



Verbal persuasion in marketing: A multimethod meta-analysis of analytical and narrative processing

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Abstract

Customers process persuasive verbal messages through analytical or narrative routes. Extant marketing research offers limited findings regarding the relative effectiveness of different communication antecedents to these routes; neither does it sufficiently specify if and how communication modalities (written vs. audio) and product/service type (hedonic vs. utilitarian) moderate their impact. To address this gap, the current article presents the results of a multimethod investigation. With a meta-analysis, Study 1 establishes the differential effects of antecedents on analytical and narrative processing and the moderating roles of both modality and product/service type. Study 2 gathers the expectations of marketing professionals to provide a comparison with the meta-analytic findings, highlighting areas of misalignment and a relevant managerial question pertaining to the effects of blended analytical–narrative messages. Study 3 addresses this relevant question with an experimental approach. The combined results offer novel insights into verbal persuasion and suggest several directions for research.

Keywords Marketing communications · Persuasion · Analytical processing · Narrative processing · Multimethod · Meta-analysis

Imagine a marketer considering the best communication approach to persuade customers. Should they focus on presenting clear arguments and benefits, or on crafting an engaging narrative with appealing characters and a compelling plot? Do the answers change depending on the chosen communication mode or the type of product/service being promoted?

Despite decades of scholarly research on verbal persuasion, many marketers still base such decisions on their gut intuition (Batra & Keller, 2016)—perhaps because, despite its breadth, the persuasion literature still has not established clear-cut answers to these practical questions. This lack of clarity is surprising, considering that effective persuasion is a cornerstone of modern marketing. Estimates suggest that U.S. consumers encounter 4,000–10,000 marketing messages

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daily (Forbes, 2022). This inundation of marketing stimuli has consequences: Two-thirds of consumers report wanting to receive fewer marketing messages (Optimove Research, 2023). Therefore, it is crucial to design persuasive marketing communications that stand out from the content clutter.

Considerable agreement in prior literature indicates that consumers interpret persuasive information through two main pathways: *analytical processing*, characterized by rational assessments and heuristic and systematic message elaboration (Petty & Cacioppo, 1986), or *narrative processing*, characterized by transportation into stories, which fosters emotional connections and identification with the characters and plot (Green & Brock, 2000; van Laer et al., 2014). Engaging customers through either analytical or narrative processing can enhance persuasion outcomes (Argo et al., 2008; Nielsen et al., 2018). However, previous research also reports instances in which both analytical (Van Stee, 2012) and narrative (Antonetti et al., 2018) processing diminish persuasion. Resolving such uncertainties likely requires a comprehensive assessment of how contextual variables influence the effectiveness of messages that evoke distinct processing routes.

To offer such an assessment, we undertake a multimethod investigation. First, in response to calls for further research on the executional aspects of persuasive marketing communication (Batra & Keller, 2016), and building on literature reviews conducted before the advent of Web 2.0 (Meyers-Levy & Malaviya, 1999) and meta-analyses that focus exclusively on narrative processing (van Laer et al., 2014), we provide a comprehensive meta-analysis of the antecedents, processing pathways, outcomes, and moderators of verbal persuasion. This meta-analysis encompasses 767 effects obtained from 308 studies with 54,715 participants (Study 1). Second, we complement our meta-analysis with a survey of 198 marketing professionals. While managers intuit half of our findings, half of the effects run counter to managerial expectation. Further, by comparing the findings from extant literature with managerial expectations, we identify questions about verbal persuasion that require deeper understanding (Study 2). Third, building on the managerial feedback, we conduct an experiment that offers a causal replication of the core effects from the meta-analysis, as well as evidence of the effectiveness of blended messages (Study 3).

Taken together, these three studies make multiple contributions to marketing communication theory and practice. First, drawing on the source–message–channel–receiver (SMCR) communication transmission model (Berlo, 1960), we integrate findings across a range of antecedents that have been introduced in both marketing and communications research. Across a broad set of extant research, we identify a normative pattern of effects of each antecedent on information processing (signal), while also revealing studies that deviate from the norm (noise; for

a similar method, see Camerer et al., 2018). This study thus is the first to examine the *relative* effects of various antecedents on dominant processing pathways (analytical vs. narrative), in contrast with studies that examine these effects in isolation (MacInnis & Jaworski, 1989; Meyers-Levy & Malaviya, 1999; van Laer & de Ruyter, 2010). With this novel approach, we provide guidance for marketers on how to tailor their verbal communications.

Second, we explore if and how the effects of narrative and analytical processing on persuasion depend on managerially relevant boundaries, including communication modality and product/service type. In so doing, we address mixed findings in previous research regarding the persuasive effects of spoken versus written messages (favoring spoken, Gathercole & Conway, 1988; favoring written, Barlow & Wogalter, 1993). That is, we clarify that narrative (vs. analytical) processing is more effective in written (vs. audio) formats. This insight is not anticipated by managers; it also represents a novel contribution to persuasion research. In line with calls for research on information processing related to hedonic and utilitarian products and services (van Laer et al., 2014), we further show how the emotional (vs. functional) appeal of hedonic (vs. utilitarian) offerings aligns with different persuasion approaches. Narrative processing is more effective for hedonic offerings, whereas we find no significant differences in the effectiveness of analytical processing for hedonic or utilitarian products. These theoretical boundaries underscore the importance of aligning message strategies with the persuasion context.

Third, in line with Hulland and Houston's (2020) arguments about the importance of meta-analyses for managers and Palmatier's (2017) directives for integrating managerial input into research agendas, we compare and contrast our meta-analytic findings with the expectations of marketing professionals. While the meta-analytic findings provide unique theoretical insights, the comparison illustrates that these insights are not necessarily anticipated by marketing managers. In addition to highlighting areas in which managerial understanding aligns with and deviates from extant marketing communication research, we conduct an experiment to address a critical managerial question that remains unanswered by verbal persuasion literature: Can analytical and narrative processing be balanced in the same message, in a way that enhances persuasion? We show that a blended message is more persuasive than either an analytical or a narrative message.

Theoretical background

Persuading customers through verbal communication is fundamental to marketing (MacInnis & Jaworski, 1989). For any persuasive outcome to occur, information must first be processed, which happens when people actively elaborate

on external stimuli, such as marketing messages, and mentally organize the received information (Bettman, 1979). The transmission model of communication identifies four components—source, message, channel, and receiver—that determine message encoding (Berlo, 1960), which in turn influences how customers process marketing communications. Across independent research streams, scholars have developed and applied theoretical frameworks that describe how consumers process persuasive information. Two prevalent frameworks describe analytical processing (Chaiken, 1980; Petty & Cacioppo, 1981) and narrative processing (Green & Brock, 2000; Slater & Rouner, 2002).¹

Analytical processing entails rational assessments, involving heuristic and systematic message elaboration. Dual-process models of persuasion, especially the elaboration likelihood model (Petty & Cacioppo, 1981) and the heuristic–systematic model (Chaiken, 1980; Chaiken et al., 1989), are widely applied in persuasion research. According to these models, people adjust their attitudes through deep, systematic considerations of message arguments or else by relying on superficial, heuristic cues (more vs. less analytical processing; Chaiken, 1980). Both the elaboration likelihood and heuristic–systematic models agree that greater analytical processing leads to stronger persuasion effects (Petty & Cacioppo, 1986), but some studies challenge this notion and offer evidence of a negative relationship between analytical processing and behavior (Van Stee, 2012).

Narrative processing instead is characterized by transportation into stories, which fosters emotional connections and identification with the characters and plot. When customers engage in narrative processing, they create mental representations of the story world and its characters, adopting their perspective and often experiencing vicarious emotions as the story unfolds (Green & Brock, 2000; Slater & Rouner, 2002). In this state, customers’ awareness of the “real world” is replaced by engagement in the story world (Green & Brock, 2000), such that they become less likely to critically evaluate its core messages (Slater & Rouner, 2002) and more likely to accept the story’s propositions (Escalas, 2007). While greater narrative processing is generally associated with increased persuasion, some studies report evidence of the opposite (Antonetti et al., 2018).

Both narrative and analytical persuasion can differ in the role and nature of people’s involvement in the persuasive

message (van Laer et al., 2014). During analytical processing, the receiver evaluates how personally relevant the message is. As relevance increases, so does involvement in the message, prompting more careful information processing. In contrast, during narrative processing, involvement implies becoming absorbed in the story world. Critical thinking and self-reference, which are central to analytical processing, are less relevant to narrative processing. Instead, involvement relies on how effectively the story is told. In turn, analytical and narrative processing often are considered incompatible, which may explain why limited research compares their relative persuasive effectiveness.

Conceptual development

We develop our predictions regarding the relative effects of the antecedents of analytical versus narrative processing, as well as the interplay of the moderators with analytical versus narrative processing. Figure 1 illustrates the conceptual framework.

Antecedents of analytical and narrative processing

Across contexts and methods, cross-disciplinary research identifies a range of antecedents that influence both analytical and narrative information processing. We categorize these antecedents according to the source–message–channel–receiver (SMCR) model of communication transmission (Berlo, 1960), which aligns with McGuire’s (1985) marketing communication–persuasion matrix and its customer, source, channel, and message categories. However, prior research often focuses on either analytical or narrative processing, missing the opportunity to explore potential differences in how antecedent characteristics related to the SMCR model might predict the relative likelihood of evoking either analytical or narrative processing. Therefore, we adopt an empirics-first approach to investigate the relative influences of these antecedents (e.g., Nanni & Ordanini, 2024). Drawing from extensive verbal persuasion research, we identify a comprehensive set of antecedents based on the SMCR model, which we summarize and define in Table 1.

Customer antecedents of persuasion Recipients’ characteristics influence how they process persuasive messages, and we outline five such characteristics identified in prior literature: First, *involvement* is the extent to which an attitude object is likely to affect individual goals (i.e., outcome involvement; Johnson & Eagly, 1989), offer an interesting and challenging task (i.e., task involvement; Schmitt et al., 1993), or relate to customers’ closely held values and morals (i.e., value involvement; Johnson & Eagly, 1989). Second, *awareness* refers to perceptions of an attitude object

¹ We acknowledge other conceptualizations of persuasion processes. However, analytical elaboration is cited about 13,179 times, and narrative processing about 6,102 times (at the time of writing), whereas other processes, such as processing fluency (Begg, Anas, & Farinacci, 1992; Dechene, Stahl, Hansen, & Wanke 2010; cited 1,613 times) and nudging (Thaler & Sunstein, 2021; cited 749 times), have received fewer citations or are too new to have sufficient datapoints to integrate them into our meta-analytic overview.

