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Evaluating Listening Theory: Development and Illustration of Five Criteria

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Scholars have lamented the lack of focus on theory-driven listening research for several decades. Unfortunately, these discussions have made little headway toward making listening research more grounded in theory. This article argues that one reason for the lack of focus on developing and testing listening theory is that listening researchers may not fully understand the nature and necessity of theory. Thus, a working definition for theory is proposed and a set of criteria that can be used to evaluate social scientific theories of listening is deduced. These criteria are then used to evaluate two listening theories. The article concludes by illustrating how these criteria can be used to inform the development of new listening theory.

ROLE OF THEORY IN LISTENING RESEARCH

For several decades, listening scholars have lamented the paucity of theory-driven research (Fitch-Hauser & Hughes, 1988, 1992; Witkin, 1990; Wolvin, in press). Certainly, not all listening research lacks theoretical grounding. Examples of published listening scholarship taking seriously the role of theory include the work of Bostrom and his colleagues (Bostrom & Bryant, 1980; Bostrom & Waldhart, 1980) on the development and attempted validation of a measure of listening comprehension, Fitch-Hauser's (1984, 1990) research on the role of schema-based processing in listening, and the recent development by Janusik (2005, 2007) of a measure of conversational listening span. These exceptions

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notwithstanding, much published listening research is variable analytic and lacks a clear theoretical focus (Wolvin, Halone, & Coakley, 1999). Although variable analytic research has its merits (e.g., informing theory, establishing empirical relationships), "the resulting outcome is an interesting portrayal of how a variable relates to other variables, and although intriguing . . . [when this research neglects] a discussion of theory [it] simply provides a description of a puzzle piece without illustrating how that piece fits into the puzzle as a whole" (Young, Plax, & Kearney, 2006, p. 389).

Theory-driven research, on the other hand, provides a more complete and coherent lens through which to view research findings. It allows for description of individual puzzle pieces as well as for understanding the place of those pieces within a unified whole. In addition, although exploratory research is helpful in, for instance, suggesting that relationships exist and generating data that can eventually build a theory, a body of research that is theoretically vacuous limits the ability to understand and explain why social phenomenon are or are not related. Moreover, when research lacks theoretical grounding, several competing and even contradictory explanations might explain study results, thus confining the utility of our scholarship. As stated by Wolvin et al. (1999), "only through possessing a clear theoretical understanding of . . . listening will subsequent research efforts, assessment efforts, instructional efforts, and practical efforts concerning the role of listening be comprehensively understood" (p. 124).[1]

The problem of an atheoretical approach to research is not confined to the field of listening. Fields as practical as counseling psychology (Karr & Larson, 2005) and social work (Gomory, 2001; Thyer, 2001), for instance, have long debated the role of theory in directing research efforts. Although listening scholars can certainly gain insight from these writings, the facts and circumstances surrounding the theoretical problems of listening research are somewhat unique and provide the impetus for the current essay. First, recent discussion at conferences convened by the International Listening Association (ILA) has surfaced a belief that a lack of focus on theory in listening research results from a lack of listening theory. Not only does such thinking vastly underestimate the scope of our field, but it also highlights a crucial reason that our research lacks a focus on theory: our field may have only a vague idea of what theory actually is. Indeed, much of what is cast as "theorizing about listening" consists of attempts to generate a universal definition of the concept (Glenn, 1989; Witkin & Tochim, 1997). Although definitions of listening can imply a particular notion of listening, a definition is not a theory as defined here. While defining listening is certainly a

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[1] Although a similar argument can be made when there are several competing theories—that is, when several theories exist that explain the same phenomenon, their explanations can be contradictory—the current article asserts that creating strong tests of these competing explanations will remedy such a problem. The reader is referred to the section on evaluating theory as support for this assertion.

respectable task, to suggest that defining and theorizing are isomorphic is a misrepresentation of the nature of theory.

Second, in recent years ILA-sponsored conferences have featured exponentially more panels and discussion-based sessions about the role of theory and how theory can inform research and practice. The most notable of these was the 2006 Fall Listening Forum at which several days were devoted to discussions of theory and research and which produced a state-of-listening-theory article recently published in this journal (Bodie, Worthington, Imhof, & Cooper, 2008). As this most recent state-of-listening-theory article points out, we have reached a critical point in the development of the field of listening, one that requires us to concentrate on "[establishing] a common language and identifying areas in need of further development" (p. 104).

In light of the lack of theoretically driven research, the tenability of the proposition that theory is a misunderstood concept among listening researchers, and the fact that theory building can help create common language, this article provides a conceptual definition of theory then outlines a set of criteria for evaluating social scientific theories of listening. Of course, as with all definitions, the one presented in this essay is not the only workable definition of theory. Instead, it is one among many possible definitions useful for informing theory-building and subsequent research in listening. Perhaps this article will spark other scholars to forward additional definitions of and criteria for evaluating listening theory. Limitations notwithstanding, the set of criteria proposed in the following section should aid in identifying listening theory where it exists as well as separating theory from pseudo-theory. Two subsequent sections appeal to the utility of these criteria by (a) evaluating two theories of listening and (b) demonstrating how new theory can be developed in light of these criteria.

