

Following Kuhn, it is proposed that there are two major paradigms for the study of social cognition. The first and most traditional paradigm relies on single-subject designs, and is therefore limited to the study of subjective phenomena. It prescribes that subjects' responses be kept independent, and treats any interdependence in these responses as a statistical nuisance. In contrast, the second paradigm relies on dyadic and small group designs and addresses both subjective and intersubjective phenomena. It prescribes that the naturally occurring interdependence in the subjects' responses be preserved and studied as an important set of phenomena in their own right. This second, intersubjective paradigm may be especially conducive to the integration of research on social cognition with research on social interaction and group dynamics.

“SOCIAL” COGNITION AND SOCIAL COGNITION From the Subjective to the Intersubjective

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The current issue of *Small Group Research* showcases research that brings together two major traditions in social psychology: the study of social cognition and the study of groups. Although the notion of merging these two traditions is certainly not new (it dates back at least as far as Le Bon's [1896] classic work on the group mind), the recent interplay has been fruitful, and it is fair to say that

AUTHORS' NOTE: *Article prepared for a special issue of Small Group Research on the distinctively social aspects of social cognition. This article was written while William Ickes was on sabbatical, and the support of the Department of Psychology, University of Washington, is gratefully acknowledged. Richard Gonzalez was supported by a grant from NSF (SES #9110572). We thank John Davis and four anonymous reviewers for their comments on a previous draft. Correspondence should be sent to William Ickes, Department of Psychology, University of Texas at Arlington, Arlington, TX 76019-0528.*

SMALL GROUP RESEARCH, Vol. 25 No. 2, May 1994 294-315
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both traditions have benefited. While it is informative to look at what has already been accomplished, as the other articles in this issue have done, our task is to look at what remains to be accomplished. The interplay between social cognition and group research holds considerable promise, and we present our view of the direction that future research should take.

The starting point for our analysis is the observation that two research strategies or "paradigms" (Kuhn, 1962) can be used to link the study of social cognition with the study of dyadic and group processes. The first paradigm focuses on the subjective experience of the individual, whereas the second paradigm focuses on the intersubjective experience of the members of a dyad or a larger group. Consistent with its epistemological assumptions, the first paradigm relies on a methodology in which subjects are tested individually, in studies designed to ensure the conceptual and statistical *independence* of each subject's cognitions and behavior from those of the other subjects tested. In contrast, consistent with *its* epistemological assumptions, the second paradigm relies on a methodology in which subjects are tested together, in studies designed not only to permit the interdependence of their cognitions and behavior, but also to examine these patterns of interdependence as phenomena of fundamental importance to the study of social cognition.

Because of the first paradigm's emphasis on the subjective experience of the individual, some of the social cognition researchers who work within its framework can be characterized as "doing cognitive psychology with social stimuli." A representative example is provided by researchers such as Srull, Lichtenstein, and Rothbart (1985), who have tested models of associative memory using people as their stimulus materials. In contrast, because of the second paradigm's emphasis on the intersubjective experience of dyad or group members, some of the social cognition researchers who work within its framework can be characterized as "doing social psychology with cognitive stimuli." Representative examples here include Sherif's (1935) use of the autokinetic effect to study the development of social norms, and Asch's (1955, 1956) use of the perception of line length to study conformity.

To date, much of the work on social cognition has been done by researchers who have been guided by the first paradigm to conduct studies of the subjective experience of individuals in contexts that are intended to restrict their opportunities for any genuinely interdependent involvement with others. On the other hand, relatively little work has been done by researchers who have been guided by the second paradigm to conduct studies of the intersubjective experience of dyad and group members in contexts that are intended to provide opportunities for their interdependent involvement. As a convenient shorthand, we will characterize the first type of research as "social" cognition, with quotation marks indicating that—because of the subject's independence and separation from others—the modifier is of limited or even questionable applicability. In contrast, we will characterize the second type of research as *social* cognition, with italics indicating that—because of the subject's interdependence and involvement with others—the modifier is both essential and defining.

LIMITATIONS OF THE "SOCIAL" COGNITION PARADIGM

The limitations of the "social" cognition paradigm become evident when one attempts to define social cognitive phenomena by positing the necessary and sufficient conditions for such phenomena. In our discussion of this issue, we first examine the necessary and sufficient conditions for cognitive phenomena in general, and then examine the necessary and sufficient conditions for the more restricted set of distinctively *social* cognitive phenomena.

An analysis of necessary and sufficient conditions for cognitive phenomena has been made by several cognitive psychologists. These authors have concluded that attempts to define mental experience as "information processing" are inadequate, according to the necessary-and-sufficient criterion. For example, Griffin (1984) contended that "any serious attention to conscious thoughts or subjective feelings" is "conspicuously absent from most of contemporary cognitive psychology." He then went on to criticize cognitive psychology for its naive belief that conscious experience is

“nothing but” information processing. “Information processing is doubtless a necessary condition for mental experience, but is it sufficient? Human minds do more than process information; they think and feel. We experience beliefs, desires, fears, expectations, and many other subjective mental states” (p. 457).