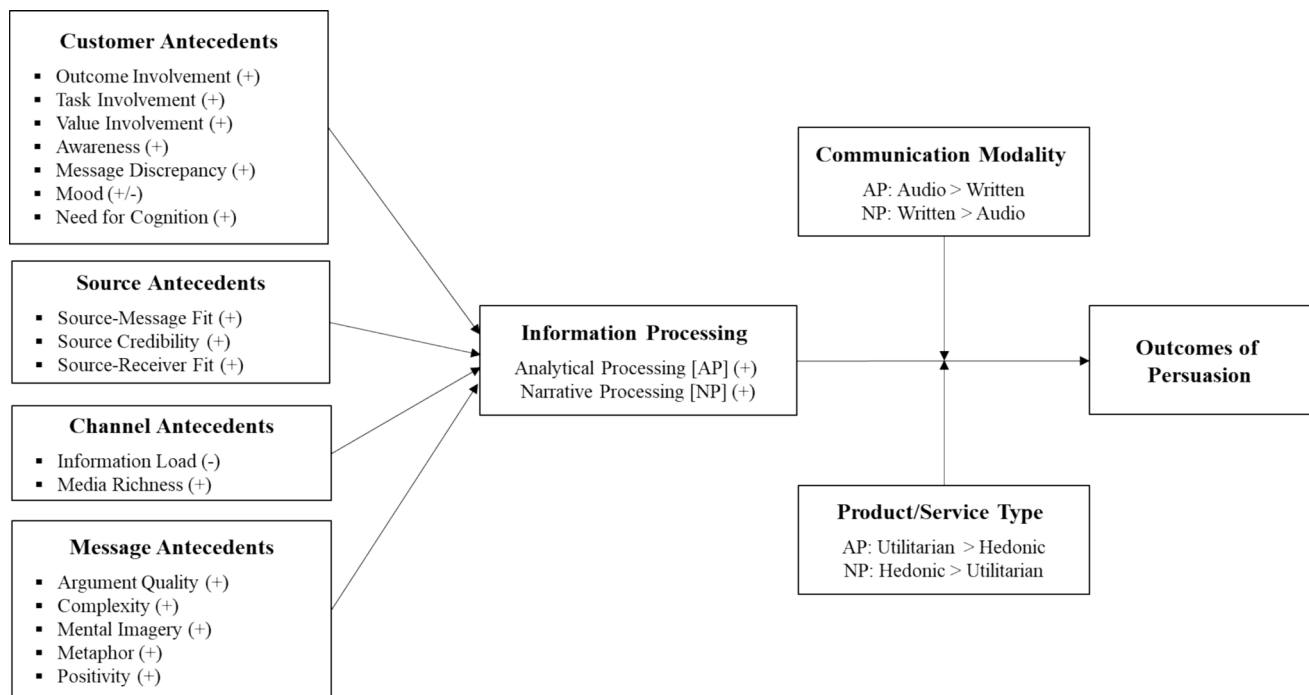


Fig. 1 Conceptual framework

due to mere exposure, stemming from people's knowledge of, familiarity, expertise, and experience with an attitude object. Third, *message discrepancy* refers to any incongruity between an attitudinal position advocated by the message and the person's initial view (Petty & Cacioppo, 1990). Fourth, we define *mood* as a generalized affective state that comprises a range of positive (e.g., happy, pleasant, relaxed) and negative (e.g., angry, sad, helpless) responses (e.g., happy or sad; Putrevu, 2014). Fifth, *need for cognition* is a person's intrinsic motivation to engage in and enjoy effortful thinking (Cacioppo & Petty, 1982). Because little is known about the relative effects of customer-level antecedents on the likelihood of engaging in either analytical or narrative processing, we explore whether these five antecedents differentially influence customers' analytical versus narrative processing of persuasive marketing communication.

Source antecedents of persuasion Three elements describing the source of a message can influence how customers process persuasive marketing communication. First, prior research has investigated *source–message fit*, or the degree to which the content of a message is consistent with characteristics of the source (Lynch & Schuler, 1994). Second, *source credibility*, or a message source's perceived expertise and trustworthiness, might increase information processing (Chaiken, 1980; Sujan, 1985). Third, greater *source–receiver fit*, reflecting

customers' perceptions of greater similarity between the receiver and source, also increases processing (Feick & Higie, 1992). Because extant studies focus exclusively on analytical and narrative processing, we lack insights into how these three source-related factors affect the likelihood of a customer engaging in either analytical or narrative processing though. Therefore, we explore how specific source antecedents differentially influence customers' analytical versus narrative processing of persuasive marketing communication.

Channel antecedents of persuasion The channel through which marketers communicate can influence how customers process persuasive marketing communication, as well. Past research investigates the implications of *information load*, or demands on the cognitive resources in people's working memory, that impede their information processing ability (Sweller, 1988). Another stream of research investigates the implications of *media richness*, which reflects the sensory breadth (i.e., number of senses stimulated) and depth (i.e., quality of stimulation) offered by a communication channel (Mitra et al., 2008). Again, because little is known about the relative effects of channel-level antecedents on the likelihood of engaging in different styles of processing, we explore how specific channel antecedents differentially influence customers' analytical versus narrative processing of persuasive marketing communication.

Table 1 Overview of all constructs

Constructs	Definition	Synonyms	Representative Articles	Expected Effect on Information Processing
<i>Customer Antecedents</i>				
Outcome involvement	Extent to which an attitude object is likely to affect customers' goals	Issue involvement	Mitra et al., 2008	<i>Increases processing.</i> As customers' involvement increases, so does the cognitive effort they devote to understanding the message (Green & Brock, 2000; Petty & Cacioppo, 1986)
Task involvement	Extent to which customers consider the task interesting, challenging, rewarding	Processing motivation, task importance, task attention	Kamins et al., 1990	
Value involvement	Extent to which the attitude object relates to customers' closely held values and morals	Personal relevance, personal concern, personal interest in topic	Klein & Melnyk, 2016	
Awareness	Perception of an attitude object through mere exposure, based on customers' experience, expertise, and familiarity with that attitude object	Category knowledge, product/service knowledge, product/service experience	Nielsen et al., 2018; Sela et al., 2012	<i>Increases processing.</i> Awareness mostly has positive (e.g., Nielsen et al., 2018; Sela et al., 2012), and rarely null effects (Gotlieb & Swan, 1990), on information processing
Message discrepancy	Incongruity between the attitudinal position advocated in the message and the customer's starting position	Preference for (in)consistent information, consistency between prior and updated information	Petty & Cacioppo, 1990; Sengupta & Johar, 2002	<i>Increases processing.</i> Incongruity violates customer expectations and creates a dissonance that customers feel compelled to resolve, leading to greater processing (Sengupta & Johar, 2002; Sujan, 1985)
Mood	A generalized affective state that may include a variety of positive (e.g., happy, relaxed) and negative (e.g., sad, frustrated) responses rather than a single emotional state	Positive (negative) mood	Putrevu, 2014	<i>Increases/decreases processing.</i> Mood evokes effects consistent with its valence (positive or negative) on information processing (Putrevu, 2014)
Need for cognition	A person's intrinsic motivation to embark on and enjoy effortful thinking	Need for cognition scale	Batra & Stayman, 1990; Cacioppo & Petty, 1982	<i>Increases processing.</i> Customers with greater need for cognition show increased processing of persuasive marketing communications (Chang & Yen, 2013; Escalas, 2007; Putrevu, 2014)
<i>Source Antecedents</i>				
Source–message fit	The degree to which the content of a message is consistent with characteristics of the source	Source–message content congruity, source–message content fit	Lynch & Schuler, 1994; Sengupta & Johar, 2002	<i>Increases processing.</i> Greater fit facilitates information processing (Aaker & Sengupta, 2000; Chen et al., 2015)
Source credibility	A message source's perceived expertise and trustworthiness	Source expertise, source trustworthiness, multiple (vs. single) sources	Aaker & Sengupta, 2000; Sujan, 1985	<i>Increases processing.</i> Source credibility increases information processing (Chaiken, 1980; Sujan, 1985)
Source–receiver fit	Customers' perceived resemblance with a source (e.g., demographics, preferences)	Homophily, source–receiver name similarity	Feick & Higie, 1992	<i>Increases processing.</i> Similarity between source and receiver increases processing (Feick & Higie, 1992)
Constructs	Definition	Synonyms	Representative Articles	Expected Effect on Information Processing
<i>Channel Antecedents</i>				
Information load	Demands on cognitive resources in working memory that impede information processing ability	Depletion, impediments to (facilitation of) processing opportunity, time constraints, enhanced (reduced) comprehensibility	Bohner et al., 2003; Sweller, 1988	<i>Decreases processing.</i> Greater information load (e.g., information overload, more distractions) can hamper information processing of persuasive marketing communication (Hamby et al., 2017)
Media richness	The sensory breadth (i.e., number of senses stimulated) and depth (i.e., resolution) offered by a communication channel	Stimulus interactivity (e.g., list vs. clickable/navigable facts); static (dynamic) presentation; animation and background music	Liu & Shrum, 2009; Mitra et al., 2008; Roggeveen et al., 2015	<i>Increases processing.</i> Greater media richness boosts processing of persuasive marketing communication (Roggeveen et al., 2015)
<i>Message Antecedents</i>				
Argument quality	Receivers' subjective belief that the arguments in the persuasive message are strong and cogent as opposed to weak and specious	Argument strength, message quality	Batra & Stayman, 1990	<i>Increases processing.</i> Strong arguments increase processing and lead to increased persuasion (Krause & Rucker, 2020)

Table 1 (continued)

Constructs	Definition	Synonyms	Representative Articles	Expected Effect on Information Processing
Complexity	Extent to which lexical, syntactical, and/or technical knowledge is needed to understand the message	Explanatory context present (absent)	Bradley & Meeds, 2004; Nielsen & Escalas, 2010	<i>Increases processing</i> Customers process complex messages more deeply (Petty & Cacioppo, 1979), and complex narratives eliciting a greater allocation of cognitive resources to imagine a story, increasing narrative processing (Nielsen & Escalas, 2010)
Mental imagery	Mental events that involve the visualization of concept or relationship	Mental simulation	Escalas, 2004	<i>Increases processing</i> Mental imagery can activate sensory information in working memory and thus enhance information processing (Escalas, 2004; MacInnis & Price, 1987; Nielsen et al., 2018)
Metaphor	A form of figurative language in which a word or phrase relates objects in different domains by conveying similarities or linkages ("Does debt weigh you down?")	Metaphor (literal) ad	Kim et al., 2012	<i>Increases processing</i> Metaphors can increase customers' attention and processing of persuasive messages (Chang & Yen, 2013; Kim et al., 2012; McQuarrie & Mick, 1996)
Positivity	The positivity and negativity of attributes or emotions depicted in a message	Positive (vs. negative) valence	Hamby & Brinberg, 2016	<i>Increases processing</i> Positivity increases information processing (Hamby et al., 2015)