NATURE AND EVALUATION OF SCIENTIFIC THEORY

In this article, a distinction is made between science as used to refer to disciplines such as chemistry and physics from a science defined as *a way of knowing*. In other words, in this article, science refers to any utilization of scientific methods or theorizing to understand. In an effort to aid in the process of discovery, scientists develop theory to guide what they look for, how they look for it, and what counts as evidence supporting or refuting general propositions; the function of theory, then, is to guide discovery and interpretation. Thus, throughout this article *theory refers to a systematic accounting of interrelated phenomena and why their relationships exist.*

Scientific theories are specific organizing frameworks that provide in-depth understanding and make arguments for specific relationships among constructs; these theories are not simply useful or heuristic but describe and explain how and

why things work as found in nature or in social life (Burleson, 1992). That is, theories posit that relationships exist *because* of particular underlying mechanisms that explain those relationships. In this sense, the purpose of social scientific theories is no different from the purpose of theories of natural phenomena. As the natural sciences were created to understand the natural world, the social sciences were created to understand the social world. Natural and social scientists alike are interested in solving puzzles, understanding patterns, and ultimately in "sense-making."

How social life works and is made possible, its mechanisms and patterns of behavior are the purview of the social sciences.[2] Indeed, humans do not act in a completely random manner. Rather, humans act in patterned and, oftentimes, predictable ways. Thus, science as a way of understanding social phenomena is possible to the extent that systematic relationships exist in the social world. As argued by Fay and Moon (1994), however, social scientific "sense-making" is fundamentally different from the sense-making conducted in the natural sciences. The behaviors and actions studied by social scientists are meaningful—we are interested in, for example, the salute as a sign of respect as opposed to the strict motor behavior of arm raising. The phenomena of interest to social scientists are nested in social structures and functions that have specific meanings. These meanings are created by those we wish to study. The constructs we use to describe and explain the social world must, therefore, reflect this meaning. It is not enough to know *what* something means. Simply being part of a certain culture or participant can provide meaning and interpretation. Thus, there is little need for systematic study of *what* something means; there is, however, a need for systematic study of *why* something means and how it came to mean that and not something else.[3]

In sum, this essay rests on two assumptions. First, science describes a way of understanding that is not confined to natural phenomena. Second, the purpose of theory in the social sciences is similar to that of the natural sciences, that is, to provide a systematic understanding of some set of observable facts. Now that theory has been defined, how can we identify "good" social scientific theory? If

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[2]Several philosophers of science (e.g., Winch, Schutz, Kuhn) argue that scientific knowledge is made possible only through the creation and maintenance of a community with a set of rules and guidelines that one must follow to "do science." As Fay and Moon (1994) point out, however, it does not follow that the process of "doing science" be simply relegated to the humanistic exploration of meaning-making and interpretation. That "doing science" is possible is an interesting and complex phenomenon, one that is patterned and able to be studied scientifically; understanding what it means to "do science" should, therefore, also be a concern of social science exploration, broadly speaking.

[3]This argument further highlights why a focus on ascertaining one definition of listening is not the best use of our theoretical time. Instead, proposing definitions (plural) of listening that are embedded within certain theoretical frameworks and are, thus, useful for a given purpose should constitute any effort to define listening.

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our research on listening is to be theoretically grounded, it should be grounded in the best available theorizing. To assist in the process of evaluating theory, five criteria are provided and explicated below. Each criterion is based on my working definition of theory and on the assumptions that underlie this definition.

Criterion One: Organization

If theory is a systematic accounting of interrelated phenomena and why their relationships exist, the first criterion of good theory is its ability to provide a coherent account of (a) the phenomena of interest and (b) how they are related. Good theory provides a unifying framework that allows deeper understanding into a certain area. A recent example of how theory can help organize seemingly disparate listening research comes from Bodie et al. (2008). In their article, the authors summarize research on listening across three primary areas: information processing, listening competency, and individual differences in listening predispositions and behavior. Although these literatures seem disconnected, when placed into the framework of an integrative model of listening presage (the personal and contextual preconditions of listening), listening process (system-based covert mental and overt behavior), and listening product (the various outcomes of listening predispositions and processes), these elements can be organized in a way that allows for deeper understanding and more nuanced research prediction. As Einstein once commented, "It is a glorious feeling to discover the unity of a set of phenomena that seem at first to be completely separate" (Isaacson, 2007, p. 67). Without theory, connections between literatures can be obfuscated and novel understanding thwarted.

Criterion Two: Explanation

Organization, although important, does little more than provide a heuristic lens whereby a small aspect of the social world is more easily comprehended. Every-day common-sense is often enough to engage in this activity, although it is no less necessary of a good theory.[4] Going beyond organization to explanation separates lay theory from scientific theory. This involves explaining why two or more constructs are related at the nomological (theoretical) level. In other words, explanation goes beyond organization by specifying (a) how it is that two behaviors came to be connected, (b) why these behaviors are connected in characteristic ways, and/or (c) what mechanisms underlie their connections.

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[4]In fact, some consider theorizing as a form of common-sense thinking called transcendental deduction (Flanagan, 1991) whereby the theorist deduces a set of propositions about some aspect of social life that seem in line with his or her experiences.

Suppose a physicist is interested in the movement of an in-play ball when struck by the cue ball in a game of pool. As impetus for theory development the physicist makes other, similar objects collide and then observes how these collisions are similar to or different from the cue ball collision. First, she provides boundary conditions that specify exactly what she considers within the realm of her theory of movement. Second, she appeals to higher level constructs, such as objects, which specific units, are examples. Finally, she will appeal to a mechanism, such as force, that is underlying the relationship between the stable object and some approaching object and makes the resulting outcome of the collision possible.

