Jackson and Jacobs's Contribution to the Rationale and Methods of

Quantitative Communication Research

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The work of Scott Jacobs and Sally Jackson has made for significant methodological innovations in quantitative communication research. In these remarks, I hope both to sketch those contributions and to place them in a larger framework.

"Generalizing About Messages" and Its Impact

"Generalizing About Messages"

I want to focus here on (what I take to be) the lynchpin of Jackson and Jacobs's contributions in this area: the article entitled "Generalizing About Messages" that appeared 25 years ago in *Human Communication Research* (Jackson & Jacobs, 1983). "Generalizing About Messages" was concerned with the practice of (especially) experimental message effects research—that is, research aimed at establishing generalizations about the effects of variations in message varieties. Perhaps the most familiar examples of such studies come from persuasion effects research, in studies of such variables as strong versus weak fear appeals (e.g., Hewgill & Miller, 1965), implicit versus explicit conclusions (e.g., Weiss & Steenbock, 1965), one-sided versus two-sided messages (e.g., Schanck & Goodman, 1939), and so forth. But other domains of communication research pursue conceptually similar questions about message effects, as in experimental studies of the effects of exposure to various kinds of media content—horse-race focused news coverage of political campaigns (e.g., Cappella & Jamieson, 1997), ideal body image content (e.g., Harrison, Taylor, & Marske, 2006), and so on.

Even though in 1983 experimental message effects research already had a very long history with well-established routine research practices, Jackson and Jacobs's paper identified a central weakness in the way in which such research was usually conducted. Briefly put, that

weakness was the use of single messages to represent broader message categories. For example, a typical study of fear appeal variations would compare the persuasiveness of a strong fear appeal message and a weak fear appeal message. The research purpose was to draw generalizations about strong and weak fear appeals—but the design had only one example of each. As Jackson and Jacobs pointed out, such "single-message" designs obviously provide a poor basis for generalization, because any observed differences between *categories* (which are usually the focus of generalizations) may reflect only differences between the individual *cases* (messages) studied. Generalizing about a category of messages requires multiple examples, and a single-message design offers only one.

So Jackson and Jacobs recommended the use of multiple-message designs, that is, experimental designs in which a given message type (category) would be represented by multiple tokens (instances). Rather than waiting for replication studies that might never appear, the suggestion was that individual studies should (in a sense) contain their own replications, by having multiple instances of each message category of interest. Jackson and Jacobs accompanied this suggestion with some explicit discussion of questions about (inter alia) the desiderata for experimental messages, suggesting prototypicality, diversity, and naturalness as three broad standards of assessment.

But the prospect of employing multiple-message designs raised another methodological issue, namely, the appropriate means of analyzing data from such designs. I want to pass over the technical details here, but broadly speaking the question was how to think of the replications (the multiple messages)—whether to think of those concrete messages as the objects about which conclusions were to be drawn or to think of those messages as simply representatives of a larger class of messages (the larger category). In statistical terms, this corresponds to the difference

between analyzing a replicated factor as a "fixed" or a "random" effect. Given an interest in generalizing beyond the cases in hand, Jackson and Jacobs naturally recommended random-effects analyses. [In making this recommendation, Jackson and Jacobs followed Clark's (1973) arguments about statistical treatment of language materials.]

The Impact of "Generalizing About Messages"

"Generalizing About Messages" was immediately recognized as important. The journal editor (Mark Knapp) solicited commentary to accompany the article's publication (Bradac, 1983; Hewes, 1983), and the issues raised by the essay were the subject of considerable subsequent discussion: see Bradac (1986), Morley (1988a; for related discussion, see Jackson, O'Keefe, & Jacobs, 1988; Morley, 1988b; O'Keefe, Jackson, & Jacobs, 1988), Hunter, Hamilton, and Allen (1989; for related discussion, see Jackson, O'Keefe, Jacobs, & Brashers, 1989), Burgoon, Hall, & Pfau (1991; for related discussion, see Jackson, Brashers, & Massey, 1992), and Slater (1991; for related discussion, see Jackson, O'Keefe, & Brashers, 1994).