Message antecedents of persuasion We identify five main message-related antecedents of persuasion in prior work. First, studies demonstrate an effect of *argument quality*, which reflects customers' subjective belief that arguments in the persuasive message are strong (as compared to weak) (Petty & Cacioppo, 1981). Second, message *complexity*, or the extent to which lexical, syntactic, and/or technical knowledge is needed to understand the message (Bradley & Meeds, 2004), exerts influence. Third, information processing depends on the *mental imagery* evoked by the message, because it can activate sensory information in working memory and thus enhance information processing (MacInnis & Price, 1987). Fourth, the intriguing influence of *metaphors*, defined as figurative language in which a word or phrase relates objects in different domains by conveying similarities or linkages (e.g., "Does debt weigh you down?" Phillips & McQuarrie, 2009), can increase customers' attention and processing of persuasive messages (Chang & Yen, 2013; Kim et al., 2012; McQuarrie & Mick, 1996). Fifth, substantial research investigates the implications of *positivity*, or the degree to which attributes or emotions in a message are perceived positively, and consistently indicates its persuasive benefits, by increasing information processing (Hamby et al., 2015). Because prior research addresses these message elements in the exclusive context of analytical *or* narrative processing, the relative likelihood of a customer engaging in either analytical or narrative processing depending on these message characteristics remains unknown. We explore how specific message antecedents differentially influence customers' analytical versus narrative processing of persuasive marketing communication.

Moderators of the relationship between processing pathways and persuasive outcomes

To date, we lack clear insights into whether marketing-relevant conditions, such as the communication modality and the product/service type, moderate the effects of analytical and narrative processing on persuasion. Because marketers seek to capture customer attention in increasingly saturated media environments, providing evidence about the conditions in which these processing paths yield the strongest effects promises to support more effective communication strategies (Batra & Keller, 2016). Existing meta-analyses call for further research into the moderators of the relationship between analytical (Wilson & Sherrell, 1993) or narrative (van Laer et al., 2014) processes and customers' subsequent reactions. Among several possible moderating factors, we propose that the communication modality (written vs. audio) and the product/service type (hedonic vs. utilitarian) are especially important (van Laer et al., 2014; Wilson & Sherrell, 1993), as well as subject to conflicting findings in prior literature.

Written versus spoken communication modalities Research on communication modality presents mixed findings, such that early studies document relatively stronger persuasive effects of either audio (Gathercole & Conway, 1988) or written (Barlow & Wogalter, 1993; McGinnies, 1965) message. These inconsistencies might result from an incorrect assumption that auditory and written information are processed similarly, a notion that has since been disproven (Tavassoli, 1998; Unnava et al., 1994). The persuasive effectiveness of written versus spoken messages may depend on the type of processing applied, which would help explain the fragmented findings. Drawing on multimodality research (Hull & Nelson, 2005; Tavassoli, 1998), we propose that written (vs. audio) messages are particularly persuasive when they evoke narrative (vs. analytical) processing. Reading verbal information is more cognitively taxing than listening to it, because readers must decode words into phonemes and then connect the associated sound to meaning (Hull & Nelson, 2005; Tavassoli, 1998). A written (vs. audio) format requires audiences to work harder to imagine the narrative world. However, the involvement experienced during narrative processing is pleasurable, so readers might be willing to expend this effort, which would lead to increased persuasion (Nielsen & Escalas, 2010).

When customers engage in analytical processing, they tend to be cognitive misers, limiting processing depth when possible (Petty & Cacioppo, 1986). The transient nature of audio requires listeners to focus and quickly evaluate the message content, promoting cognitive involvement, such that they first must assess personal relevance, and then evaluate the strength of the arguments. We thus expect the relatively easier-to-encode audio modality (default modality for language in all cultures; de Saussure, 1966) to enhance analytical processing, compared with the more cognitively demanding written modality. Formally:

H1a(b) Communication modality moderates the effects of analytical and narrative processing on persuasive outcomes, such that analytical (narrative) processing leads to greater persuasion in audio (written) based communication.

Hedonic versus utilitarian product/service We also consider the interaction of the utilitarian or hedonic nature of a product or service (Chitturi et al., 2008) with different information processing pathways. Utilitarian products offer functional and practical benefits; hedonic products offer experiential and enjoyment-related benefits (Oh & Jasper, 2006). This distinction is critical and directly affects the kind of involvement exhibited by the receiver, which in turn influences the processing style that is likely most effective.

We propose that promotional messages for utilitarian products are more likely to persuade if they evoke analytical processing. Utilitarian products and services typically prompt cognitive involvement, due to their functional nature, which aligns with analytical processing (van Laer et al., 2014), which highlights detailed information about product attributes and offers a piecemeal comparison of arguments and alternatives (Chitturi et al., 2008; Voss et al., 2003). If consumers undertake analytical processing of messages about cleaning products, a typical utilitarian product, a marketing message featuring content that allows them to discern the product's utility value may be particularly persuasive. In analytical persuasion, involvement hinges on the personal relevance of the message to implications for demands on the receiver's money, time, or resources, leading to receivers to engage in careful evaluation and thoughtful consideration of the arguments when the consequences are significant. Thus, we anticipate that the relevance of utilitarian product or service attributes to consumers' involvement and concerns drive their careful evaluation and analytical processing of the message.

In contrast, promotions for hedonic products are more likely to persuade if they evoke narrative processing. Hedonic products and services elicit affective involvement, because they are consumed for sensory pleasure and emotional satisfaction. This feature aligns with the fundamental experience of narrative processing, which engages customers through enhanced emotional response and involvement, in a more holistic manner than analytical processing (Deighton, 1992; Hirschman & Holbrook, 1982). Thus, promotions for hedonic products, consumed for their sensory and emotional appeal (Botti & McGill, 2011), may be especially persuasive when they evoke narrative processing. Formally:

H2a(b) Product/service type moderates the effects of analytical and narrative processing on persuasion outcomes, such that analytical (narrative) processing leads to greater persuasion for utilitarian (hedonic) offerings.

Study 1: Meta-analysis of verbal persuasion

Sampling and criteria for inclusion

We conducted a systematic meta-analysis of verbal persuasion research, focusing on both analytical and narrative processing paradigms. In the Social Sciences Citation Index, we identify key empirical studies, assigning priority to those articles with significant citation counts to ensure inclusion of influential contributions that have shaped the field, such as those by Chaiken (1980) and Petty and

Cacioppo (1986) for analytical processing (cited 8,131 and 17,065 times, respectively) or by Green and Brock (2000) and van Laer et al. (2014) for narrative processing (cited 5,954 and 1,267 times, respectively). To increase coverage, we also expanded the data set through cross-referencing (Rosenthal & DiMatteo, 2001), multi-database searches (e.g., ABI/INFORM, Business Source Complete, Science Direct, Google Scholar), manual shelf searches in key journals (Web Appendix A1), and unpublished works in ProQuest Digital Dissertations and Theses. To mitigate the file drawer problem common to meta-analysis, we solicited unpublished manuscripts from the ELMAR newsletter, though none of the four working papers we received met our inclusion criteria.

To be included, studies needed to (1) originate from marketing, psychology, or communications; (2) investigate one or more operationalizations of analytic or narrative processing; (3) provide quantitative data for coding relationships between cognitive processes and antecedents or outcomes; and (4) focus on verbal communication in text or audio channels. Thus, we excluded studies that primarily examined nonverbal communication cues or relied on nudges (Thaler & Sunstein, 2009), which have distinct, established influences on persuasion. We also made a deliberate decision to exclude certain processes, such as emotional (Huhmann, 2014; McQuarrie & Mick, 1996), automatic (Molden, 2014), or social comparison processes from our primary analysis, reflecting our effort to maintain a manageable scope and clear focus on the primary pathways of persuasive communication.

The first search returned 4,975 published articles and 2,988 unpublished works from the marketing, psychology, media, and communication disciplines. After excluding duplicates ($n = 1,483$) and articles that did not quantitatively investigate message or information processing effects ($n = 986$), we screened 1,049 published articles and 574 unpublished works. We could not calculate effect sizes for 2 articles, due to incomplete reporting in the article and a lack of responsiveness from the authors. After removing unavailable ($n = 4$) and retracted ($n = 2$) articles, we retained 227 published and unpublished articles that appeared between 1978 and 2023. These articles offer 767 relationship estimates, obtained from 308 studies, conducted with a total of 54,715 customers. Unpublished works make up 13% of our data set, which is twice the mean proportion (6%) in marketing meta-analyses. This percentage reduces the risk of publication bias. The maximum of 12 relationships reported by a single study (1.6% of total relationships) indicates that no one study supplies an excessive number of relationships. We list all articles included in the meta-analysis in the Supplementary Web Appendix.

Variable coding and capturing heterogeneity across studies

We summarize the definitions, synonyms, operationalizations, and representative articles for information processing and the outcomes in Web Appendix A2. The same information for the antecedents is available in Table 1. Web Appendix A3 provides the measurement and coding protocol for all variables. Two independent coders extracted effect sizes, measurement characteristics, reliability statistics, sample sizes, and other study characteristics. To capture the heterogeneity of studies, they categorized message modality (written vs. audio) and product/service type (utilitarian vs. hedonic), among various additional sources of heterogeneity.

Recognizing the diversity in research designs, we included a moderator to differentiate studies conducted in controlled laboratory settings versus online panels, which accounts for potential sample variances. Some studies (but not others) offer incentives for participation, so we control for this difference. To account for stimulus characteristics, we determine whether the message solely featured text (written or spoken) or if images, static or dynamic, accompanied the text. We also assess whether the message was an ad, editorial, or other type of text.

We include sample characteristics, including age, education, and gender. Detailed scrutiny and the use of facts to form attitudes is cognitively demanding (Williams & Drolet, 2005), and the cognitive capacities (e.g., attention, memory) needed to process information decline with age (Drolet et al., 2007). People with higher education can more easily assimilate new information with existing information to form attitudes (Schmidt & Spreng, 1996). Noting ongoing debates about the selectivity hypothesis, which suggests biological sex influences information processing thresholds and needs (Darley & Smith, 1995), we critically examine this factor in our study as well.