Similarly, when the eminent cognitive psychologist Ulric Neisser was invited to comment on the papers presented at a major research symposium on “Social Knowing,” his criticisms focused on “the extraordinarily narrow perspective from which scholars in this field approach their work.” According to Neisser:

They see little need to investigate “social knowing” as it actually occurs in the world, or even to read what others have discovered about it, because (I think) they are not very interested in “social knowing” anyway. . . . Productive scientific activity, like perceptual activity, involves exploration as well as observation and thought; what must be explored are the phenomena as they actually occur. (1980, p. 603)

Ickes and his colleagues have made similar arguments with respect to social cognition, claiming that it has been too narrowly defined (Ickes, Tooke, Stinson, Baker, & Bissonnette, 1988; Ickes, Stinson, Bissonnette, & Garcia, 1990). They proposed that if the study of *subjective phenomena* involving or occurring within a single conscious mind is the domain of mainstream cognitive psychology, then the study of *intersubjective phenomena* involving or occurring between at least two conscious minds is the domain of cognitive social psychology. Writing in a similar vein, Markus and Zajonc (1985) ended their *Handbook* chapter on cognitive social psychology by stating that “the properties of social perception and social cognition that make them distinct are reciprocity and intersubjectivity” (p. 213). They noted that “many earlier authors, such as Mead (1934), Merleau-Ponty (1945), Asch (1952), and Heider (1958)” have drawn essentially the same conclusion.

If these authors are correct (and we think they are), then the most genuinely *social-cognitive* phenomena are *intersubjective*, rather than *subjective*. In other words, intersubjectivity is the element that is both necessary and sufficient to distinguish cognitive phenomena that are uniquely and distinctively *social* from cognitive phenom-

ena that do not warrant this special qualifying adjective. We further suggest that these uniquely social, intersubjective phenomena can be characterized as those involving some form of interdependence between the contents and processes of at least two conscious minds (Ickes, Bissonnette, Garcia, & Stinson, 1990).

Given this definition, intersubjective phenomena are clearly *not* the most frequently studied phenomena in cognitive social psychology (Ickes et al., 1988). In most studies of social cognition, researchers have not inquired how the contents and processes of one mind are interdependent with those of another. Instead, using as their models the studies conducted in more traditional areas of psychology, they have inquired how the contents and processes of individual minds tested "one at a time" are related to "social" stimulus materials whose features and contents have been predetermined by the experimenter. As a consequence, the field of "mainstream" social cognition is, to a large extent, one whose "preoccupation with social information processing" (Swann, 1984, p. 458) has cast the social perceiver in the role of "a hermit, isolated from the social environment," and has relegated other people to the status of experimental "stimuli" or perceptual "targets" (Fiske & Taylor, 1984, p. 416). It is, to a large extent, a field based on the paradoxical assumption that the best way to study social cognition is to first remove it from the social interaction context in which it naturally occurs.

The irony here should be obvious. By attempting to study social cognition outside of its natural context, researchers have severely limited the chances that any genuinely *social* processes can affect their subjects' cognitive activities. In addition, they have virtually eliminated the possibility of studying those intersubjective phenomena which various writers have argued are the ones that make *social* cognition a unique and distinctive field of research.

"SOCIAL" COGNITION VERSUS *SOCIAL* COGNITION

We have been writing so far as if the distinction between "social" cognition and *social* cognition were clearcut and obvious. Because

that may be assuming a bit too much, it is important that we be more specific about the nature of this distinction and what it entails. Consider, therefore, the following range of hypothetical research scenarios.

Scenario 1: A subject named Ann sits alone in a cubicle. In the upper portion of a TV monitor, she sees one view of a complex, three-dimensional figure. In the lower portion, she sees three similar-looking figures, labeled A, B, and C. She has 15 seconds to decide which of these three figures—if rotated in space to the appropriate orientation—would match the figure at the top of the screen.

Scenario 2: A subject named Ann sits alone in a cubicle. In the upper portion of a TV monitor, she sees a profile drawing of a human face. In the lower portion, she sees 3/4 views of three similar-looking faces, labeled A, B, and C. Her task is the same as that of the subject in Scenario 1.

Scenario 3: A subject named Ann sits alone in a cubicle. In the upper portion of a TV monitor, she sees a digitized photograph of a human face. On some trials, the face is male, on other trials, it is female; on some trials Black, on others White. On a subsequent day, she returns to the cubicle and views a similar set of faces. When each face is presented, she has 15 seconds to decide if the face is “old” (one she saw during the first session) or “new” (one she is seeing now for the first time).

Scenario 4: A subject named Ann sits alone in a cubicle. In the upper portion of a TV monitor, she sees a digitized photograph of a human face—on this trial, that of a Black male. In the lower portion of the screen, one line indicates NAME: CARL and AGE: 22, and a second line contains the descriptive adjective ATHLETIC. Later, she is shown the same faces again without any other identifying information, and is asked to match each face with one of the descriptive adjectives that appear on a list she has been given.

Scenario 5: A subject named Ann sits alone in a cubicle. As in Scenario 4, she sees the video display of Carl, and is told that she

will be working on a task with him later in the session. Before that happens, however, she is asked to provide her "first impression" of Carl by rating him on a series of bipolar adjective scales.

Scenario 6: A subject named Ann sits alone in a cubicle and interacts via closed-circuit television with Carl, a young Black man who tells her that he is also an introductory psychology student participating in the experiment for course credit. In fact, Carl is an experimental confederate. His behavior has been carefully pre-programmed so that he will interact with Ann in a way that is as identical as possible to the way that a White male confederate, also named Carl, would interact with her if she had been randomly assigned to the other condition of the experiment. Following her 5-minute interaction with Carl, Ann is asked to provide her "first impression" of him by rating him on a series of bipolar adjective scales.