This same process can be used in attempting to discover an explanatory framework for social phenomena. Suppose a listening researcher is interested in what constitutes "good" versus "poor" listening. A variable analytic approach would entail defining good and poor listening and measuring individual differences thought to correlate with each. The results would inform us of the individual predispositions that are associated with good and poor listening; however, they would lack information about why. Upon reading the literature in persuasion, the researcher might run across theory that appeals to the constructs of ability and motivation, helping to explain individual differences in good and poor listening behavior. That is, perhaps some individuals are more able and/or motivated to engage in good or poor listening behaviors; this explanatory framework should shed light onto the results of his previous research to the extent that the individual difference variables found to correlate with good and poor listening can be explained as constituting a variable that effects either (a) individual motivation or (b) individual ability to listen in characteristically good or poor ways. By appealing to the underlying constructs of ability and motivation, the researcher has provided an explanation of why certain individual differences affect listening behavior in specified ways. Understanding why enables the researcher to suggest more useful and nuanced recommendations for effective listening practice (i.e., to become a more effective listener one must be both motivated and able to practice "good" listening behaviors).

Criterion Three: Elegance

Some would argue that the social world is complex, necessitating our theories to have an element of complexity. Others have suggested that theories should be parsimonious since the role of science is to simplify (Russell, 2000). The elegance criterion captures both the necessity to represent the true character of a relationship (as complex as that character might be) as well as to not lose sight that the role of science is to aid in understanding; a theory that is too complex may confuse as oppose to illuminate conceptual relationships.

Take the structure of language as an example. To the outside observer any given language is overwhelmingly complex; however, languages are patterned

and can be broken down into smaller and identifiable units that make understanding that language possible. The lexical, syntactic, semantic, and pragmatic rules that govern any given language are relatively simple compared to the fact that one can generate an infinite number of meaningful sentences, words, and phrases from any given language. This level of simplicity is elegance—capturing the inherent complexity in language by reference to smaller, simpler, and easier to test phenomena.

Criterion Four: Testability

Originally proposed by Popper (1965) to provide an alternative to the verification principle popular with logical positivism, falsifiability refers to a theory's ability to provide a "strong test" of its propositions, whereby strong test refers to "a serious attempt to falsify [a theoretical hypothesis]" (Phillips, 2000, p. 141). The possibility of a theory being "falsified" increases as the constructs and mechanisms used to explain the phenomenon of interest become more specific. Specification of constructs and mechanisms allows a theory to produce more precise propositions that can generate more precise hypotheses. The more precise hypotheses are, the more likely that results found in opposition will allow one to show weakness in the organizing and explanatory power of the theory; similarly, results found in favor of the theory will be more informative.

Thus, the more precise a listening theory is, the more confidence we can have in results generated by tests of that theory. For example, the integrative model of listening referenced previously might predict that individuals who are motivated to more efficiently apply appropriate listening schemes for processing information will be able to more quickly and appropriately respond to a demanding listening task than are individuals who are less motivated. The reason for this relationship is that motivated information processors are more likely to process all relevant information in his or her environment, providing a greater amount of information available for organizing into schema. More developed schema should, in turn, aid in individuals producing a quicker and more appropriate response than less developed schema. This rationale allows for a rather precise directional prediction; only showing that those highly motivated versus those not highly motivated are able to respond more appropriately will support the theory. What this theory does not afford, however, is specification of the magnitude of difference. In other words, the theory is silent to the question of how different should appropriateness be between those low and high in motivation before we accept that difference as support for the theory. Specification of the magnitude of differences that will count as support for the theory should come partially from contextualizing the integrative model of listening in, for example, the realm of argument and debate or social support. Further specification may also come from testing and replicating tests across a range of contexts to examine the

similarity of relationships across settings, persons, and information and conducting meta-analytic studies to further refine the theory.

Criterion Five: Accuracy

Although the four prior criteria are important in assessing a theory's worth, this final criterion is perhaps the most important: good theories should be accurate. Before Newton's theory of gravity, Galileo proved that planets orbit the sun, as opposed to the "earth as center of the universe" hypothesis. Newton's theory of gravitation provided an explanation of why planets orbit in the shape of an oval as opposed to a circle. However, with the advent of Einstein's General Theory of Relativity, Newton's theory was replaced with an accurate portrayal of space-time curvature as opposed to force as the explanatory mechanism.

As with theories of natural phenomena, social scientific theories of listening should organize and explain in elegant and testable ways that *accurately* reflect how listening operates in social life. Take, for example, theories suggesting there are gender differences in listening as the result of the ways in which men and women are typically socialized (for review, see MacGeorge, Graves, Feng, Gillihan, & Burleson, 2004). [5] Although this Different Culture's Thesis (DTC) (for review, see Burleson & Kunkel, 2006) has received a vast amount of press, the fact that no empirical evidence exists to support its claim that men and women constitute distinct cultures goes against the criterion of accuracy (Goldsmith & Fulfs, 1999). [6] Instead, extrapolating from research in other communication domains, it is fair to assume that gender differences in listening might be better explained in the context of similarities between men and women with regard to listening behavior (Burleson & Kunkel, 2006; Canary & Hause,

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[5] A researcher might also appeal to neurological differences in brain structure (Phillips, Lowe, Lurito, Dzenidzic, & Mathews, 2001). Such an explanation might be just as accurate as an explanation that appeals to differences in socialization. In fact, both explanations appear accurate; men and women do, in fact, differ with respect to listening preferences, listening behaviors, and brain structure. However, neither explanation provides a completely accurate picture of gender differences in listening in isolation. Moreover, neither of these theories incorporate gender-based similarities.