The average intercoder agreement was 95.6%, and the coders resolved any disagreements through discussion. If a study offered multiple effect size estimates, we included all of them.

Effect size computation

We estimated bivariate relationships among all antecedents, information processes, and outcomes. We apply at the effect size level, Hunter and Schmidt's (2004) random effects approach. We thus use artifact-corrected effect sizes, weighted by the sample size, to give more weight to more precise estimates. We also converted F values into effect size estimates. If the original scholars reported another test statistic, we use the formulas outlined by Hunter and Schmidt (2004) to convert t -tests, analyses of variance (ANOVA), or means and standard deviations.

Table 2 Antecedents and outcomes of persuasion

	All Information Processes						Analytical Processing			Narrative Processing			Test of Equality
	k	N	r	Q	I ²	FS	k	N	r	k	N	r	
Customer Antecedents													
Outcome involvement	75	13,433	.18**	1,040.83**	93%	75	72	13,077	.18**	3	356	.15	SP=NP
Task involvement	34	6,345	.23**	575.42**	94%	51	29	5,810	.25**	5	535	.05	SP>NP
Value involvement	27	5,969	.09*	164.25**	83%	9	27	5,969	.09*				—
Awareness	28	4,770	.11**	185.33**	84%	6	19	2,818	.06	9	1,952	.18**	SP<NP
Message discrepancy	33	4,718	.00	321.78**	89%	—	29	4,143	-.02	4	575	.15*	SP<NP
Mood	6	1,319	.04	36.61**	81%	—	6	1,319	.04				—
Need for cognition	41	9,114	.12**	177.24**	76%	17	33	7,193	.12**	8	1,921	.11*	SP=NP
Source Antecedents													
Source-message fit	16	6,648	.03	155.06**	89%	—	14	4,210	.03	2	2,438	.02	— ^a
Source credibility	33	10,259	.09**	201.61**	83%	24	27	6,045	.10**	6	4,214	.09*	SP=NP
Source-receiver fit	8	2,058	.31**	60.23**	85%	14	7	1,580	.23**	1	478	.55	— ^a
Channel Antecedents													
Information load	25	3,547	-.09*	246.97**	90%	37	23	3,323	-.09*	2	224	-.11	— ^a
Media richness	23	3,945	.14**	166.24**	86%	36	18	3,036	.11**	5	909	.24**	SP<NP
Message Antecedents													
Argument quality	49	8,550	.19**	778.66**	94%	122	44	6,980	.18**	5	1,570	.22**	SP=NP
Complexity	41	8,269	.09**	259.53**	84%	2	39	7,775	.09**	2	494	.16	— ^a
Mental Imagery	35	7,032	.22**	183.23**	80%	69	8	1,734	.17**	27	5,298	.24**	SP<NP
Metaphor	20	5,336	.10	141.71**	85%	—	20	5,336	.10				
Positivity	44	7,502	.18**	524.96**	91%	98	33	5,862	.13**	11	1,640	.36**	SP<NP
Outcomes of Persuasion													
All outcomes	229	48,023	.29**	2,379.41**	90%	572	150	31,765	.24**	79	16,258	.39**	SP<NP
Affective response	14	3,148	.51**	201.61**	93%	63	5	1,134	.47**	9	2,114	.52**	SP=NP
Cognitive response	10	2,244	.23*	68.87**	84%	12	5	850	.13	5	1,394	.29*	SP<NP
Recall	27	6,152	.11**	50.71**	45%	15	24	5,668	.11**	3	484	.10	SP=NP
Attitude	130	24,725	.29**	1,058.32**	88%	337	89	17,746	.23**	41	6,979	.44**	SP<NP
Intentions/Behavior	48	11,754	.33**	623.62**	92%	145	27	6,467	.34**	21	5,287	.32**	SP=NP

** $p < .01$, * $p < .05$, ^a $p < .10$. Significance is based on two-tailed tests

k = number of effect sizes, N = total number of participants in the original studies, r = inverse variance-weighted, bias corrected mean correlation, Q = test for homogeneity across studies, I² = proportion of the variance in observed effects that is due to variance in true effects rather than sampling error, FS = Fail Safe N

^aResults based on fewer than three effects are omitted

We report the sample-weighted reliability-adjusted averaged correlation and the 95% confidence interval associated with each relationship. To assess the effects of the relevant antecedents on each information process and the effect of each process on each consequence, we calculate not only the reliability-adjusted, sample-size weighted ρ but also the 95% confidence interval and conservative random effect z (Hunter & Schmidt, 2004). In addition, we calculate I^2 , a measure of heterogeneity that captures the proportion of the variance in observed effects that is due to variance in true effects rather than sampling error, and the file drawer N , or the number of null effects needed to reduce the significance of the mean effect size to the .05 probability level.

Results

Antecedents of information processing We report the meta-analytical effects of the antecedents and outcomes of information processing in Table 2. We first consider the effects of antecedents on overall information processing. In terms of customer characteristics, our analysis reveals that outcome involvement ($r = 0.18$, $p < 0.01$), task involvement ($r = 0.23$, $p < 0.01$), value involvement ($r = 0.09$, $p < 0.05$), awareness ($r = 0.11$, $p < 0.01$), and need for cognition ($r = 0.12$, $p < 0.01$) enhance general information processing, but message discrepancy and mood do not. Source credibility exerts a positive effect on overall information processing ($r = 0.09$, $p < 0.01$), whereas

source–message fit and source–receiver fit do not. Information load exerts a negative effect ($r = -0.09$, $p < 0.05$), and media richness exerts a positive effect ($r = 0.14$, $p < 0.01$). Argument quality ($r = 0.19$, $p < 0.01$), complexity ($r = 0.09$, $p < 0.01$), mental imagery ($r = 0.22$, $p < 0.01$) and message positivity ($r = 0.18$, $p < 0.01$) all have positive influences on message processing, yet the use of metaphors does not. We address these findings in more detail in the general discussion section.

Turning to the relative effects of each type of processing, a unique contribution of the present work, we find that the analytical processing results generally align with the overall results (cf. customer awareness, which is not significant). For narrative processing, we uncover several diverging effects. For example, message discrepancy does not exert a general effect on information processing, yet it is significant for narrative processing conditions ($r = 0.15$, $p < 0.05$). The effects of outcome involvement, task involvement, source–receiver fit, information load, and message complexity (significant in aggregate and for information processing) are not significant for narrative processing. Notably, the effect of task involvement on information processing is stronger in relation to narrative processing, as are the effects of customer awareness, message discrepancy, media richness, mental imagery, and message positivity.

Outcomes of information processing Our analysis reveals a generally positive impact of information processing on relevant outcomes ($r = 0.29$, $p < 0.01$). We provide a funnel plot for the focal effect r in Web Appendix A4. A symmetric (symmetric) funnel plot indicates greater (lower) risk of publication bias. The distribution of the focal effect is highly heterogeneous, ranging from r values of -0.19 to 0.86 . The Cochran's Q confirms this heterogeneity ($Q = 2,379.41$, $p < 0.01$ for 228 effects). In addition, almost all of the variance between estimates of the population of true effect sizes is systematic (i.e., $\tau^2 = 9.67\%$), as revealed by the 90.33% I^2 value. Examining moderators is thus warranted (Belli et al., 2022).

Our analysis reveals the novel insight that narrative processing ($r = 0.39$, $p < 0.01$) has a more pronounced impact on persuasion than does analytical processing ($r = 0.24$, $p < 0.01$; see Web Appendix A5). This distinction is also supported when we include all heterogeneity controls in a single model. We provide more detailed insights into the broad nature of each construct's influence (positive, negative, or null) in the general discussion section. Like Camerer and colleagues (2018), we distinguish studies yielding normative (typical) effects from those that are anomalies (atypical), as we illustrate in Web Appendix A6.

Moderator analysis We account for the structure of the data when assessing the impact of modality (audio vs. written) and product/service type (hedonic vs. utilitarian). As effect sizes are nested within samples it can result in correlated errors. As a consequence, a mixed-effects meta-regression model using a multilevel parameterization is used (Van den Noortgate et al., 2015). Such a model allows the observed effect sizes to be a normally distributed random sample of the true effect size population. It also allows the variance in true effect sizes to account for the random effects (data nesting of effect size and sample level), as well as the fixed effects of the moderator and several control variables. By statistically controlling for heterogeneity in the study designs, samples, and outcomes of the original studies, we address these otherwise omitted variables.

Web Appendix A7 contains the meta-analytic correlation matrix, including moderators and controls. The meta-regression analysis results in Table 3 reflect the findings when all other moderators are set at their sample average (Bijmolt et al., 2005). A maximum inflation factor of 2.23 indicates that multicollinearity is not a concern. Figure 2 illustrates the results of this meta-regression. Regarding communication modality, we find that analytical processing is more effective for audio ($r = 0.40$) than written messages ($r = 0.27$; $\Delta r = -0.13$, $p = 0.03$), as we predicted in H1a. In contrast, narrative processing is more effective for written ($r = 0.55$) compared with audio messages ($r = 0.45$; $\Delta r = -0.10$, $p = 0.07$), providing directional support for H1b. Turning to product/service type (utilitarian vs. hedonic), we find a significant moderation effect, such that narrative processing is more effective for hedonic ($r = 0.52$) than for utilitarian ($r = 0.36$; $\Delta r = -0.16$, $p < 0.01$) products and services, in support of H2a. Analytical processing exerts no different effects for hedonic ($r = 0.24$) and utilitarian ($r = 0.31$; $\Delta r = 0.07$, $p = 0.14$) products and services, in contrast with H2b, though the results indicate the predicted direction.²

Turning to heterogeneity across studies, we find that information processing exerts a stronger effect on affective response ($\beta = 0.172$, $p < 0.05$) and a weaker effect on recall ($\beta = -.076$, $p < 0.10$). Processing information through ads is more influential than through stories ($\beta = -0.1769$, $p < 0.01$). Moreover, age ($\beta = 0.006$, $p < 0.10$) and gender ($\beta = 0.004$, $p < 0.01$) significantly moderate the relationship between information processing and outcomes; older and female participants respond more

² A potential three-way interaction effect among information processing, communication modality, and product/service type is not significant ($\beta = .470$, $p = .22$), as we detail in Web Appendix A8.