Scenario 7: A subject named Ann sits in a waiting room with another subject named Carl, a young Black man. The 5-minute interaction they have while waiting for the experiment to begin is spontaneous and unstructured. Following this interaction, the experimenter escorts Ann and Carl to separate cubicles, where they are each asked to rate (a) the quality of their interaction, (b) their own personality, and (c) their partner's personality on a series of bipolar adjective scales.

Scenario 8: A subject named Ann sits in a waiting room with another subject named Carl, a young Black man. The 5-minute interaction they have while waiting for the experiment to begin is spontaneous and unstructured. It is also covertly recorded on videotape for subsequent analysis. Later, Ann and Carl will be asked to sign a release form giving their permission for the videotape to be used as data. They will also be asked to view a copy of the tape in separate cubicles, pausing the tape each time they remember having had a specific thought or feeling during the original interaction. During each of these pauses, they record the content of the thought or feeling on a standardized coding form.

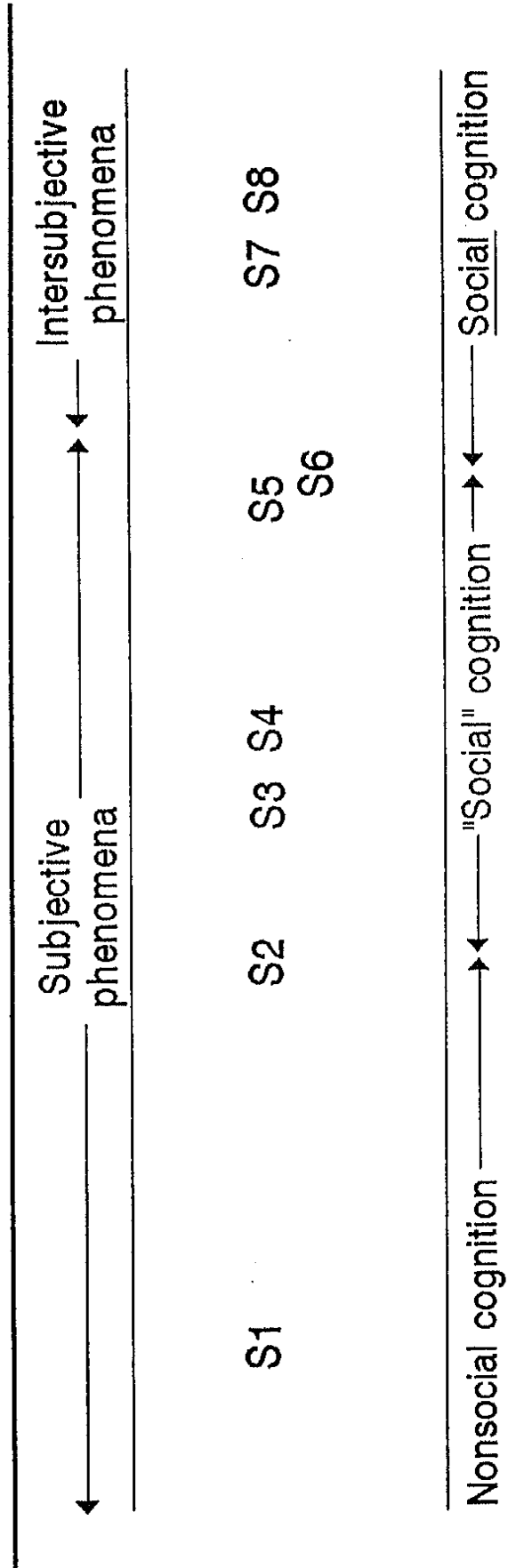


Figure 1: Ordering of the Hypothetical Research Scenarios on Two Theoretical Dimensions

In Figure 1, we have ordered these eight scenarios from left to right and have also attempted to locate them with respect to the two dimensions depicted at the top and bottom of the figure. The dimension at the top contrasts subjective phenomena with intersubjective phenomena, whereas the dimension at the bottom contrasts nonsocial cognition, "social" cognition, and *social* cognition.

As indicated by its location with respect to the top dimension of Figure 1, Scenario 1 involves the study of subjective, rather than intersubjective, phenomena. It is a study of cognition, rather than perception, because it requires a complex, comparative judgment of the extent to which each of the three "test" stimuli match the "standard" stimulus. Most people would agree that, because of the nature of its stimulus materials and the kinds of research questions that could be tested, Scenario 1 would fall within the nonsocial range of the bottom dimension of Figure 1. It probably would not take much to give Scenario 1 a more "social" flavor—by adding, for example, a social facilitation manipulation in which an observer or coactor sits next to Ann during the task. However, by our definition such a situation would still not fall under the heading of *social* cognition until there is evidence of intersubjectivity in the responses of the subject and the co-participant.

Scenario 2 resembles Scenario 1 in many respects, the most obvious difference being that drawings of human faces are used as the stimuli, instead of drawings of more abstract three-dimensional figures. Scenario 2's stimuli are therefore nominally "social," but whether Scenario 2 qualifies as a study of "social" cognition, as opposed to nonsocial cognition, may depend on whether the Scenario 2 study yields substantially different results from the Scenario 1 study. If Scenarios 1 and 2 lead to similar results, we might be inclined to conclude that the subjective phenomena being assessed under Scenario 2 are essentially the same ones being assessed under Scenario 1, and that nonsocial (object) perception, rather than "social" (person) perception, is being investigated in both studies. On the other hand, while different results would seem to imply the influence of a social process that is unique to Scenario 2, this outcome could also occur because different cognitive processes might be involved in the two scenarios. In any event, Scenario 2

provides a familiar example of "doing cognitive psychology with social stimuli."

