

## Understanding Marriage and Marital Distress: Do Milliseconds Matter?

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This article addresses concerns raised about F. D. Fincham, P. C. Garnier, S. Gano-Phillips, and L. N. Osborne's (1995) study by placing it in the context of current marital research. Studies of marriage-related cognitions have centered on the content of cognitions and have ignored the cognitive processes that give rise to them. Therefore, little is known about spousal cognitions that are unavailable for self-report or about the role of cognitive processes in initiating, maintaining, or alleviating marital distress. Reaction time has the potential to be one of several variables that can be used to investigate such processes. The challenge faced by marital researchers is to incorporate the information-processing paradigm into their work, thereby integrating it with broader literatures in cognitive psychology and social cognition. Failure to do so will leave marital researchers with an incomplete picture of marriage.

What do skin conductance level and reaction time have in common? One answer is that they have been used as indexes of unobservable theoretical constructs to advance understanding of marital satisfaction. Although typically associated with affect and cognition, respectively, these associations can be viewed as arbitrary. Physiological indexes can index cognition, and reaction time can index emotion. From this perspective, it is important to question, as Baucom (1995) does, whether milliseconds matter (the same can be asked of skin conductance level, pulse transmission time, and a host of other measures used as indexes of unobserved variables). Chronometric measures, like choice reaction time, have no inherent psychological meaning (just as skin conductance simply measures physiology). In this sense, milliseconds do not matter.

But the issue is not one of the inherent worth of observed index variables but of the theoretical assumptions (e.g., that mental processes take time, that emotional experience influences physiology) that inform their use in general and

their application in any particular instance. In the case of reaction time, such discussion has spawned a vast literature that can be traced to the work of astronomers in the late eighteenth century (Lachman, Lachman, & Butterfield, 1979). One purpose of this commentary is to introduce marital researchers to this literature and to illustrate how the use of reaction time fits into the evolution of research on marriage and how it has the potential to advance understanding of marital distress.

However, limiting ourselves to discussion of reaction time would not allow us to address the more important issue that was raised by our article and forcefully illustrated by Beach, Etherton, and Whitaker (1995). This issue concerns the manner in which marital researchers construe cognition. Reaction time is simply a measure used to examine aspects of important intrapersonal processes that have been ignored by marital researchers. Rejection of this measure (and hence of one of the most ubiquitous dependent variables in cognitive psychology) does not relieve marital researchers from expanding their research beyond self-report of cognitive contents such as attributions, standards, assumptions, and so forth.

In responding to the commentaries, we do not discuss detailed methodological points. Instead, we again cite Fazio's (1990) highly readable, and relatively nontechnical, guide to the use of reaction time for answers. More detailed discus-

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sions of reaction time are provided by Lachman et al. (1979) and Pachella (1974). Answers to some of the questions raised by the commentators can also be found in our original article.

### Putting Things in Context

In this section, we outline briefly the historical and contemporary contexts of marital research, and we discuss how chronometric analyses and related methods for investigating cognition can advance the understanding of marriage.

#### *Historical Context*

Prompted by problems families faced at the turn of the century, the scientific study of marriage was initially dominated by large-scale surveys conducted by sociologists. When systematic research on marriage in psychology emerged in the 1970s, researchers explicitly rejected the earlier reliance on self-report and focused on understanding marital behavior. Although mental events did not receive much empirical attention, they continued to play a vital, albeit often implicit, role in discussion of behavior exchange in marriage (e.g., use of social exchange theory). In fact, object relations schemata are central to Raush, Barry, Hertel, and Swain's (1974) study, which helped launch systematic marital research in psychology. In the last decade, there has been a shift in the emphasis of marital research, as intrapersonal variables (e.g., thoughts, emotions) assumed center stage.

From a historical perspective, the current focus on cognition in marriage is a healthy development because it complements earlier behavioral investigations and thereby provides a richer picture of marriage and marital distress. Unfortunately, this development has not realized its potential, as will become evident in considering the contemporary context of marital cognition research.

#### *Contemporary Context*

Research on marital cognition has focused almost exclusively on self-reported judgments or on cognitive contents such as attributions and beliefs (for a review, see Fincham, 1994). Overall, the research literature is not well integrated

with relevant developments in the broader discipline. The most important of these developments is the incorporation of the information-processing paradigm into many areas of psychology, including clinical psychology (see Ingram, 1986). Why does the information-processing paradigm matter? It matters because the paradigm informing the research of marital investigators influences the metaphors we use, our language, and ultimately what we study.

Marital researchers are understandably steeped in the use of words such as *stimuli*, *response*, and *behavior*, which accompanied the attempt to document overt behavior in distressed and nondistressed couples. Even though the emphasis has now shifted to intrapersonal variables, marital researchers have not yet come to terms with the computer metaphor that guides so much of the contemporary research on human behavior. Reference to stimuli and responses carries very different implications for understanding human cognition than terms like *input* and *output*. The latter terms point toward a theoretical system that includes concepts (e.g., executive processor, buffers, and representations) alien to the world familiar to marital researchers. It is not surprising that the information-processing paradigm has been called "a methodology for theorizing" (Anderson & Bower, 1973, p. 136).