Table 3 Meta-regression results

	Sample Statistics	Model 1		Model 2		Model 3	
		β	SE	β	SE	β	SE
Intercept (<i>Predicted r</i>)		.224**	.028	.226**	.028	.298**	.101
<i>Information Processing</i>							
Analytical processing ^a (AP)	66%	—	—	—	—	—	—
Narrative processing (NP)	34%	.276**	.047	.276**	.047	.277**	.051
<i>Communication Modality</i>							
Audio (vs. written)	15%	.125**	.033	.114**	.034	.086*	.036
AP $\times$ Audio (vs. written) ^a	7% ^b	—	—	—	—	—	—
NP $\times$ Audio (vs. written)	30% ^b	-.223*	.088	-.228**	.077	-.171*	.078
<i>Product/Service Type</i>							
Utilitarian (vs. hedonic)	66%	.072*	.033	.086**	.031	.071^	.037
AP $\times$ Utilitarian (vs. hedonic) ^a	70% ^b	—	—	—	—	—	—
NP $\times$ Utilitarian (vs. hedonic)	57% ^b	-.229**	.070	-.258**	.069	-.253**	.062
<i>Outcomes of Persuasion</i>							
Attitude ^a	57%			—	—	—	—
Affective response	6%			.132^	.075	.172*	.075
Cognitive response	4%			-.016	.060	.012	.056
Recall	12%			-.103**	.034	-.076^	.042
Intentions and behavior	21%			.004	.029	.022	.030
<i>Study Characteristics</i>							
Lab study (vs. online study)	75%					-.041	.048
Incentive (vs. no incentive)	63%					.042	.034
Real world (vs. artificial) stimuli	79%					-.059	.042
Experiential (vs. materialistic) stimuli	53%					-.036	.037
Text and image (vs. text only)	49%					-.001	.066
Text type: Ad ^a	61%					—	—
Text type: Story	14%					-.169**	.062
Text type: Other	21%					-.024	.073
Measurement with scale	65%					.013	.042
<i>Sample Characteristics</i>							
Students (vs. non-student) sample	72%					.013	.054
Age	Mean = 29.06 years					.006^	.003
Female	Mean = 53% female					.004**	.001
Sample size	Mean = 206.78					-.043**	.013
<i>Publication Characteristics</i>							
Unpublished (vs. published) study	14%					.052	.043
Journal impact factor	Mean = 4.58					-.012*	.006
Year	Mean = 2007.66					.002	.002
Pseudo R ²		.17		.25			.38
Number of effects		229		229			229
Number of studies		129		129			129
ICC		.65		.65			.65

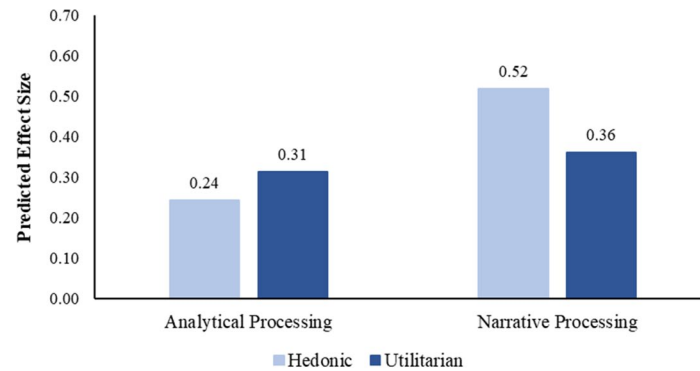
** $p < .01$, * $p < .05$, ^ $p < .10$. Significance is based on two-tailed tests with robust standard errors

The dependent variable is the reliability-corrected correlation

^a “General,” “attitude,” and “text type: ad” are base categories

^b Percentages refer to the respective information processing category

A: Moderating effect of communication modality



B: Moderating effect of product/service type

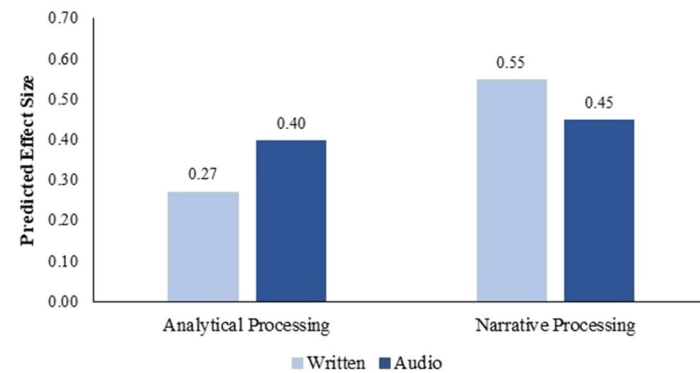


Fig. 2 Results of hypothesis testing in Study 1. **A:** Moderating effect of communication modality. **B:** Moderating effect of product/service type. Notes: We report predicted r values from the moderator analysis, including controls

strongly. The sample size ($\beta = -0.043$, $p < 0.01$) and journal impact factor ($\beta = -0.012$, $p < 0.05$) also negatively influence the reported effects, such that studies with larger samples and those disseminated in higher impact journals show diluted effects on the outcomes. These findings shed light on how heterogeneity in study designs affects the meta-analytical results.

Study 2: Comparing managerial expectations with meta-analytic findings

So far, our empirical approach aligns with Hurland and Houston's (2020) recommendations for meta-analytic contributions, in that we (1) integrate and synthesize extant knowledge about the relative effects of a wide range of communication antecedents on analytical and narrative processing and (2) resolve inconsistencies across prior studies on verbal persuasion by examining the moderating roles of communication modality and product/service type. This analysis enables us to highlight theory-driven gaps in

verbal persuasion literature, but Palmatier (2017) also suggests incorporating managerial input to reveal additional and novel research directions. Drawing on this advice, we sought the input of marketing professionals so that we could compare their expectations of the effects of the antecedents and moderators of analytical and narrative processing with the results of our meta-analysis. This comparison highlights which areas of verbal persuasion are common knowledge among practitioners, and which ones require clarification and reassessment. Furthermore, we asked managers to identify pressing questions regarding analytical and narrative processing that remain unanswered so far.

Sampling and data collection

Following guidance by Woolley et al., (2023), we recruited 198 ($M_{\text{age}} = 41.42$ years, $SD = 12.84$; 33% women) professional marketing managers via Prolific, using past employment in marketing/sales and management experience as screening criteria. These managers had 8 years of experience in marketing/sales on average, with an average of

Table 4 Comparing meta-analytic findings with managers' intuition

	Analytical Processing		Narrative Processing		Test of Equality (Meta-analysis)	Test of Equality (Managers)	F-value (Managers)
	r	Managers	r	Managers			
Customer Antecedents							
Outcome involvement	.18**	+1.40	.15	+1.37	AP=NP	AP=NP	<i>F</i> (1,83)=.03
Task involvement	.25**	+1.51	.05	+1.13	AP>NP	AP>NP	<i>F</i> (1,66)=4.37*
Value involvement	.09*	+1.22		+1.75	—	AP<NP	<i>F</i> (1,59)=5.96*
Awareness	.06	+1.90	.18**	+1.46	AP<NP	AP>NP	<i>F</i> (1,67)=5.73*
Message discrepancy	-.02	+.42	.15*	+.46	AP<NP	AP=NP	<i>F</i> (1,51)=.02
Mood	.04	+.86		+1.42	—	AP<NP	<i>F</i> (1,87)=6.09*
Need for cognition	.12**	+1.58	.11*	+.98	AP=NP	AP>NP	<i>F</i> (1,58)=5.57*
Source Antecedents							
Source-message fit	.03	+1.25	.02	+1.99	—	AP<NP	<i>F</i> (1,74)=2.85^
Source credibility	.10**	+1.99	.09*	+1.15	AP=NP	AP>NP	<i>F</i> (1,73)=11.15**
Source-receiver fit	.23**	+1.45	.55	+1.14	—	AP>NP	<i>F</i> (1,77)=1.93
Channel Antecedents							
Information load	-.09*	+.67	-.11	+.55	—	AP=NP	<i>F</i> (1,81)=1.16
Media richness	.11**	+.55	.24**	+1.62	AP<NP	AP<NP	<i>F</i> (1,70)=17.33**
Message Antecedents							
Argument quality	.18**	+1.30	.22**	+.91	AP=NP	AP>NP	<i>F</i> (1,78)=2.82^
Complexity	.09**	+1.81	.16	+.80	—	AP>NP	<i>F</i> (1,69)=15.98**
Mental Imagery	.17**	+.93	.24**	+1.72	AP<NP	AP<NP	<i>F</i> (1,57)=13.04**
Metaphor	.10	+.69		+1.63	—	AP<NP	<i>F</i> (1,61)=11.58**
Positivity	.13**	+.87	.36**	+1.31	AP<NP	AP<NP	<i>F</i> (1,66)=3.51^

** $p < .01$, * $p < .05$, $^{\wedge}p < .10$. Significance is based on two-tailed tests

6 people reporting to them. We first briefed the managers by telling them we were interested in their understanding of how common communication antecedents relate to analytical and narrative processing (1 = “strong negative association”; 7 = “strong positive association”). Each manager evaluated six randomly sampled antecedents (Table 1). Next, we asked them to indicate their expectations regarding whether analytical or narrative processing would result in increased persuasion, depending on the communication modality (written vs. audio) and product/service type (hedonic vs. utilitarian). For each antecedent and construct, we provided definitions in lay terms, along with examples. Finally, we asked the managers to report their most pressing questions related to analytical and narrative processing and how answering it would benefit their communication approach. We recorded demographic information, years of marketing experience, and number of people reporting to them, and thanked them for their participation.

Managerial expectations

Table 4 contains an illustration of a comparison of the relative effects between meta-analytic findings and managerial expectations. We first conducted repeated measures ANOVA

to compare managers' association of each antecedent with analytical and narrative processing. We then compared the results with the meta-analytic findings. The managers' expectations were aligned with five of the ten relative effects we tested, but they indicated different expectations about which processing pathway would be favored for (1) awareness, (2) message discrepancy, (3) need for cognition, (4) source credibility, and (5) argument quality. Thus, half of the effects were *not* intuited by the managers in our sample.

Among the moderators, our meta-analytic findings surprisingly revealed some effects that managers did not predict: 72% (vs. 28%) of managers expected analytical processing to lead to greater persuasion when the message was communicated in written (vs. audio) modality, and 32% (vs. 68%) expected narrative processing to be more persuasive when the message was communicated in audio (vs. written) modality ($\chi^2(1) = 37.35$, $p < 0.001$). Our meta-regression results show the opposite effect (audio is more effective with analytical processing, written is more persuasive with narrative processing), indicating that our findings are not only theoretically novel but also managerially unexpected.

The managerial expectations and meta-analytic findings align on with regard to the product/service type though: 74% (vs. 26%) participants expected that analytical processing

would lead to greater persuasion when the product is utilitarian (vs. hedonic), and 25% (vs. 75%) of them expected narrative processing to be more effective when the product was hedonic (vs. utilitarian; $\chi^2(1) = 46.55, p < 0.001$).