Scenario 3 presents the subject with photographic images of real human faces, rather than drawings of faces. In addition, it provides a within-subject variation of the gender (female vs. male) and the racial/ethnic background (Black vs. White) of these stimulus faces. Because Scenario 3 uses a recognition task to study memory, it is clearly a study of cognition. But is it also a study of "social" cognition? We think it is, in that the subject's history of social stereotyping and selective interaction are likely to influence the results. It is not a study of *social* cognition, however, because it lacks the distinctive feature of intersubjectivity (see Figure 1).

By the same reasoning, Scenario 4 also represents a traditional "social" cognition study; it therefore warrants no additional comment here. Scenario 5, on the other hand, marks an important transition. Whether or not it is true that Ann will actually meet and work on a task with Carl later in the session, her *belief* that this will happen adds an intersubjective dimension and dynamic to what is still a subjective experience. Although genuine intersubjectivity has not come into play, Ann's anticipated interaction with Carl invokes and implicates this feature in *an imagined or fantasized relationship*. This imagined relationship is clearly subjective, rather than intersubjective, as the location of Scenario 5, with respect to the top dimension of Figure 1, reveals. At the same time, however, it requires that we locate Scenario 5 very near the fine line that divides "social" cognition from *social* cognition, as its alignment with the bottom dimension of Figure 1 indicates.

Does Scenario 6 qualify as a study of *social*—as opposed to "social"—cognition? In this case, Ann and Carl interact via closed-circuit television, and Carl must co-ordinate at least his speaking turns with Ann in order to sustain her illusion that their interaction is spontaneous when, in reality, his "side" of it is largely predetermined. Scenario 6 represents a borderline example of *social* cognition, but the fact that the interaction occurs via television is irrelevant in this regard. What *is* relevant is that Carl's highly scripted and inflexible behavior constrains the degree and type of intersubjectivity that can occur. In Scenario 6, intersubjectivity is at best

constrained, and at worst disrupted and distorted, by Carl's confederate role.

Although Scenario 6 can be located on the fine line dividing "social" cognition from *social* cognition, it fails to qualify as a study of intersubjective phenomena (see Figure 1). The reason is that, of the two interactants in Scenario 6, only Ann is treated as a subject in the research, and only her impressions are recorded. Because intersubjective phenomena are those involving some form of interdependence between the contents and processes of at least *two* conscious minds (Ickes, Bissonnette, et al., 1990), they cannot be investigated in research paradigms in which the thoughts and feelings of only a single subject are assessed—even if that subject has just participated in some form of social interaction.

This brings us, finally, to Scenarios 7 and 8. Both of these scenarios represent clearcut examples of *social* cognition research in which intersubjective, as well as subjective, phenomena can be investigated. From a conceptual standpoint, they qualify as studies of *social* cognition because the distinctive feature of intersubjectivity is clearly represented in each. From an operational standpoint, they permit the study of intersubjective, as well as subjective, phenomena because the perceptions, thoughts, and feelings of both participants are assessed. Although these two scenarios focus on the relatively simple case of a dyadic interaction, we should note that the dynamics of interdependence undoubtedly become more complex as group size increases.

INTERSUBJECTIVITY AND INTERSUBJECTIVE PHENOMENA

Consistent with Asch (1952), we propose two necessary conditions for operationally defining an intersubjective (i.e., *social-cognitive*) phenomenon. First, the cognitive responses of at least two interacting individuals must be measured. Second, these responses must be found to be interdependent. These two conditions can be interpreted as clarifying what Asch (1952, p. 164) meant when he said that "psychological interaction requires a minimum of mutuality."

We will discuss each of the two necessary conditions in turn, asking "How do researchers assess cognitive responses?" and "How do researchers show that these cognitive responses are interdependent?" Before doing so, however, we should begin by clarifying what we mean by the qualifying phrase "at least two interacting individuals." This qualifier obviously limits the domain of intersubjective phenomena to contexts in which the cognitive responses of at least two individuals are assessed. Thus, the following analysis applies to both dyadic and group research. The "interaction" of these individuals is broadly defined; it is not restricted to face-to-face encounters, but can include communicative exchanges by telephone, written correspondence, and a variety of other means as well. On the other hand, our definition of "interaction" must rule out cases in which people experience similar cognitive responses by chance or coincidence. For example, when two people are watching the same movie at the same time in different cities, they are not "interacting," even though they may be experiencing very similar cognitive responses to the movie at the same point in time (see Asch, 1952).

ASSESSING COGNITIVE RESPONSES

The assessment of cognitive responses is not a trivial task. Several researchers have developed new and remarkably reliable methods for assessing cognitive responses. Examples include the detailed method used by Pennington and Hastie (1986) to characterize a juror's idiosyncratic story regarding a criminal case, the meticulous work of Ericsson and Simon (1984) in the development of protocol analysis, and the various "thought listing" techniques developed by researchers such as Brock (1967), Greenwald (1968), Cacioppo and Petty (1981), and Ickes, Bissonnette, et al. (1990); see also Ickes, Robertson, Tooke, & Teng (1986). Researchers might also consider the use of old standbys such as George Kelly's "rep test" (Fransella & Bannister, 1977). However, when interpreting the results obtained with such techniques, one must always be cautious about the degree to which subjects have access to their own internal states (Nisbett & Wilson, 1977).