[6] Evidence for this hypothesis would consist of finding distributions that had no empirical overlap. Instead, research that reports effect size and/or confidence interval data reveals that the distributions of men and women share 90% or more overlap of the dependent variables under investigation. Those studies that seemingly "support" the DTC rely only on statistical significance as grounds for this support. The reader is referred to several sources on the use and misuse of statistical significance testing and the necessity of reporting effect sizes and confidence intervals in research examining differences and similarities between two or more groups (Bakan, 1996; Cohen, 1994; Folger, 1989; Frick, 1996; Greenwald, Gonzalez, Harris, & Guthrie, 1996; Harlow, Mulaik, & Steiger, 1997; Levine, Weber, Hullett, Park, & Massi Lindsey, 2008; Levine, Weber, Park, & Hullett, 2008).

1993; MacGeorge et al., 2004). In other words, although men and women might hold somewhat different listening preferences or exhibit somewhat different listening behaviors, these differences will not likely outweigh the similarities among the listening preferences and behaviors of men and women. [7] In all, good theories will posit, specifically and in accordance with empirical facts, when and why differences will be found and when and why similarities will prevail.

Summary

Theory has a central place in listening research. Its role is to help accurately organize and explain an important social phenomenon in ways that capture its complexity in the most parsimonious fashion and that can be subjected to strong empirical tests. The fruit of good theory is its ability to understand listening in all its manifestations as well as understand findings from existing research that may seem disconnected or contradictory. Of course, one could argue for several gradients of "good." That is, how well does a theory have to adhere to the five proposed criteria to be considered a good theory? To illustrate how one could go about assessing the goodness of a listening theory, the next section applies these criteria to evaluate two theories that attempt to explain the impact of source, receiver, and environmental variables on the outcomes of persuasive messages.

APPLYING THE CRITERIA TO EVALUATE THEORY

The two theories that will be evaluated below have been labeled "dual-process" theories of persuasive message outcomes because each explains variation in the impact of source, receiver, and environmental variables on the outcomes of persuasive messages by appealing to the amount of systematic thinking people engage when listening to persuasive information. Although not traditionally thought of as listening theory *per se*, each deals with one way in which scholars have defined listening, as information processing (see Bodie et al., 2008). Since the reader may be unfamiliar with these theories, a brief overview is provided.

Two Dual-Process Theories

In their Elaboration Likelihood Model (ELM), Petty and Cacioppo (1986) claim to have begun their "studies of persuasion at a time when social psychology was in

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[7] Supporting this claim is the fact that studies assessing gender differences in listening find effect sizes that are small in magnitude such that gender consistently explains less than 5% of the variance in relevant dependent variables (Johnston, Weaver, Watson, & Barker, 2000; Luttrell, 1992).

'crisis'" (p. vii). Their vision was to organize attitude change research that, on its surface, seemed contradictory under a unified dual-route framework. The attitude change literature included (a) theories that appealed to central route or systematic and cognitive-based persuasion—persuasion was a rational, thought-based process, and (b) theories that appealed to peripheral or heuristic-based persuasion—persuasion was a process that happened outside of issue-relevant thinking. In addition, the attitude change literature was filled with studies that found messages and other persuasive information (e.g., source credibility) sometimes had effects on attitude change and sometimes did not. The variable effects of argument quality, source credibility, attractiveness, likeability, and other aspects of the persuasive situation pointed not to a hopeless mass of contradiction but rather to conditions that increased or decreased the likelihood of elaboration. Their resulting dual-route framework helped organize discrepant findings. In other words, their theory helped answer the following question: Why do different elements of persuasive appeals have an effect on attitude change in some conditions but not in others? It was the amount of cognitive effort extended within a persuasive attempt that explained the effects of persuasive information.

Similarly, in her Heuristic-Systematic Model (HSM), Chaiken (1980) referred to two "views" of persuasion, a systematic view that "emphasizes . . . the role of message-based cognitions" and a heuristic view that "focuses on the role of . . . cognitive heuristics" (p. 752) in mediating attitude change; a view completely consistent with the "crisis" described by Petty and Cacioppo. Ultimately, Chaiken was concerned with explaining the "relative impact of source and message variables on persuasion" (p. 754), and she, too, appealed to a dual-process view of persuasive message processing to do so. Thus, a common vision seems to capture the dual-process approach to theorizing about attitude change: to correctly and concisely understand the ways in which (persuasive) messages have their effects on recipients; although persuasion research is seemingly contradictory, commonalities in the ways this information is processed under certain conditions suggests a unifying framework.

In general, dual-process theories posit that decisions and judgments are a function of the extent to which information is processed, with judgments sometimes based on all available information and other times based on only a subset of available information. In the realm of message processing, this translates into the effects of messages being a joint function of the way in which messages are processed (extensive to nonextensive) and features of the messages (content versus cues). Dual-process theories also specify that the degree of processing is determined by an individual's motivation and ability to extensively process message content. As motivation and ability increase, the potential to attend to and elaborate on (systematically process) message content does as well. Moreover, these theories maintain that message content should have relatively large and enduring effects, and cues should have negligible effects, when

messages are processed under conditions of high motivation and ability. Environmental cues should have larger effects, and message content smaller effects, when messages are processed under conditions of low motivation and/or ability. Dual-process theories further imply that although the magnitude of effects (e.g., degree of attitude change) achieved through more and less extensive processing may be equivalent, more enduring and stable effects should generally be produced when message content is extensively processed.