Open managerial questions

After organizing the responses into dominant themes (see Web Appendix B), we identified the most frequently raised question: “How can analytical and narrative processing be combined in the same message?” Notably, 28% of the marketing professionals indicated that knowing how to balance analytical and narrative processing in their communications would help them “create more impactful campaigns that resonate emotionally while providing the necessary information to drive decision-making,” “understand how to craft messages that appeal to both the rational and emotional aspects of consumer decision-making,” and “effectively integrate these two approaches to create messages that are both persuasive and engaging.” In addition, managers questioned how audience differences relate to differences in analytical and narrative persuasion (20%), as well as boundary conditions of general persuasion tactics (12%) and the relative persuasiveness of analytical vs. narrative processing (9%).

Managers’ primary question regarding blended messages also resonates with a notable gap in marketing persuasion literature. As our review reveals, few studies explicitly analyze the effects of verbal messages that evoke both analytical and narrative processing. A notable exception is Krause and Rucker (2020), who test a written modality and indicate that embedding weak arguments in a story enhances persuasion compared with presenting the weak arguments alone. However, when arguments are strong, incorporating facts into a story can undermine persuasion, which contradicts our meta-analytic findings (i.e., stronger persuasive effect of arguments in narrative processing). Thus, questions remain about the effects of blended messages on persuasion, leading us to conduct an experimental study to extend our meta-analytic findings with novel empirical evidence.

Study 3: Experimental replication and extension

To explore the relevant and novel effects of blended messages that evoke both analytical and narrative processing on persuasion, as well as to causally replicate the key finding regarding communication modality from the meta-analysis, we undertake an experiment in Study 3. Past research emphasizes that narrative and analytical processing are fundamentally different, involving distinct information search patterns and evaluation strategies (Adaval & Wyer, 1998). Slater and Rouner

(2002) note that classic dual-process models provide a valid description of analytical persuasion, or the extent of mental activities associated with evaluating argument strength often associated with messages that are overtly persuasive. In contrast, these models cannot explain narrative persuasion, which produces enduring persuasive effects without careful evaluation of arguments. According to this perspective, analytical and narrative processing do not overlap, and differ essentially in terms of the nature of involvement (with the arguments in the message vs. with the story), the nature of reception (inherently critical vs. inherently credulous), and the nature of processing (more cognitive vs. more affective) (Green & Brock, 2000; Slater & Rouner, 2002; van Laer et al., 2014). Furthermore, neuroscience research suggests that narrative and analytical modes of thought involve different brain regions (Mar, 2011; Yuan et al., 2018).

However, these two modes may interact with each other when elements of blended-format messages evoke these processes sequentially. Blended messages might be more persuasive, because they combine the strengths of both message formats: the analytical elements of the message may evoke careful scrutiny of embedded facts. When these facts are strong and personally relevant to the audience, the resulting positive elaborations may combine with the more experiential, inherently-pleasant advantages of narrative processing. The resulting positive cognitive and affective components evoked separately by the analytical and narrative processing may thus jointly bolster persuasion.

Another possibility is that the combination of fundamentally incompatible processing pathways decreases persuasion when evoked in rapid succession. Because narrative and analytical processing involve different brain regions, the “tacking back and forth” required may create a subjective experience of processing disfluency. Customers use feelings of fluency as an input when forming attitudes and preferences about the message, and the disfluency created by the processing of blended messages may reduce downstream persuasion (Labroo & Kim, 2009; Novemsky et al., 2007). Thus, we test two competing hypotheses:

H3a Blended messages are more persuasive than analytical and narrative messages.

H3b Blended messages are less persuasive than analytical and narrative messages.

We further examine the persuasiveness of blended messages, depending on communication modality (written vs. audio). As described in relation to our meta-analysis, reading (vs. hearing) verbal information is more cognitively taxing than audio encoding (Hull & Nelson, 2005;

Tavassoli, 1998). Written blended messages may benefit from the additional effort required to imagine the narrative part of the message, leading to increased persuasion (Nielsen & Escalas, 2010). The easier-to-encode audio modality instead may favor the factual part of a blended message, leading to increased processing fluency. Considering these multiple mechanisms at play for blended messages that vary in modality, we explore whether communication modality (written vs. audio) moderates the effect of blended messages.

Method

We employ a 3 (processing type: analytical vs. narrative vs. blended) $\times$ 2 (communication modality) between-subjects design and recruited 450 U.S. residents via Prolific ($M_{age} = 34.81$ years, $SD = 8.42$, 50% women). Participants evaluated an advertisement promoting a pair of sneakers, which previous research has used to represent a product with both utilitarian and hedonic qualities (Chen et al., 2017; Escalas, 2007). We sought to balance these qualities. To manipulate processing style, we varied the message format. In the analytical condition, we presented positive information about the shoes in an objective format (“Water-resistant uppers keep feet dry, even when splashing through puddles”). The narrative condition featured the same information but from a first-person perspective: “You splash through a puddle and notice your feet are still dry, courtesy of the water-resistant uppers.” In the blended condition, the first part of the message involves the narrative introduction (“Imagine yourself running through a shady, tree-lined park”), but it concludes with the presentation of facts about the shoes, as in the analytical condition. All information remained constant across conditions. To manipulate modality, we presented these messages in written or audio form.

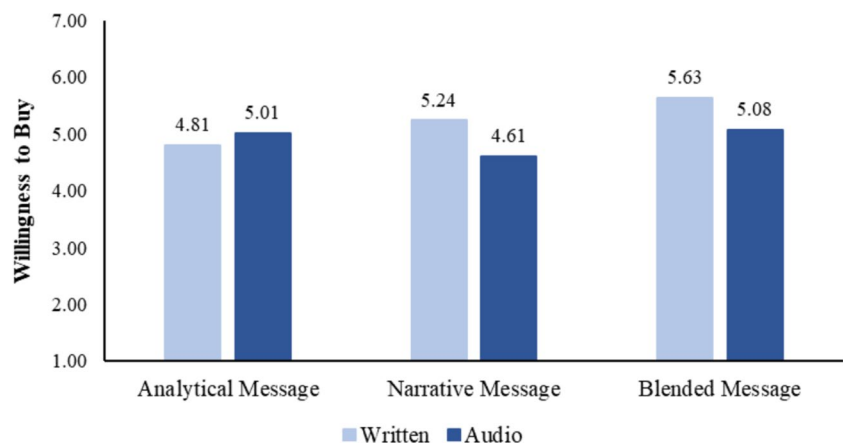
Participants completed a 7-point bipolar scale for willingness to buy (“How likely are you to consider Westerly shoes next time you need to purchase a pair of running shoes?”), followed by measures of general elaboration ($\alpha = 0.73$; 3 items, adapted from Shiv et al. 2004), narrative transportation ($\alpha = 0.79$; 3 items, Appel et al., 2015), and processing fluency ($\alpha = 0.90$, 4 items, Graf et al., 2018), in counterbalanced order. A confirmatory factor analysis indicated that all constructs loaded positively and significantly on the relevant factor, so the constructs are distinct (the three-factor solution yielded good fit: $\chi^2(41) = 180.53$, $p < 0.001$, confirmatory fit index = 0.95, root mean square error of approximation = 0.08). We averaged the multi-item measures to form a single index for each measure. The participants also completed manipulation checks for analytical and narrative processing, and they provided socio-demographic information. Web Appendix C provides the stimuli, manipulation and attention checks, and an exploration of potential mechanisms for Study 3.

Results

All manipulations worked as intended. We conducted a 3 (format: analytical, narrative, blended) $\times$ 2 (modality: written, audio) ANOVA on the willingness to buy measure, which yielded a significant main effect of message format. The blended message was more persuasive than either the analytical or the narrative message ($F(2, 444) = 4.35$, $p = 0.01$, $\eta_p^2 = 0.02$), in support of H3a. In addition, we find a significant main effect of modality, such that written messages are more persuasive ($F(1, 444) = 5.35$, $p = 0.02$, $\eta_p^2 = 0.01$), along with a significant interaction effect ($F(2, 444) = 3.58$, $p = 0.03$, $\eta_p^2 = 0.02$), as depicted in Fig. 3.

By decomposing these effects for the different message modalities, we can examine the effects for written messages separately. The simple effect is significant

Fig. 3 Interactive effect of message format and communication modality in Study 3



($F(2, 444) = 5.35$, $p = 0.004$, $\eta_p^2 = 0.03$). In the post hoc comparisons for written messages, the narrative message emerges as marginally more persuasive than the analytical message ($p = 0.08$), whereas the blended message is more persuasive than the analytical ($p < 0.001$) but not more so than the narrative message ($p = 0.11$). Next, we examine the effects for audio messages. The simple effect for audio messages is not significant ($F(2, 444) = 2.12$, $p = 0.12$, $\eta_p^2 = 0.01$), but the pattern of effects is consistent with the results of the meta-analysis: When presented in audio format, the narrative format elicits less persuasion than analytical message ($p = 0.10$) or the blended message ($p = 0.06$). The blended and analytical audio messages do not differ from each other ($p = 0.79$).

Discussion

The findings of this experimental extension replicate the key findings from our meta-analysis: Narrative messages are more persuasive when communicated in a written (vs. audio) modality, whereas analytical messages are directionally more persuasive when communicated in an audio (vs. written) modality. This study helps address a novel question of great interest to managers: Can blended messages influence willingness to buy? We find that (written) blended messages are the most persuasive message type, seemingly because they combine the strengths of written narrative and analytical messages.

General discussion

Our multimethod investigation seeks to enhance marketers' and scholars' understanding of persuasive verbal marketing communication. Verbal communication, both written and audio, is a cornerstone of marketing, and we provide a comprehensive framework of the antecedents, processes, outcomes, and moderators of verbal persuasive marketing communication. Our meta-analysis (Study 1) synthesizes findings pertaining to the (1) source, message, channel, and receiver antecedents of customers' processing of persuasive communication, in line with the SMCR model; (2) the primary processes by which customers are persuaded (analytical vs. narrative processing); and (3) the persuasion outcomes and moderators of processing relationships. Our study of marketing professionals (Study 2) reveals areas of alignment and misalignment between these meta-analytic findings and managerial perspectives, which in turn inspire an experimental extension (Study 3) that uncovers the greater persuasiveness that result when

messages blend analytical and narrative processing. With these insights, we reconcile mixed prior findings, offer new managerial insights, and raise important questions for further research.