The first condition for operationally defining an intersubjective phenomenon—measuring the cognitive responses of at least two interacting individuals—can, and probably should, be generalized to include more than “cognitive” responses in the most restrictive sense of that term. A broader view would incorporate other types of responses for which interaction-based interdependence can also be assessed, such as emotions, actions, and motivations. An example of measuring both thoughts *and* feelings for the purpose of assessing intersubjectivity can be found in two studies reported by Ickes et al. (1988). Similarly, in their volume *Close Relationships*, Kelley et al. (1983) distinguish a number of “events” that can be used to describe responses to interaction; these events include thoughts, actions, reactions, and feelings. However, because the present paper is primarily concerned with the status quo of “social” (versus *social*) cognition, our discussion is focused on cognitive responses.

ASSESSING THE INTERDEPENDENCE OF COGNITIVE RESPONSES

Because the term “interdependence” has been misused and overused in the research literature, we need to clarify what we mean by it. Quite simply, we mean that each individual’s cognitive responses are influenced by the interaction in which he or she is a participant. In particular, we focus on the most basic and essential aspect of interdependence: whether there is convergence or divergence in the cognitive responses of the participants as a function of their interaction.

As an illustration of what we mean by the convergence and divergence of cognitive responses, consider a relatively common occurrence during airplane travel. A stranger sits next to you and attempts to strike up a conversation. After a few minutes, it becomes evident that you both share a love of contemporary short fiction. The remainder of the flight is filled with a stimulating discussion in which you both reminisce fondly about the gentle humor of Tobias Wolff, shake your heads over the grim stoicism of Raymond Carver, and laugh at the surreal detachment of Frederick Barthelme. This example of convergence in cognitive responses illustrates what Asch (1952) referred to as a “mutual field” (see Newcomb,

Turner, & Converse, 1965), and what contemporary psycholinguists call "common ground" (Clark, 1985).

Now consider a different person sitting next to you on the plane. This person persistently takes stabs at starting a conversation. When asked what you do for a living, you reluctantly reply, "I'm a social psychologist." The stranger then makes the comment you have grown to detest ("You're probably analyzing me") and goes on to talk nonstop for the next half hour, pestering you with comments about pop-psychology and self-help books, asking you for advice on parenting skills, and help in dealing with an obstinate father-in-law. In contrast to the previous scenario, you are not at all interested in this case in trying to find "common ground" or a "mutual field." Instead, you are trying to figure out how to politely convey to this stranger your lack of interest in engaging in a discussion (e.g., you blatantly open your briefcase and take out the stack of manuscripts you brought along to review). Thus, your own cognitive responses are diverging with respect to those of the stranger—you are not attempting to find "common ground," but to stake out a private cognitive space of your own.

A simple statistical index of the degree of convergence/divergence in the responses of dyad or group members is the intraclass correlation. Introduced by K. Pearson (1901) as an index of association when dyad members are indistinguishable (e.g., in research on identical twins, it is arbitrary to designate one twin's score as the X variable and the other twin's score as the Y variable, and different designations lead to different Pearson correlation values), the intraclass correlation has grown in popularity among researchers in the area of group processes and interpersonal relations (see Kenny, 1988). The logic underlying the intraclass correlation is that it compares the variability between dyads (or groups) to the variability within dyads (or groups).

In the domain of interpersonal processes, the variance associated with dyad or group membership is treated as a random effect; hence, the intraclass correlation is the random effects analog of Ω^2 (see Hays, 1988). As it is typically used, the intraclass correlation applies to only one dependent variable. However, generalizations of the intraclass correlation to more than one variable also exist and can be used, for example, to assess the convergence between one

partner's anxiety and the other partner's rating of relationship satisfaction (Griffin & Gonzalez, 1993; Kenny & LaVoie, 1985).

A more basic index than the intraclass correlation is the difference between the sums of squares between dyads (or groups) and the sums of squares within dyads (or groups). Convergence can be inferred if the sums of squares between groups is greater than the sums of squares within groups, whereas divergence can be inferred if the sums of squares between groups is less than the sums of squares within groups. We call this index CONDIV—an abbreviation of convergence and divergence (see Robinson, 1957). Both the intraclass and the CONDIV index can be used for any size group, even groups of unequal sizes.

The CONDIV index can be given a straightforward interpretation if it is normalized by dividing it by the total sums of squares. Using the relationship that R^2 is equal to the ratio of sums of squares between groups to the total sums of squares, it can be shown that the normalized CONDIV index is linearly related to R^2 (i.e., $2R^2 - 1$). Thus, an $R^2 > 0.50$ implies convergence, whereas an $R^2 < .50$ implies divergence. Because of familiarity with the meaning of R^2 , some researchers might prefer to use the normalized CONDIV index rather than the intraclass correlation. In contrast to the intraclass correlation, which can be negative and therefore uninterpretable as a variance or R^2 estimate, the normalized CONDIV index can never be out of bounds. On the other hand, the normalized CONDIV index does not carry the interpretation of an adjusted estimate of the association in the population—an interpretation which can be applied to the intraclass correlation.

