonetic symbolism effects for brand names, pitch may be related to attributes of the brand (e.g., competence, warmth, etc.) that have important implications for persuasion.

Another way in which individual differences may be integrated into research on linguistic effects pertains to the relation between individual differences in language use. To take one example, pronoun use (e.g., "I" vs. "we") is associated with a variety of individual difference variables (e.g., age, gender, personality, emotion, need states; Pennebaker, Mehl, & Niederhoffer, 2003). One possible avenue for future research is to address the question of whether these individual difference relations affect perceptions of the communicator. For example, do message recipients infer particular characteristics of the source based on how they use language, similar to the effects of voice pitch? The same considerations apply to other linguistic devices such as polite, assertive, and intensive language. Put differently, can the mediating role of expectations that has been noted for several devices be explained in part by inferences about the communicator based on what types of words they use and how they use them? If so, then persuasion may be enhanced by maximizing the congruence between these expectations and elements of the message.

Finally, we have confined our review to research that pertains to the effects of linguistic devices on message recipients. However, emerging research suggests that the language communicators use also affects communicators themselves. For example, the use of explaining language ("because") in online reviews can affect the communicators' own evaluations of an experience they are reporting, because the explaining language increases their understanding of the experience, which ironically can have detrimental effects, depending on whether the experiences are hedonic or utilitarian (Moore, 2012). Based on these findings, research that expands the focus to other linguistic devices may be fruitful. For example, what effects do the use of devices such as polite, assertive, or intense language have on the communicator? Correlations between individual difference variables and language use noted previously appear to assume that individual differences influence language use (Pennebaker et al., 2003). However, in instances in which the particular individual difference may be situational (e.g., mood, emotion, social constraints), does language use influence these variables? If so, then the words chosen to communicate product or experience information may have effects on the communicator as well as the recipient. Thus, research that goes beyond traditional communicator-recipient models may provide additional insight into how language affects thinking.

In conclusion, the review we have provided documents the extensive research on the persuasive effects of linguistic devices, and the framework we

have proposed provides an organizing tool for understanding how the linguistic devices exert their effects. However, despite the relative maturity of this research area, we believe there are important research questions yet to be answered, and the goal of this framework is to help structure and inform future inquiries.

Endnote

[1]Pitch was also discussed in the context of phonetic symbolism effects. However, we classify voice pitch as a separate linguistic device because the units of analysis are different (individual words vs. general speech).

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