Theoretical contributions

We make three broad contributions to extant literature on verbal persuasion. As our first contribution, we reconcile mixed findings regarding how SMCR antecedents influence the processing of persuasive marketing communication. When customers exhibit greater outcome, task, and value involvement, awareness, and need for cognition; the channel features higher source credibility and source–receiver fit, reduced information load, and greater media richness; and the message offers better argument quality, more complexity, mental imagery, and positivity, information processing is enhanced. These findings are in line with the expected effects and prior literature, as summarized in Study 1. However, the cumulative evidence for some of these antecedents contrasts with some prior individual studies. For example, we find no significant effects of message discrepancy or customers' mood (Putrevu, 2014; van Laer & de Ruyter, 2010). A classic explanation for message discrepancy is that incongruity violates customer expectations and creates dissonance that customers feel compelled to resolve, leading to greater processing (Sengupta & Johar, 2002; Suhan, 1985). However, if consumers reject the message outright (noting the potential for dissonance), it is unlikely that such incongruity leads to greater processing. Alternatively, other message elements (e.g., engaging visuals or text) may encourage consumers to process the message more intensively, even if the message is congruent with their beliefs, which would override the effect of (in)congruity.

The effects of mood on processing may be more nuanced than what we capture here. For example, the nature of the message content might interact with mood to determine overall message processing. Rather than a simple main effect, some research suggests that affective congruence with message content enhances message processing (e.g., a happy mood enhances processing of happy content; Forgas, 2017). Other research indicates that mood affects processing of different types of information (social, factual) distinctly (Bless, 2001). Thus, the null effect in our research may result from the average of opposing patterns.

We find no effect of source–message fit (Lynch & Schuler, 1994). Conventional logic suggests that greater fit facilitates information processing (Aaker & Sengupta, 2000). However, a lack of fit also might stimulate processing by people who

seek to resolve the incongruity. Moreover, as mentioned, it is possible that the null effect reflects the average of opposing patterns. Previous research might collapse distinct types of source–message fit too. For example, fit achieved between an endorser characteristic and product attribute (e.g., an athlete endorsing a sports drink) differs from fit between endorser expertise and message appeal type (e.g., an expert [vs. novice] endorsing a rational [vs. emotional] appeal).

Metaphors do not influence information processing either, though prior literature indicates that metaphors increase customers' attention to and processing of persuasive messages (Chang & Yen, 2013; McQuarrie & Mick, 1996). The use of metaphors often appears together with complex figurative speech, abstract ideas, or vague concepts, rather than straightforward, concrete descriptions (Do et al., 2024). Thus, some metaphors may increase attention and processing, but others could decrease attention, especially if the language is more abstract.

Our analysis goes beyond aggregating individual studies to reveal a nuanced pattern of effects that highlights the differences between normative and atypical influences on persuasion. Web Appendix A6 offers more detail about specific normative and deviant studies. By synthesizing studies of the influences of various antecedents on analytical and narrative processing pathways, we can compare their relative effects. The findings clarify that task involvement increases analytical processing, whereas customer awareness and message discrepancy increase narrative processing to a greater extent. Source credibility affects both processing types similarly, giving marketers greater flexibility in their message formulation. Among the channel characteristics we study, media richness effectively enhances customers' narrative processing, suggesting that stories are more effective in rich, vivid communications (van Laer & de Ruyter, 2010). Furthermore, argument quality exerts a similar influence on both processing pathways, a finding that challenges the conventional wisdom that narrative processing is not contingent on argument strength (Slater & Rouner, 2002). Robust, well-structured arguments appear universally effective, regardless of the processing pathway. Messages that evoke mental imagery and positivity instead are particularly well-suited for narrative processing.

As our second contribution, we uncover the *relative* efficacy of the two information processing paths by establishing moderating influences of communication modality (audio vs. written) and the product or service being promoted (utilitarian versus hedonic) on the relationship between processing and persuasion outcomes. Extant research has mostly examined narrative and analytical persuasion processes separately and identified moderators for each individual process, rather than considering both

simultaneously. Building on evidence that people understand different modalities through different processing channels (Hull & Nelson, 2005; Tavassoli, 1998), we find that audio (vs. written) messages are more persuasive when they evoke analytical processing, whereas written messages perform better than audio when they evoke narrative processing. This finding clarifies mixed results regarding the effectiveness of spoken versus written marketing communications (Barlow & Wogalter, 1993; Gathercole & Conway, 1988; McGinnies, 1965).

In terms of product/service type, narrative processing is more effective for hedonic (vs. utilitarian) products and services, and analytical processing is equally effective for hedonic and utilitarian offerings. Hedonic products deliver value to consumers through their sensory appeal and ability to create pleasure (Hirschman & Holbrook, 1982), and it appears that the mental simulation afforded by narrative processing may enable consumers to assess these value propositions more effectively. This finding clarifies previous mixed results, which show that narrative processing can be both more (Escalas, 2007; Hamby et al., 2015) and less (Antonetti et al., 2018; Hong & Park, 2012) persuasive than analytical processing.

Our third contribution is to identify and conduct an initial exploration of an effect that has received minimal research attention but that managers consider critical: the persuasive efficacy of blended messages that evoke both narrative and analytical processing. In investigating the effect of blended messages, as well as the moderating role of communication modality (written vs. audio), we find that written blended messages are the most persuasive message type. The common assumption that analytical and narrative processing are incompatible (Green & Brock, 2000) seemingly has limited research into the simultaneous, relative persuasive efficacy. By comparing their relative efficacy and establishing that blended messages are most persuasive, we offer the novel insight that narrative and analytical processing may represent complements rather than antagonists. More research is needed to understand *when* and *why* written blended messages represent a superior message format, but our study offers an initial step toward understanding how to maximize messages' persuasive efficacy.

Managerial implications

Getting verbal persuasion “right” is critical to stand out among the barrage of marketing communications that customers receive (McKinsey & Company, 2020). Our studies provide important implications for managers who need to optimize their persuasive marketing communications. To illustrate the value of our findings for marketing managers, we conducted a managerial validation study with 14

senior marketing managers (average experience = 17.6 years, range = 6 to 40 years). We first presented our findings and then asked how these insights could inform their current practices, as detailed in Web Appendix D. This survey, together with Study 2, informs our managerial recommendations.

Rethinking assumptions about verbal persuasion effectiveness Our meta-analysis, survey, and interviews reveal critical misalignments between current marketing practices and the actual drivers of verbal persuasion (for a comparison, see Table 4). Marketing professionals expect that awareness strongly drives analytical processing, that message discrepancy exerts an equal impact on both narrative and analytical pathways, and that need for cognition is strongly linked to analytical processing. Contrary to these predictions, we find that awareness and message discrepancy are more closely tied to narrative processing and need for cognition prompts no significant preference for either style. Strategically, for consumer groups that are already familiar with a brand or product, or when delivering messages that challenge existing beliefs, companies should prioritize narrative-based communication to yield stronger engagement and persuasion outcomes. For example, Nike's "Move to Zero" campaign challenged conventional beliefs about the trade-off between sustainability and fashion by using human-centered narratives of resilience to demonstrate that fashion, performance, and sustainability can coexist in the same product. Furthermore, managers expected source credibility and argument quality to be more impactful in analytical processing, whereas our analysis demonstrates that these two antecedents both exert similar positive influences on narrative and analytical processing alike. Marketers should carefully select their endorsers, whether influencers, spokespeople, or brand ambassadors, based on their perceived expertise and trustworthiness, as well as their alignment with the target audiences' demographic or psychographic characteristics. For example, a tech company targeting younger consumers would benefit from partnering with trusted tech influencers whose style and tone resonate with this audience. This was the case of Samsung's partnership with influencer Marques Brownlee, renowned for both his tech savviness and authentic narrative style, who promoted the Galaxy smartphones series to both tech "geeks" and those drawn by authentic, relatable storytelling.

Align communication style with modality Our research reveals a clear distinction in the effectiveness of narrative and analytical processing, depending on the communication modality. Narrative processing drives significantly greater persuasion when conveyed through written channels, such as blogs and emails, with a 102% greater impact on persuasion outcomes compared with audio formats. Analytical processing instead proves more effective when delivered through

audio formats, such as radio ads and podcasts, with a 13% greater effect on persuasion compared with written communication. Although 74.1% of senior managers acknowledge that modality influences verbal persuasion, opinions about the optimal pairing of modality and information processing appear divided, echoing the findings from Study 2. Some respondents correctly identified the differential impact: "Audio, face-to-face, or web calls are far more effective than written communication in the pharma industry, given the complexity of the products we market" (Head of Customer Insights & Analytics). Others expressed a contrasting view though: "Written messages are better suited to deliver analytical content" (Marketing Director). After reviewing our findings, they acknowledged the need to adjust their tactics. Strategically, narrative content should be prioritized in written formats, allowing for in-depth storytelling at the reader's pace. In contrast, audio-based communications should focus on delivering clear, logical arguments to capitalize on the strengths of analytical processing.

Tailor communication style to product or service type Both the marketing professionals in Study 2 and senior marketing managers demonstrate strong intuitions about how "product" type shape verbal persuasion, reflecting a solid grasp of the "product" element in the marketing mix. As noted by the Head of Marketing of a multinational firm: "In my experience, hedonic products tap into a more primitive part of the brain, making narrative messaging that speaks to aspirations and pleasures resonate on a subconscious level. For utilitarian products, we tend to rely more on logic and data to convince potential customers to buy." However, our findings challenge the simplicity of this distinction: Narrative processing enhances the effectiveness of promotional messages for both hedonic and utilitarian products and services. Marketers should therefore incorporate narrative elements, such as testimonials, usage scenarios, or brand stories, that emphasize the product's impact on customers' daily lives, regardless of whether the product is hedonic or utilitarian. Procter & Gamble's "Thank You Mom" campaign aligned with this recommendation, deploying a compelling narrative to promote a portfolio of utilitarian products such as detergents and hedonic products such as personal care items. This approach capitalizes on the power of storytelling to drive persuasion in both contexts.

Leverage blended messages A key takeaway from our research is the effectiveness of messages that combine analytical and narrative elements to prompt both types of processing. Senior managers reported similar usage frequencies across the three formats—analytical (29%), narrative (34%), and blended (37%)—but noted a tendency to favor one approach based on function: "The product teams

prefer analytical, while marketing communications teams lean toward narrative” (Marketing Communications Manager). This view was echoed by the president of a digital marketing agency, who stated, “In business-to-business communications, presenting evidence-based arguments in a narrative format, especially through snackable digital content, significantly elevates engagement. For business-to-consumer communications, however, we typically don’t blend analytical and narrative elements, opting for one or the other.” However, our experimental findings suggest that blended messages—especially in written formats—are particularly persuasive. Several managers recognized this insight as a valuable opportunity to refine their approach and expressed eagerness to test the effectiveness of this blended strategy in their own campaigns. Marketers should consider integrating both analytical and narrative components strategically in their messaging to maximize impact, particularly in written communication, because blended messages offer a compelling way to engage audiences by combining logic and emotion.