As organizing frameworks, dual-process theories provide a more coherent and inclusive account of attitude change than single cognitive analysis or conditional learning theories. As an explanation, the theories appeal to two constructs: motivation and ability. That is, motivation and ability drive whether people will process information in more or less extensive ways. As far as elegance, dual-process theories of persuasion suggest only two processes that mediate attitude change and appeal to only two mechanisms driving processing extent. These theories are clearly testable having generated hundreds of studies since their inceptions and seem to have a high degree of accuracy since tests generally support theoretical predictions.

These theories do, however, differ in important respects. First, although both theories are often cast as dual-process theories, the ELM is more accurately described as a dual-route theory and the HSM as a dual-process theory (see Petty, 1994). The ELM postulates an elaboration continuum that describes the cognitive effort that can be extended to processing persuasive communication. Elaboration is defined as "the extent to which a person carefully thinks about issue-relevant information" (Petty & Cacioppo, 1986, p. 7). Thus, as elaboration increases, listeners put forth more effort to attend to the central merits of the persuasive communication. When elaboration is relatively high, persuasion occurs via the central route, whereas persuasion occurs via the peripheral route when elaboration is relatively low. The ELM suggests there are several processes through which persuasion can take place, some taking very little and others taking very much elaboration to complete.

The HSM assumes that people are cognitive misers—they only put forth cognitive effort when necessary—and, thus, heuristic processing will operate when an individual has a relevant heuristic available and accessible (or made accessible) during the presentation of a message. Systematic thinking can only overcome heuristic processing when sufficient motivation to process is met. Systematic and heuristic processing are the only two modes of thinking posited in the HSM, making it truly a "dual-process" theory.[8] In addition, the HSM

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[8] In the ELM, persuasion occurs through the peripheral route when motivation and ability are low and a peripheral cue is present; since heuristic processing is but one of many modes that constitute the peripheral route, the theory is silent about criteria for its operation except for motivation and ability.

posits that people can simultaneously process information through the systematic and heuristic modes and that these modes interact in distinct ways depending on "the implications of the information brought to mind by heuristic and systematic processing and on the ambiguity of the persuasion message" (Todorov, Chaiken, & Henderson, 2002, p. 199). The ELM proposes an elaboration continuum that suggests these two routes do not co-occur; instead, they seem to operate independently and conditionally based on motivation and ability (when motivation and ability are low, central route; when motivation and ability are high, peripheral route).

Second, the HSM outlines the mechanism through which variables affecting motivation stimulate systematic processing; systematic processing occurs because these variables increase the discrepancy between actual and desired confidence of a judgment (the sufficiency principle). Conversely, the ELM suggests that motivation to hold correct attitudes induces elaboration and that holding correct attitudes is more or less important to certain people under certain conditions. The HSM also distinguishes, and provides empirical evidence for, three qualitatively different motivations. Although Petty and Cacioppo (1986, pp. 88–90) mention different types of motivation, not much emphasis is placed on this issue.

Third, the ELM proposes that variables can affect persuasion in only one of three ways: (a) by serving as an argument, (b) by serving as a peripheral cue, and/or (c) by influencing the direction and extent of processing. Given the HSM's proposal that heuristic and systematic processing can co-occur, it proposes how this might happen. The additive, attenuation, and bias hypotheses govern when and under what conditions the two processing modes will have additive effects, when systematic processing will attenuate heuristic processing, or when heuristic processing will bias systematic processing (Todorov et al., 2002).

Finally, a standard critique of the ELM relates to the nature of argument quality (e.g., Stiff & Boster, 1987). Specifically, ELM studies generate manipulations of argument quality based on the generation of favorable thoughts in pilot testing as opposed to manipulating argument quality using more structural criteria such as evidence (O'Keefe, 2002). Petty and Cacioppo (1986a) suggest that postponing the specifics that make an argument strong or weak was a necessary step to initially test the ELM; of course, this argument still stands as the reason such work has yet to be done in the two decades since its inception. The HSM addresses one aspect of this critique with the manipulation of "ambiguous messages" (Chaiken & Maheswaran, 1994). When persuasive evidence is "open to interpretation," the presence of heuristic cues can bias systematic processing. Results from Chaiken and Maheswaran showed that in high importance conditions (high motivation) individuals exposed to ambiguous messages from highly credible sources had more favorable attitudes toward an object than individuals exposed to ambiguous messages sent by a low credible source. Of course, a viable next step would be to extend this line of thinking with regard to a solid theory of persuasive messages.

Based on this overview of similarities and differences, the next section will apply the five criteria for good theory to evaluating the ELM and HSM. Each criterion will constitute its own section and specific similarities and differences will be used as evidence.

Evaluating the Theories

Organization

As organizing frameworks, both theories provide a more coherent and inclusive account of attitude change than single cognitive analysis or conditional learning theories. Indeed, these theories can help organize the seemingly disconnected findings that constituted the original crisis that prompted their development. The ELM does, however, hold a slight edge given its more "inclusive" peripheral route. The HSM posits only one way through which environmental cues (e.g., source credibility) can have an effect on attitude change, namely, by triggering a quick decisional rule (e.g., "credible sources are believable"). The ELM suggests that attitude change can occur by heuristic decision making as well as through other processes that do not require much systematic thinking to operate and maintain. For instance, source attractiveness was a variable studied in persuasion before the development of the ELM and HSM; its effect was sometimes to enhance attitude change and sometimes to have no effect. The ELM explains the relationship between attractiveness and attitude change by appealing to conditional learning; we start to associate products with attractive people and "like" the product or brand more. For the HSM to explain this effect, it must appeal to an attractiveness heuristic—no such heuristic has been found in the empirical literature. The ELM also gains an edge with regard to the organization criterion because its framework allows for more than cognitive response analysis to explain central route processing; it is more inclusive here, but tests of these alternative cognitive routes have not been explored to date. Overall, the ELM seems to have more organizing power than the HSM. By positing two routes undergirded by an elaboration continuum as opposed to two dichotomous modes of processing, the ELM is able to incorporate more of the empirical evidence on attitude change than is the HSM.