The price we in the marital research field have paid for our insularity is high. We have seen the part of the iceberg above the waterline, perhaps mistaking it for the whole iceberg. As a consequence, we have expended much energy on studying the visible products of cognitive activity (e.g., assumptions, standards, and attributions), forgetting that the cognitive processes giving rise to such products may be just as, or even more, important for marriage and marital therapy (for clinical illustrations, see Fincham & Bradbury, 1991a). Hence marital researchers know very little about spouses' encoding of information about the partner or marriage, how such information is organized and represented, what influences its retrieval, how it is transformed, what its role is in guiding overt behavior, and so forth (for application to the study of close relationships, see Baldwin, 1992, and Scott, Fuhrman, & Wyer, 1991).

By focusing on cognitive contents that spouses can report, marital researchers ignore decades of research informed by the information-processing paradigm. This research has

validated what has long been accepted as clinical insight among psychodynamically oriented clinicians—that people cannot report much of the cognitive activity that influences their lives. Beach et al. (1995) provide numerous examples from the literature on social cognition (for application to issues of assessment and therapy, see Fincham & Bradbury, 1991b, and Hollon & Shelton, 1991).

If people cannot report much of their mental life, how can it be studied? This conundrum is where chronometric analyses like reaction time become important because they provide a potential window on the mind. But don't reaction time studies also involve self-report? Indeed they do. However, it is important here to distinguish the study of self-report as an end in itself from the use of self-reports as indexes of cognitive processes. Since Donders's (1868/1969) influential derivation of methods for investigating the "speed of mental processes," analyses have been offered on how best to use the reaction time associated with judgments to study mental processes. For example, one central issue is how to decompose reaction time to isolate components reflective of cognitive processing (rather than, for example, response implementation). Familiarity with such issues, with various options in using reaction time, and with accepted conventions is a necessary first step, but it is possibly not the most important step in expanding the study of cognition in marriage. Why not?

### What to Get Excited About and What Not to Get Excited About

The "rigor" offered by reaction time methodologies is alluring, and therein lies a danger. In the present circumstance, the sophistication of methods available to researchers far outstrips any process model of spousal cognition that is likely to be tested. Possession of such sophisticated and technical methodologies can lead to premature rigor and become an end in itself. It is therefore wise to recall that reaction times can only provide clues to mental processes and therefore can only be as informative as the process models and experimental contexts that imbue them with meaning.

It is also important to note that there are many facets of reaction time that can limit its utility in the study of social cognitive processes. These

facets include the implementation of highly controlled procedures needed to test models (e.g., equating the associative strength of stimulus words across different experimental conditions, equating instructions, and equating reading time for stimuli), low signal-to-noise ratios, difficulty of establishing criteria for determining error rates, fragile effects, and so forth. The danger for the individual investigator who gets too excited about reaction time lies in the potentially high cost-benefit ratio to using this method. It is not a panacea, but one of a number of methods for opening a window on cognition in marriage. Herein lies something worthy of great excitement.

Not only is reaction time one of a family of chronometric methods (e.g., looking time, decision time), but this family of methods is, in turn, one of several means of getting "inside the head" (e.g., measures of memory, attention). Taylor and Fiske (1981) provided an excellent introduction to such methods. What is particularly exciting is that the availability of such methods does not tie marital researchers to accept any particular one but allows for converging operations to elucidate the phenomenon of interest. Like Einstein, then, we may be privileged to see further because we can stand on the shoulders of giants. It is curious that we have not availed ourselves of this opportunity. After all, this opportunity offers an alternative to the self-report methods that dominate marital cognition research, but which were so forcefully rejected when psychologists began the systematic study of marriage.

What is most exciting about the prospect of studying spouses' reaction times is that it necessarily ushers in a new phase in the study of cognition in marriage. It is a phase that greatly expands marital researchers' conception of cognition and that begins to integrate the investigation of cognition in marriage with broader literatures in psychology. Failure to embrace a broader conception of cognition that moves beyond the study of cognitive contents reflected in self-reports will necessarily leave marital researchers with an incomplete view of cognition in marriage. To the extent that our study facilitates a broader view of cognition in the marital literature, this may constitute its greatest contribution; even though it is one of very few to integrate the study of affective and cognitive foci in marital research, the results should be treated with skepticism until they are replicated.

Should we get carried away? No, not now and probably not ever. Systematic research requires an analytic attitude incompatible with overzealous action. But it is hard not to be excited at the dawn of a new phase in research on cognition in marriage. And if our excitement centers on milliseconds, so be it.

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