Methodological implications

Hulland and Houston (2020) and Palmatier (2017) offer excellent recommendations to improve the contribution of meta-analyses by integrating and synthesizing existing knowledge, developing novel conceptual frameworks, resolving inconsistencies, and incorporating managerial input to uncover new avenues for empirical investigation. Extending their recommendations, we propose that meta-analytic work can improve both its theoretical contributions and managerial relevance by integrating managerial insights. Rather than concluding a meta-analytic paper with a summary of findings, we encourage scholars to put their work under the scrutiny of marketing professionals. These practitioners can provide their unbiased expectation with regard to the effects that the researchers hypothesize, and offer their perspective on the most pressing issues in their field in relation to the topic investigated.

Then, researchers can do two things. First, they can compare managerial expectations with their findings to highlight areas of convergence and identify areas requiring clarification of managerial understanding, as we have done in our Study 2. Second, researchers can triangulate the areas practitioners identify as in need of further investigation with unresolved gaps and/or conflicting findings in the relevant literature, and highlight one or two fruitful avenues for further empirical investigation. In our Study 3, we triangulate the theme managers most frequently mentioned as underexplored, namely embedding analytical and narrative processing elements within the same message with the persuasion literature (Green & Brock, 2000; Slater & Rouner, 2002; van Laer et al., 2014) to uncover a relevant

theoretical gap that we then explore empirically using an experimental study.

In line with our empirical package, we advocate the use of multimethod meta-analyses, which extend traditional meta-analytic work by (a) seeking managerial feedback on meta-analytic findings, (b) comparing meta-analytic findings with managerial expectations, (c) exploring theoretically-relevant areas of managerial interest not covered by the meta-analysis with additional methods (e.g., follow-up experiments or surveys), and (d) confronting managers with the multimethod results to capture their perspective areas of managerial applicability.

Future research directions

Our multimethod investigations yield valuable insights into the antecedents of analytical and narrative processing in persuasive marketing communications, their subsequent effects on customer outcomes, and the moderating roles of communication modality and product/service type. As a general limitation of meta-analyses, heterogeneity of original studies and effects introduces variability to the results. Despite using multiple theory-driven moderators and an extensive set of controls, we were only able to capture 38% of the variance in the original studies (see Table 3). Thus, we call for future research to explore additional sources of heterogeneity in the effects of information processing on the outcomes of persuasion. More specifically, several areas of the persuasion literature remain uncertain and have not been measured sufficiently to be included in our meta-analysis. These gaps represent opportunities for continued research, particularly on themes that are beyond the scope of our main or follow-up studies.

Mechanisms of blended messages Although we examine various explanations for the mechanisms that might drive the effects of blended messages (Web Appendix C3), our findings remain inconclusive. Blended messages elicited higher levels of transportation than analytical messages, but none of the mechanisms we tested fully accounted for the differences between narrative and blended messages. Perhaps the persuasive efficacy of blended versus narrative written messages depends on other processes, not explored in our study, such as perceptions of message balance or credibility. Such factors represent promising topics for research.

Customer characteristics We address a range of customer characteristics that facilitate or hinder information processing, though limited research has tested the effects of demographic factors on persuasion. Digital natives—consumers born after 1980—are typically more familiar with rich media and interactive technology than older generations. Given their affinity for these digital formats, cognitive loads may have a weaker effect on suppressing the benefits of media

richness for digital natives compared with older consumers. How do demographic factors influence the persuasion process though? Are certain segments, such as digital natives, more drawn to rich media content and more resistant to information overload?

In addition, internal biological processes follow systematic 24-h cycles, suggesting that the time of day may influence how consumers respond to persuasive messages. Cognitive depletion accumulates throughout the day, which in turn could affect how consumers process both argument-based and narrative messages. Perhaps novel messages are more effective in the afternoon or evening. In the morning, when cognitive resources are more abundant, consumers might engage better with complex arguments or narratives (Moyer-Gusé & Wilson, 2024). By evening, they might prefer and respond more favorably to simpler arguments or hedonic narratives. Managers often can schedule content distribution, so exploring these questions has significant practical implications. Can contextual factors, such as the time of day, shape the effectiveness of persuasive communication? Does time of day influence analytical versus narrative processing in response to persuasive messages?

Source characteristics Messages are increasingly disseminated by non-commercial, non-professional, and even non-human sources, which may influence both counterarguments and persuasion outcomes. Research into persuasive communication thus would benefit from examining whether and how persuasion differs when the source is a nonprofit or peer. Do source–receiver fit effects become more pronounced in these contexts, and if so, for which type of information processing does the magnitude of this effect increase? Nonprofit sources are generally perceived as more credible, due to their lack of commercial motives, but what about influencers who receive product giveaways or financial incentives from companies? We identify a non-significant effect of source–message fit on information processing, but this relationship may vary in social media contexts where influencers review and promote content by leveraging their topical expertise. The effects of nonprofit and peer sources on persuasion also might differ depending on the form of persuasion evoked; analytic persuasion pathways might be more affected than narrative processing for example.

Another relevant consideration is the growing impact of non-human message sources, such as chatbots and AI assistants, which are increasingly prevalent in customer interactions (Miao et al., 2021). Further research is needed to understand how persuasive communication might be processed differently when the audience is aware of an artificial source, as well as how narrative and analytical pathways might differentially influence persuasion in these scenarios. Consumers often hold preexisting attitudes toward AI (Davenport et al., 2020), such

that it is critical to explore whether their negative attitudes might lead to heightened resistance that disrupts information processing, and then how such resistance might affect the overall efficacy of persuasive messaging.

Channel characteristics Channels differ in the degree to which they incorporate text, audio, visuals, haptic properties (i.e., sensory perceptions via touch), and synchronicity. These variations present several promising research opportunities. First, further exploration is needed into how the auditory modality and vocal features, such as vocal pitch or loudness, influence persuasion. Arguably, vocal features should be tailored to the type of information processing that marketers aim to evoke. Innovative media such as video games, virtual reality, and the metaverse provide consumers with a greater sense of agency, allowing them to interact with and partially control the environment in which they encounter persuasive messages. Yet such interactive environments also could lead to information or sensory overload, rather than persuasion.

Second, to extend research on the influence of haptic properties on consumption behavior (Krishna & Morrin, 2008) and persuasion (Peck & Wiggins, 2006), continued studies should investigate how haptic cues affect message processing. Channels that incorporate haptic elements may be more persuasive if less analytical processing is required. Furthermore, haptic cues might enhance persuasion, by fostering embodiment, or they could distract consumers, thereby reducing their immersion. Such questions are particularly relevant considering the anticipated rise of virtual reality-enabled commerce.

Third, channels vary in synchronicity. In video chats, statements are usually often followed by immediate responses, whereas in email or text communication, responses may be delayed by hours or days (Chiu et al., 2014). This variation in synchronicity may influence the degree of deliberation or the extent to which audiences reflect on their responses (Oba & Berger, 2023). Synchronous channels, such as service or sales calls, may limit deliberation and reduce analytical processing. Asynchronous channels instead might enhance persuasiveness, because their self-paced nature allows audiences to engage in greater mental imagery and deeper immersion.

Message characteristics The study of blended messages demands further research, as highlighted by both our experimental findings and feedback from marketing managers. Our experiment indicates a directionally superior effect of written blended messages, though the underlying mechanisms remain unclear. Our process measures cannot conclusively identify why blended messages are more persuasive. Moreover, the effectiveness of blended messages may vary by audience, as suggested by one of our managerial informants. Researchers thus might explore message sequences (e.g., presenting facts at the beginning versus the end), the nature

of factual integration within narrative messages, and the optimal balance between narrative and analytical content. As tools for processing unstructured data continue to evolve, research in persuasive marketing communication also might incorporate unstructured text, audio, and image data to generate new insights. Researchers could leverage a growing range of dictionaries, lexica, and algorithms that facilitate text-mining and allow for the analysis of which constructs influence how consumers process persuasive marketing messages. For example, the Certainty Lexicon (Rocklage et al., 2018), a computational tool that measures certainty in language, could provide insights into how analytical processing affects attitude certainty. Another direction for research could include examining specific word classes (e.g., obscenities; Lafreniere & Moore, 2023) that might disrupt processing fluency. Research has already begun investigating the impact of emojis on communication outcomes (Orazi et al., 2023); continued efforts could determine which words and symbols enhance the effectiveness of verbal persuasion and whether their influence differs between analytical and narrative processing.

Nonverbal persuasion Although we focus on the persuasive influence of verbal messages, and control for the presence of images, the proliferation of new media necessitates dedicated investigations into nonverbal persuasion, particularly the role of images. The use of visual content to persuade consumers is increasingly prevalent, especially on digital platforms such as TikTok and Instagram, and this area warrants a meta-analysis of its own. Including images in analytical processing conditions might enhance persuasion compared with narrative processing, because mental imagery already is activated inherently during narrative processing. Conversely, distracting or misaligned images may reduce the effectiveness of analytical processing, by diverting attention or introducing incongruent elements. Additional research is needed to explore these dynamics and clarify how images interact with different information processing styles to influence persuasion outcomes.

Conclusion

Verbal communication, whether in writing or conversation, is a cornerstone of marketing. By integrating valuable insights on analytical and narrative processing from persuasion literature, we provide a managerially-relevant, multimethod meta-analysis that offers a comprehensive framework capturing the antecedents, processes, outcomes, and moderators of verbal (both audio and written) persuasive marketing communication. We complement and extend this framework by seeking managerial feedback and further

probing into the joint effects of analytical and narrative processing elements embedded in the same message, accounting for message modality. We hope our findings, avenues for future research, and managerial implications will aid marketing scholars and practitioners in their endeavors. We also hope to see a growth in the number of future meta-analyses that combine different methods to uncover managerially-relevant insights.

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Declarations

Conflict of interest The authors have no conflict of interest.

Ethical approval The plan for supporting empirical studies has been reviewed by a Research Ethics Board at Vrije Universiteit Amsterdam, reference number SBE/50/dhn327 (Study 2 and managerial surveys) and Monash University, reference number ID40584 (Study 3).

Competing interests The authors declare no competing interest.

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