Explanation

Two aspects of explanation are relevant when evaluating these two theories. First, both appeal to motivation as an aspect that underlies a person's choice of processing mode. The ELM, however, does not specify why motivation has its effect. Instead, the ELM posits several variables such as need for cognition and personal relevance that increase processing motivation (the motivation to hold correct attitudes). Although a list of variables is useful, the HSM provides a better

explanatory mechanism in positing that motivation is guided by the sufficiency principle. The sufficiency principle states that when desired motivation is below some sufficiency threshold (which is dependent on individual and situational variables) then systematic processing will occur. This principle allows the HSM to explain why certain variables affect motivation, not just that they increase the desire to hold correct attitudes. HSM scholars have shown that personal relevance produces more desired motivation than what is found at baseline, supporting the function of a sufficiency threshold—not until individuals are pushed below their threshold do they being to exert cognitive effort to process systematically.

Second, the ELM's more "inclusive" peripheral route is a weakness with regard to the explanation criterion. Although the ELM appeals to many different peripheral route processes, it does not specify why certain peripheral cues have their effects or when one peripheral process will operate and others will not. ELM research is based on comparing study results with "ideal data structures" (Eagly & Chaiken, 1993). In the presence of a certain data structure, the ELM can say that a peripheral process occurred but not why it did so. The lack of an underlying mechanism driving certain peripheral processes is a weakness of the ELM. Conversely, the HSM specifies that cues have their effects by calling forth quick decision rules. These heuristics are further governed by the availability, accessibility, and applicability principles. When heuristics are not available, accessible, or applicable, they have been shown to have no effect on attitude change (Todorov et al., 2002).

Elegance

The HSM seems to provide a more elegant account of persuasive message processing than the ELM on three counts. First, it provides a more elegant account of motivation. As stated above, the complexity of when certain individual and situational variables will impact motivation is explained by an underlying sufficiency principle, whereas the ELM does not provide such an explanatory mechanism. Second, the HSM provides an explanation of the mechanisms driving the operation of heuristic processing. Third, ELM's "inclusiveness" of processes within the central and peripheral routes, although giving it an advantage with regard to organization, is a disadvantage with regard to elegance. Although the criterion of elegance maintains that theories should represent the complexity of social phenomena, the general rule is that the most parsimonious explanation triumphs. The HSM, by positing only two processes as opposed to the potential for several dozen within the framework of the ELM, provides a slightly more elegant account of attitude change.

Both theories fail the elegance criterion, however, insofar as they provide too simplistic an account of argument quality. Neither theory allows for an explanation

of why certain message features should have the effects they do. Instead, they define argument quality as the favorableness of thoughts generated when exposed to messages of certain predefined quality during pilot testing. This tautological account of message strength does not allow for precise predictions (Stiff & Boster, 1987). The HSM attempts to provide a more complex account of argument quality with the introduction of ambiguous messages. The introduction of argument ambiguity also allows the theory to specify the conditions under which systematic processing will attenuate heuristic processing or heuristics will bias systematic processing. Unfortunately, argument ambiguity is defined empirically as a message having an equal number of elements that are likely to produce favorable thoughts and those that are likely to produce unfavorable thoughts. This hardly constitutes an elegant account of message structure.

Testability

The main "strength" of the ELM as touted by its authors is that it suggests only three ways in which variables can affect attitude change. The authors do not, however, specify when certain variables will act in one or more of these roles. Instead, they use empirical criteria to judge the role of a variable, and the role can change based on the study being conducted (Stiff & Boster, 1987). Source characteristics have been found in some studies to generate quick decision rules but in other studies to influence biased central-route processing. The authors, although aware of these results, have not attempted to specify the exact conditions where such effects should be found. Instead, they rely on their ideal data structures to show that a process occurred—no *why* is offered in their discussion sections (Eagly & Chaiken, 1993).

In contrast, the HSM provides more concrete predictions by specifying (a) the construct of motivation in terms of the sufficiency principle, (b) the underlying mechanisms governing heuristic processing, and (c) the conditions under which additivity, attenuation, and bias will occur. More precise predictions allow for a stronger test of the HSM as opposed to the rather weak test of the ELM. To the extent that results of the ELM adhere to one of the seven ideal data structures, the theory is not falsified. Instead, the authors continually appeal to the need for more research. What is needed, perhaps, is a new look at the underlying mechanisms and organizational role of the ELM as originally posited.