In the course of this discussion, Jackson, Jacobs, and their collaborators have provided more extensive consideration of the issues raised in "Generalizing About Messages" (e.g., Jackson, 1991, 1992, 1993; Jackson & Brashers, 1994a, b). As just one example of this further articulation: "Generalizing About Messages" made no mention of meta-analysis. Of course, in 1983, meta-analysis was pretty much a figure on the horizon in communication research (and elsewhere, for that matter). But there is obviously a parallel concern with the use of replications as a better basis for generalizing. Notably, one of the ways in which Jackson and Jacobs's initial work has been extended is precisely the consideration of the relationship between the analysis of primary-research multiple-message designs (as discussed in "Generalizing About Messages") and the meta-analytic treatment of data gathered from replicated single-message designs. It's

become clear that there is in fact an underlying similarity between (for example) ANOVA treatment of a replicated primary research design and the parallel meta-analytic treatment of such data (see Jackson, 1992, pp. 118-123). And so it is now more widely appreciated that the arguments underwriting the use of random-effects analyses in primary research designs with multiple messages also underwrite the use of random-effects analyses in meta-analysis. The same basic principle is at work: Replications should be treated as random whenever the underlying interest is in generalization beyond the instances in hand.

I think it's plain that the message effects research landscape has been significantly altered by Jackson and Jacobs's work. Before "Generalizing About Messages," one virtually never saw message replications in communication research designs. But following that publication, research practices changed substantially. By way of illustration: Brashers's (1994) dissertation examined the 1991 and 1992 volumes of *Communication Monographs* and *Human Communication Research*, identifying 22 studies in which replications would have been appropriate (given interests in generalization). Of those 22, 14 employed replications—and of the eight that did not, four explicitly acknowledged that replications should have been used. In fact, where researchers used, or acknowledged the importance of, replications, the reasoning of "Generalizing About Messages" was commonly invoked—that is, using replications addresses issues of generalizability and confounding. (Similarly, see Brashers, 1996; Brashers & Jackson, 1999.)

So it's now much more common to see multiple-message designs; when single-message are used, often they're accompanied by an acknowledgement of the limitations of the design; and so forth. Indeed, although "Generalizing About Messages" is now 25 years old, the paper still receives citations (at least five so far this year). Here's an example of one of the citing papers: In

research reported in an article in *Health Psychology*, Siegel et al. (2008) studied the effectiveness of four different kinds of persuasive appeal for encouraging organ donor registration. Each appeal type was represented by multiple exemplars. Siegel et al. found that the success of a given appeal type varied from exemplar to exemplar—and they say quite explicitly that "These results should cause pause in anyone considering testing message effects with only one representation of each message" (p. 175).

Plainly, Jackson and Jacobs's work has had a significant long-term impact on communication research practices. "Generalizing About Messages" was honored a dozen years ago with the National Communication Association's Charles H. Woolbert Award for research that has "stood the test of time"—but obviously the effects of "Generalizing About Messages" are still being felt today.

Placing "Generalizing About Messages" in a Larger Context

"Generalizing About Messages" (and its related works) can be seen to provide a straightforward example of methodological innovation. Broadly put, methodological innovations make for changes in a community's research procedures. Such procedural change commonly takes the form of a new data-gathering device (e.g., fMRI) or a new data-analytic procedure (e.g., network-analytic tools). And so it is with this particular line of Jackson and Jacobs's work: It proposed both a new data-gathering procedure (viz., message replications) and a new data-analytic procedure (viz., random-effects analysis).

And so, understood simply as innovative methodological work, this line of thinking is significant. After all, a research community not only accumulates findings and theories, but also builds up a storehouse of knowledge about research methods. Jackson and Jacobs's work has

made an important contribution to that fund of methodological knowledge, by significantly shaping the community's research procedures.