Note that these two indices of convergence/divergence (the intraclass correlation and CONDIV) do not assess change over time. Comparisons of variability over time as a function of interaction have been made by various researchers (Bieri, 1953; Kelley et al., 1983), but they are not the focus of the current discussion. Instead, we define convergence/divergence as the effect of group membership that either makes the responses of the group members more uniform (convergence), or drives them further apart (divergence). We regard this "unifying versus polarizing" effect of group membership as being a phenomenon of

widespread and fundamental interest to interpersonal process researchers. Effects based on cross-temporal comparisons of interdependence are arguably just as important, however. If one is willing to do the painstaking work required to study dynamic interaction processes as they unfold over time, statistical techniques for analyzing these dynamic processes are currently available (see Gardner & Griffin, 1989; Gottman & Roy, 1990).

We should also note that our use of the term "interdependent" differs from that of Thibaut and Kelley (1959). They propose that in domains involving exchange and coordination problems, outcomes can be interdependent (as, for example, when the members of a married couple derive more pleasure from watching a movie if they see it together rather than alone). On the other hand, in a volume of which Kelley was one of the editors, Berscheid and Peplau (1983, p. 12) use the term "interdependence" in a manner similar to its use here: " 'interdependence' in the sense that a change in one person causes a change in the other and vice versa."

RESEARCH EXAMPLES

Our two necessary conditions for operationally defining an intersubjective phenomenon—the assessment of the cognitive responses of two or more interactants, and the assessment of the interdependence of these responses—are neither highly stringent nor highly restrictive. Consequently, it should come as no surprise that the available literature provides several examples of participants' cognitive responses either converging or diverging as a function of their interaction in dyads or in larger groups. What may be surprising—to some, if not to others—is that these examples have been provided more often by researchers interested in group processes and interpersonal relations than by researchers interested in what is ostensibly "mainstream" social cognition. As Ickes, Stinson, et al. (1990, p. 730) have noted:

Group dynamics researchers have for some time studied intersubjective phenomena under headings such as brainstorming (Diehl & Stroebe, 1987; Street, 1974), group decision making (Janis & Mann, 1977; Miller, 1989; Stasser, Kerr, & Davis, 1989), groupthink

(Janis, 1972; McCauley, 1989), group polarization (Moscovici & Zavalloni, 1969; Myers, 1982; Myers & Lamm, 1976), group socialization (Moreland & Levine, 1982; 1989) and majority and minority influence (Latane & Wolfe, 1981; Maass, West, & Cialdini, 1987; Moscovici & Mugny, 1983; Nemeth, 1986).

Most of these intersubjective phenomena are characterized by a general convergence of the participants' cognitive responses as a function of their membership and interaction in the group. Particularly salient examples of this convergent influence are provided by studies of group decision making and groupthink—areas of research focusing on interaction contexts in which achieving a unified consensus is often assumed to be the pre-eminent value. However, some of these intersubjective phenomena may be characterized by a general divergence of the participants' cognitive responses as a function of their membership and interaction in the group, or by a divergence of the larger group into factions whose members subsequently converge to adopt the appropriate subgroup mentality (e.g., majority and minority group influence).

More recently, interpersonal relations researchers have also begun to study a wide range of intersubjective phenomena. A general research paradigm for studying such phenomena has been developed by Ickes and his colleagues, who have extended the unstructured dyadic interaction paradigm (Ickes, 1982, 1983) to assess dyad members' subjective thoughts and feelings, in addition to their overt behavior (Ickes et al., 1986; Ickes & Tooke, 1988; Ickes, Stinson, et al., 1990). To date, this paradigm has been used to explore a number of different aspects of naturalistic social cognition. These include empathic accuracy (Ickes, in press; Ickes, Stinson, et al., 1990; Maragoni, Garcia, & Ickes, 1993; Stinson & Ickes, 1992), dyadic intersubjectivity (Ickes et al., 1988), and metaperspective talking (Fletcher & Fitness, 1990; Frable, Blackstone, & Scherbaum, 1990; Ickes et al., 1986). They also include (a) thought/feeling correlates of the interactants' traits and dispositions, (b) thought/feeling correlates of behavioral measures of interactional involvement, and (c) thought/feeling correlates of perceptions of interaction quality and liking for partner (Ickes et al., 1986).

The methodological power of the unstructured dyadic interaction paradigm represents only one advance in the study of *social* cognition. The past decade has seen the development of powerful new statistical models for investigating intersubjective phenomena such as consensus and meta-accuracy in person perception (Kenny & Albright, 1987; Malloy & Albright, 1990), and "coorientation" and "shared meaning" effects (Chaplin & Panter, in press; Kenny & Kashy, 1993). Techniques for studying both within- and between-dyad interdependence have also proven useful in identifying *emergent* social phenomena—for example, that mutual gaze is more than the "coincident looking" defined by the joint probability of the participants' individual gazing behavior (Bissonnette, 1992). These methodological and statistical innovations have been further complemented by creative theoretical models such as Wegner, Giuliano, and Hertel's (1985) analysis of transactive memory and other forms of cognitive interdependence in close relationships.