Accuracy

The extant research overwhelmingly shows both dual-process theories are successful with regard to their shared vision. The original success and continued popularity of the ELM rest in its ability to organize, explain, and consistently predict. This ability is well represented in multiple literature reviews (e.g., Petty, 1977; Petty & Brock, 1981; Petty & Cacioppo, 1981) and empirical studies (see

Petty & Wegener, 1999, for review) that suggest persuasive communication affects an audience either through (a) generated cognitions (i.e., the central route) or (b) a variety of low thinking mechanisms that do not rely on generated cognitions (i.e., the peripheral route). The HSM has embodied its vision mainly through a continual quest for theoretical advancement and refinement. For instance, the HSM has extended the nature of motivation beyond that of holding correct attitudes to include other motivations such as defense and impression motivations (Chaiken, Giner-Sorolla, & Chen, 1996). What it cannot do is accurately account for any extra-message cue effects when heuristic processing is not working. Since it only posits one low thinking process (as opposed to a route that can include multiple processes), the HSM suffers from potentially misrepresenting a host of extra-message cue effects.

Overall, both theories could make arguments for their accuracy. Thousands of studies support the tenability of each theory, and revisions have been made based on empirical findings. Both theories suffer from a limitation that similarly plagues much social scientific research: most studies are conducted with college student populations within the confines of a laboratory setting using carefully crafted stimulus materials that may not mirror persuasive messages found in "natural" settings. Although I certainly appreciate and find vastly useful the affordances of the scientific laboratory, the generalizations made by most dual-process researchers span far beyond the laboratory. That we have accurately portrayed persuasion as it happens over coffee, during primetime, and on our nation's highways, however, is not necessarily a claim that this research can fully embrace.

Summary

In sum, dual-process theories provide an excellent organizing framework for explaining when and why certain variables impact our tendency to attend to and process (to listen to) persuasive communication. Not only have the ELM and HSM been highly influential within psychology, but they have also influenced researchers in other fields (e.g., psychotherapy; Barone & Hutching, 1993). Similarly, both theories have extended beyond their initial intention; they are now used to describe phenomena other than persuasion (Chen & Chaiken, 1999). This seems to mark them both as successful (i.e., good theory), regardless of their differences. We could also strike a new vision for dual-process theories—to come together for the advancement of knowledge within and beyond persuasion. Indeed, as illustrated above, neither theory marks good on all five criteria. By combining strengths and reducing each theory's weaknesses, an even better and more forward-reaching theory may be possible. This is the subject of the next section, which will also further illustrate the utility of the five proposed criteria for good theory by showing how new theory can be informed by them.

DEVELOPING A "GOOD" LISTENING THEORY

Since 2004, I have worked closely with several other scholars as we have developed a dual-process theory of supportive message outcomes (Bodie, 2008; Bodie & Burleson, 2008; Bodie, McCullough et al., 2007; Burleson et al., 2007; Burleson et al., 2008). This theory is based on dual-process theories developed in the realm of persuasion (see above). After providing a brief description of the theory, I comment on how the criteria outlined above helped inform its development.

The dual-process theory for supportive message outcomes proposed in our work provides a detailed analysis of the processing dynamics that can be applied to supportive messages, the determinants of processing extensiveness employed by message recipients in a supportive context, the consequences that follow from particular levels of processing for changes in affect and behavior, and the varied mechanisms through which changes in affect may occur. Figure 1 provides a graphic summary of the model's essential components. This theory is a clear example that using theories developed to explain one aspect of one functional communication context can be used to explain other functional categories. So why is the dual-process framework useful in the realm of social support?

When confronted with major or minor life stress, most people turn to those in their social network (Rime, Corsini, & Herbette, 2002). When these interactions include high quality emotional support, that is, messages that convey acknowledgement, comprehension, and understanding and those that express sincere sympathy, sorrow, or condolence, distress and its negative effects can be mitigated (Curona, Cohen, & Igram, 1990; Curona & Suhr, 1992; Dunkel-Scheter, Blasband, Feinstein, & Herbert, 1992). Sometimes, however, support providers offer sincere yet unhelpful or even harmful emotional support (Dunkel-Scheter et al., 1992). When providers place blame on the recipient or otherwise discount what the distressed individual is feeling, negative affect states are likely to remain or even worsen.

To date, explanations of why support attempts affect health and well-being, as well as a host of other outcomes, have assumed listeners pay close attention to message content and use this information to make judgments about message quality, provider helpfulness, and their emotional improvement (or lack thereof). This assumption, however, does not explain why several variables not directly related to message content moderate the effects of message content on various outcomes. For instance, numerous studies have found the sex of the support provider influences outcomes of supportive messages. Several studies (Glynn, Christenfeld, & Gerin, 1999; Samter, Burleson, & Murphy, 1987) report that recipients experience supportive messages originating from or attributed to female sources as more helpful than supportive messages coming from male helpers, even when researchers strictly control message content. Bodie and

Supportive Message

Is the Recipient Motivated to Process the Helper's Message?

Yes | No

Is the Recipient Able to Process the Helper's Message?

Yes | No

Is the Message of High Quality?

Yes | No

Enduring Positive Changes in Affect and Behavior through Cognitive Reappraisals

Little Change or Negative Changes in Affect and Behavior; "Support Attempts That Fail" and "Cold Comfort"; Negative Feelings toward Helper

Are There Environmental Cues Present in the Communicative Situation?