But there are two other aspects of Jackson and Jacobs's work here that are worth noticing because they place that work in a larger context. First, this work represents distinctively *message-centered* methodological development. Second, this work instantiates an *argument-based* view of research methods.

Message-Centered Methodological Innovation

First: Jackson and Jacobs's work here represents distinctively *message-centered* methodological innovation. What I mean to emphasize is that this is not a discussion of some general abstract methodological innovation (of the sort represented by the development of some broad new statistical procedures). "Generalizing About Messages" is, as its title suggests, focused specifically on the problem of generalizing about messages. And Jackson and Jacobs approached the problem of generalizing about messages *as* a distinctive one.

For example, the arguments that the 1983 essay invokes to underwrite the importance of replications explicitly consider the nature of the objects under investigation: "We have no theories of language and communication rich enough to seriously attempt exhaustive analysis of any particular case of communication (even granting the possibility of an exhaustive description), so we have no means by which to bring under control all the unwanted effects of language" (Jackson & Jacobs, 1983, p. 171). Or: "Elements in a linguistic unit may function differently in combination with each other in one context than they do in other contexts" (p. 171). That is to say, the recommended procedural changes are prompted by consideration of the nature of communication phenomena. The heart of the essay is thus specifically the problem of adapting research procedures to fit interests in message generalization.

This is worth emphasizing if only because it can be so easy to fall into the habit of separating procedure and substance. To be sure, such separation can be entirely unproblematic. For instance, graduate-program requirements commonly contain a separate "methods" requirement, as something different from substantive coursework. And communication students are often sent off to other departments to get their "methods" training. In the case of statistical training, the nature of statistical procedures suggests such a distinction, since the procedures are (largely) indifferent to substance: a mean is a mean, no matter the substantive nature of the variable under examination. That's why so much of statistics can be learned, at least initially, outside of the student's substantive context of interest. (Statistics is not unique in this regard: the same is true in the use of foreign languages as "tools.") So the separation of method from substance is in some ways perfectly natural and unobjectionable.

But Jackson and Jacobs's work reminds us of the connection between method and substance. Before "Generalizing About Messages," there was not much explicit attention to the question of what kind of quantitative evidence is needed to support generalizations about messages (specifically). I think that one of the most significant things about "Generalizing About Messages" is precisely that it points to the development of a distinctively *message*-centered set of research practices.

Now in discussing this first point—that Jackson and Jacobs's work here represents distinctly *message-centered* methodological development—I have so far emphasized the shaping of research practices to fit the particulars of the phenomena and questions under examination. But the message-centeredness of Jackson and Jacobs's thinking has another facet to it, namely, the way in which it invites consideration of the *variability of message effects as a phenomenon*.

With the increasing familiarity of meta-analytic work, we are now accustomed to thinking about effect size, and thus to conceptualizing a variable's effects as having some mean effect size. So, for example, in persuasion effects research—my own line of country, and a research domain affording easy examples—one can look across message replications and ask "what's the mean impact on persuasive outcomes across these instantiations?"

But "Generalizing About Messages" implicitly invites us to look not only at the mean of the effect sizes, but also at their variability. (This is invited by an emphasis on random-effects analyses of replicated factors, in which the variability among the implementations figures significantly.) Indeed, the variation among observed effect sizes may be at least as interesting as the average effect across them.

I want to make explicit here the contrast with some alternative views, especially as represented in some images of meta-analytic procedure. Sometimes it is supposed that the point of meta-analytic research is the establishment of sets of homogeneous effect sizes [homogeneous in the sense that a test for heterogeneity in the set of effect sizes fails to achieve significance (that is, the null hypothesis—that the variance of the effect sizes in the population is zero—is not rejected)]. From such a perspective, heterogeneity in a collection of effect sizes is something to be squeezed out by creating ever-smaller subsets of effect sizes.