"SOCIAL" COGNITION AND *SOCIAL* COGNITION

The essential point of this article is a simple one: that, by neglecting the study of intersubjective phenomena and concentrating instead on the more traditional study of subjective phenomena, social cognition researchers have failed to address some of the most central, vital, and defining issues in their field. In making this point, we do *not* want to be misinterpreted as suggesting that all "social" cognition research is bad, whereas all *social* cognition research is good, or that the latter should completely supplant the former. On the contrary, we have learned much, and will continue to learn much more, from research in both domains, and we expect that they will continue to co-exist as alternative paradigms for the study of human social cognition. We are using the word "paradigms" here in the sense intended by Kuhn (1962)—organizing perspectives for the conduct of research in a given area that implicate different philosophical, theoretical, and methodological views of what problems are important and how they should be addressed. Consistent with Kuhn's (1962) analysis, we expect that the *social* cognition para-

digm will serve as a dialectical antithesis to the thesis provided by the "social" cognition paradigm, with a consequent sharpening of the issues and enrichment of theory in both domains.

We also expect, however, that the dialectical challenge presented by the social cognition paradigm will accelerate the kind of dissatisfaction with "social" cognition research that has led Zajonc (Aron & Aron, 1989, p. 86) to offer the following opinion:

Social psychology is stagnant. It's right now borrowing concepts from cognitive science whose promise is uncertain. Straight cognition has done nothing but remain in people's heads . . . A gang in Los Angeles choosing to take some chains and guns and go in the street shooting up some others is not going to be understood by the analysis of encoding, storage, and retrieval processes! This emphasis on social cognition has gone too far.

There is no guarantee, of course, that the *social* cognition paradigm will be any more successful than the "social" cognition paradigm in helping us to understand the causes of urban violence. On the other hand, it does at least promise to move the focus of our research efforts outside of individual minds, and into the intersubjective space in which these minds attempt—and often fail—to meet. And it puts the emphasis on the first word in the phrase "social cognition"—where we think it belongs.

REFERENCES

- Aron, A., & Aron, E. N. (1989). *The heart of social psychology*. Lexington, MA: Lexington Books.
- Asch, S.E. (1952). *Social psychology*. Englewood Cliffs, NJ: Prentice-Hall.
- Asch, S. E. (1955, November). Opinions and social pressure. *Scientific American*, pp. 31-35.
- Asch, S. E. (1956). Studies of independence and conformity: I. A minority of one against a unanimous majority. *Psychological Monographs*, 70 (9, Whole No. 416).
- Berscheid, E., & Peplau, L. A. (1983). The emerging science of relationships. In H. H. Kelley, E. Berscheid, A. Christensen, J. H. Harvey, T. L. Huston, G. Levinger, E. McClintock, L. A. Peplau, & D. R. Peterson (Eds.), *Close relationships* (pp. 1-19). New York: Freeman.
- Bieri, J. (1953). Changes in interpersonal perceptions following social interaction. *Journal of Abnormal and Social Psychology*, 48, 61-66.
- Bissonnette, V. L. (1992). *Interdependence in dyadic gazing*. Unpublished doctoral dissertation, University of Texas at Arlington.
- Brock, T. C. (1967). Communication discrepancy and intent to persuade as determinants of counterargument production. *Journal of Experimental Social Psychology*, 3, 269-309.

- Cacioppo, J. T., & Petty, R. E. (1981). Social psychology procedures for cognitive response assessment: The thought-listing technique. In T. Merluzzi, C. Glass, & M. Genest (Eds.), *Cognitive assessment* (pp. 309-342). New York: Guilford.
- Chaplin, W. F., & Panter, A. T. (in press). Shared meaning and the convergence among observers' personality descriptions. *Journal of Personality*.
- Clark, H. H. (1985). Language use and language users. In G. Lindzey & E. Aronson (Eds.), *Handbook of social psychology* (3rd ed., pp. 179-231). New York: Random House.
- Diehl, M., & Stroebe, W. (1987). Productivity loss in brainstorming groups: Toward the solution of a riddle. *Journal of Personality and Social Psychology*, 53, 497-509.
- Ericsson, K. A., & Simon, H. A. (1984). *Protocol analysis*. Cambridge, MA: MIT Press.
- Fiske, S. T., & Taylor, S. E. (1984). *Social cognition*. Reading, MA: Addison-Wesley.
- Fletcher, G.J.O., & Fitness, J. (1990). Occurrent social cognition in close relationship interaction: The role of proximal and distal variables. *Journal of Personality and Social Psychology*, 59, 464-474.
- Frable, D.E.S., Blackstone, T., & Scherbaum, C. (1990). Marginal and mindful: Deviants in social interactions. *Journal of Personality and Social Psychology*, 59, 140-149.
- Fransella, F., & Bannister, D. (1977). *A manual for repertory grid technique*. New York: Academic Press.
- Gardner, W., & Griffin, W. (1989). Methods for the analysis of parallel streams of continuously recorded social behaviors. *Psychological Bulletin*, 105, 446-455.
- Gottman, J. M., & Roy, A. K. (1990). *Sequential analysis: A guide for behavioral researchers*. Cambridge: Cambridge University Press.
- Greenwald, A. G. (1968). Cognitive learning, cognitive response to persuasion, and attitude change. In A. G. Greenwald, T. C. Brock, & T. M. Ostrom (Eds.), *Psychological foundations of attitudes* (pp. 147-170). New York: Academic Press.
- Griffin, D., & Gonzalez, R. (1993). Correlational models for dyadic data. Unpublished manuscript.
- Griffin, D. R. (1984). Animal thinking. *American Scientist*, 72, 456-464.
- Hays, W. L. (1988). *Statistics* (4th ed.). New York: Holt, Rinehart, & Winston.
- Heider, F. (1958). *The psychology of interpersonal relations*. New York: Wiley.
- Ickes, W. (1982). A basic paradigm for the study of personality, roles, and social behavior. In W. Ickes & E. S. Knowles (Eds.), *Personality, roles, and social behavior* (pp. 305-341). New York: Springer-Verlag.
- Ickes, W. (1983). A basic paradigm for the study of unstructured dyadic interaction. In H. Reis (Ed.), *New directions for methodology of social and behavioral science* (pp. 5-21). San Francisco: Jossey-Bass.
- Ickes, W. (in press). Empathic accuracy. *Journal of Personality*.
- Ickes, W., Bissonnette, V., Garcia, S., & Stinson, L. (1990). Implementing and using the dyadic interaction paradigm. In C. Hendrick & M. Clark (Eds.), *Review of personality and social psychology*, Vol. 11. *Research methods in personality and social psychology* (pp. 16-44). Newbury Park, CA: Sage.
- Ickes, W., Robertson, E., Tooke, W., & Teng, G. (1986). Naturalistic social cognition: Methodology, assessment, and validation. *Journal of Personality and Social Psychology*, 51, 66-82.
- Ickes, W., Stinson, L., Bissonnette, V., & Garcia, S. (1990). Naturalistic social cognition: Empathic accuracy in mixed-sex dyads. *Journal of Personality and Social Psychology*, 59, 730-742.