Yes | No

Temporary Positive Changes in Affect and Behavior
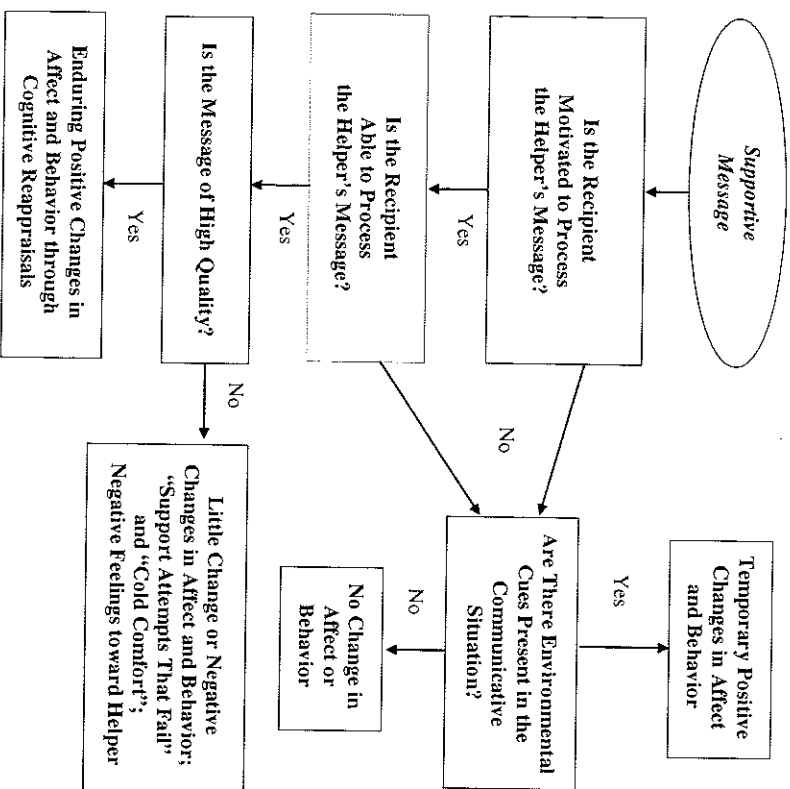
No Change in Affect or Behavior

FIGURE 1 A dual-process theory for the processing and outcomes of supportive messages (Bodie & Burleson, 2008).

Burleson (2008) outline similar patterns of moderation for a broad range of individual and situational factors. The variable effects of supportive messages constitute a puzzle in need of a comprehensive explanation. A reasonable question stemming from these findings is the following: Do all aspects of the supportive environment (e.g., message content, helper characteristics) affect relevant outcomes through the same or different mechanisms?

What appear to be inconsistent results for various supportive messages may actually point to the operation of cognitive and affective processes in recipients that influence how they notice, process, and experience messages (Kaul & Lakey, 2003). Indeed, the research documenting moderators for the effects of supportive messages underscores a fundamental axiom of message reception research: to understand how supportive messages work, we must understand how these messages are worked on (i.e., processed) by recipients.

The dual-process theory of supportive message outcomes seeks to explain when and why variables affect the processing and outcomes of supportive messages. Thus, it is a theory of support message processing as well as a theory of the outcomes of supportive messages. Consequently, the success of this theory hinges on its ability to explain the underlying mechanisms that drive the outcomes of supportive communication under different information processing conditions. Overall, the theoretical aims are to provide a comprehensive explanation of when, why, and how aspects of a supportive interaction will influence relevant outcomes. To do so, a dual-process framework is employed which assumes that people are "pragmatic perceivers who process information and act according to their motives and goals, which derive from their situation, personality, and culture" (Operario & Fiske, 1999, p. 65).

As with dual-process theories developed in the realm of attitude change, the dual-process theory of supportive message outcomes offers an organizational framework that helps to understand why over a dozen variables have been found to moderate the effects of supportive messages in hundreds of published studies (Bodie & Burleson, 2008). Moreover, this framework allows for a rather parsimonious explanation insofar as it appeals to an underlying elaboration continuum governed by processing motivation and ability. Thus, the development of the dual-process theory of supportive message outcomes was informed by the five criteria for good theory insofar as past attempts to explain supportive message outcomes on a variety of outcomes seemed to adhere to these criteria. Of course, theories developed to explain attitude change cannot be simply transferred to the context of emotional support. Thus, although our theory certainly draws from ELM, HSM, and similar theories, there are several distinctions (Bodie, 2008). Although beyond the scope of this article, examples include drawing upon the explanatory power of theories developed to explain affect change and systematically reviewing the vast literature on emotional support during the development of our theory.[9] Doing so ensured a more accurate portrayal of what happens when a listener is exposed to supportive messages of different quality from a variety of sources in a variety of environments.

CONCLUSION

A theory of listening specifies variables of central import and further specifies the specific mechanisms by which these variables interact. Good listening theory

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[9] For example, the systematic review that was published as the first explication of the theory (Bodie & Burleson, 2008) contained dozens of articles which explored 16 different variables found to moderate the effects of supportive messages on nearly half a dozen outcomes (e.g., message evaluation, helper competence, affect improvement).

helps to accurately organize what may first appear to be incoherent research findings in a way that helps to better explain the complex process of listening in an easy-to-digest fashion and that can be submitted to strong empirical tests. The Elaboration Likelihood Model and the Heuristic-Systematic Model of persuasive message outcomes are two examples of good listening theory. Of course, this does not mean that they are void of limitations or controversy. Indeed, the hallmark of good science is the discovery of faults to theory and the correction of those faults. This process can be furthered by those conducting research being aware of what constitutes good theory and how to develop theory that adheres to as many of its criteria as possible.

As stated at the beginning of this article, I do not purport to have produced the final definition of theory for all listening research or the final statement of what constitutes "good" social scientific theory. What I have proposed, however, is a good starting point toward thinking theoretically about listening research that will hopefully encourage those conducting listening research to be mindful of the theoretical contributions of their research.

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