But one might alternatively take heterogeneity to be a fact about the phenomenon. For example, two compliance techniques might have the same mean effect size, but differ considerably in the degree of variability to be expected across implementations. That difference (in variability) might be interesting in and of itself. And certainly that difference could have straightforward practical implications: a persuader contemplating using one of these techniques would have a much better basis for predicting the likely effect in one case than in the other. In

any event, the general point is that effect size variability—like the mean effect—can be thought of as simply one aspect of the phenomenon.

The issues raised in "Generalizing About Messages" lead naturally to such thoughts. An emphasis on messages replications, coupled with the use of random-effects analyses, naturally draws attention to variability as a natural property of communication phenomena.

So the first larger point that I want to underscore about Jackson and Jacobs's work as represented in "Generalizing About Messages" is the way this work displays the interplay of substantive and methodological issues in research. It displays this not only by virtue of its procedural recommendations having been stimulated by a consideration of the substantive character of the phenomena under study, but also by virtue of the capacity that its procedural recommendations have to shape our conception of the phenomena of interest.

Not all methodological innovations have the sort of substantive connections that "Generalizing About Messages" did. On the contrary, it's a hallmark of the most significant methodological contributions that they turn out to have the capacity to alter not only our customary research procedures, but also our very conception of the phenomena under study.

An Argument-Based View of Research Methods

But there is a second broad point worth noticing about Jackson and Jacobs's work here: This work derives from an explicitly communicative view of research methods, and specifically an *argument-based* view of method (see Jackson, 1989; 1992, especially Chapters 1 and 8).

The general idea of this approach is that research methods are ways of generating arguments for claims. That is, the researcher's task "is to build a case for an empirical claim and to defend it against substantive rival views" (Jackson, 1989, p. 5). Approached in this way, various well-established research procedures can be seen to be routinized solutions to recurring

argumentative problems. For example, random assignment of participants to experimental conditions is a routine way of undermining certain sorts of possible objections to claims about differences between conditions (objections suggesting some systematic differences between conditions in the kinds of participants therein).

Even a passing familiarity with the conceptual equipment afforded by argumentation studies—presumption, burden of proof, and so forth—will be sufficient to permit one to see the usefulness of such an approach to research methods. Instead of approaching methods as procedures whose faithful deployment will somehow guarantee correct conclusions, instead one will think of methods as systematized domain-specific argumentative practices. [The general approach offered by Abelson (1995) is very much of a piece with this line of thinking, but even his treatment might have been improved by some familiarity with the conceptual apparatus of argumentation studies.]

Against this backdrop, it's easy to see how "Generalizing About Messages" reflects consideration of the potential powerfulness of certain kinds of objections to claims arising from single-message research designs. Specifically, single-message designs do not equip the researcher to easily turn back objections that the observed effects are specific to the particular single instances employed (as opposed to being general across the broader message category of interest).

And it is worth mentioning that other of Jackson and Jacobs's methodologically-oriented work can be seen to be embedded in this same general approach. I know that Bob Craig is to talk about Jackson and Jacobs's contributions to qualitative methods in communication research, but—to draw some examples from that domain of Jackson and Jacobs's work—one does not need to hear anything more than the titles of works such as "How to make an argument from

example in discourse analysis" (Jacobs, 1986) or "Building a case for claims about discourse structure" (Jackson, 1986) to see the common underlying argument-based approach to research methods—and to see the specific attention to *message-centered* research methods.

Summary

As a research community, we're better off for Jackson and Jacobs's work. In part that's because of the various specific procedural improvements they've urged (multiple-message designs, random-effects analyses) and their corresponding contributions to the institutionalization of better research practices. But at least as important is their larger focus on message-centered research methods and their articulation of an argument-based approach to methodology. Long after multiple-message designs and random-effects analyses have become so thoroughly integrated into research practices as not to be noticeable, Jackson and Jacobs's articulation of an argument-based approach to message-centered research methods will still provide crucial guidance for communication research.

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