- Ickes, W., & Tooke, W. (1988). The observational method: Studying the interaction of minds and bodies. In S. Duck (Ed.), *The handbook of personal relationships: Theory, research and interventions* (pp. 79-97). Chichester: Wiley.
- Ickes, W., Tooke, W., Stinson, L., Baker, V. L., & Bissonnette, V. (1988). Naturalistic social cognition: Intersubjectivity in same-sex dyads. *Journal of Nonverbal Behavior*, *12*, 58-84.
- Janis, I. L. (1972). *Victims of groupthink*. Boston: Houghton-Mifflin.
- Janis, I. L., & Mann, L. (1977). *Decision making: A psychological analysis of conflict, choice, and commitment*. New York: Free Press.
- Kelley, H. H., Berscheid, E., Christensen, A., Harvey, J. H., Huston, T. L., Levinger, G., McClintock, E., Peplau, L. A., & Peterson, D. R. (1983). Analyzing close relationships. In H. H. Kelley, E. Berscheid, A. Christensen, J. H. Harvey, T. L. Huston, G. Levinger, E. McClintock, L. A. Peplau, & D. R. Peterson (Eds.), *Close relationships* (pp. 20-67). New York: Freeman.
- Kenny, D. A. (1988). The analysis of data from two-person relationships. In S. Duck (Ed.), *The handbook of personal relationships: Theory, research, and interventions* (pp. 57-77). Chichester, UK: Wiley.
- Kenny, D. A., & Albright, L. (1987). Accuracy in interpersonal perception: A social relations analysis. *Psychological Bulletin*, *102*, 390-402.
- Kenny, D. A., & Kashy, D. A. (1993). Enhanced coorientation in the perception of friends: A social relations analysis. Manuscript submitted for publication.
- Kenny, D. A., & La Voie, L. (1985). Separating individual and group effects. *Journal of Personality and Social Psychology*, *48*, 339-348.
- Kuhn, T. S. (1962). *The structure of scientific revolutions*. Chicago: University of Chicago Press.
- Latane, B., & Wolfe, S. (1981). The social impact of majorities and minorities. *Psychological Review*, *88*, 438-453.
- Le Bon, G. (1896). *The crowd*. London: T. Fisher Unwin. (Originally published in 1895 in French).
- Maass, A., West, S. G., & Cialdini, R. B. (1987). Minority influence and conversion. In C. Hendrick (Ed.), *Review of personality and social psychology: Vol. 8. Group processes* (pp. 55-79). Newbury Park, CA: Sage.
- Malloy, T. E., & Albright, L. (1990). Interpersonal perception in a social context. *Journal of Personality and Social Psychology*, *58*, 419-428.
- Marangoni, C., Garcia, S., & Ickes, W. (1993). Empathic accuracy in a clinically relevant setting. Manuscript submitted for publication.
- Markus, H., & Zajonc, R. B. (1985). The cognitive perspective in social psychology. In G. Lindzey & E. Aronson (Eds.), *The handbook of social psychology* (3rd ed., pp. 137-230). New York: Random House.
- McCauley, C. (1989). The nature of social influence in groupthink: Compliance and internalization. *Journal of Personality and Social Psychology*, *57*, 250-260.
- Mead, G. H. (1934). *Mind, self and society*. Chicago: University of Chicago Press.
- Merleau-Ponty, M. (1945). *Phenomenologie de la perception*. Paris: Gallimard.
- Miller, C. E. (1989). The social psychological effects of group decision rules. In P. B. Paulus (Ed.), *Psychology of group influence* (2nd ed., pp. 327-355). Hillsdale, NJ: Lawrence Erlbaum.
- Moreland, R. L., & Levine, J. M. (1982). Group socialization in small groups: Temporal changes in individual-group relations. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 15, pp. 137-192). New York: Academic Press.

- Moreland, R. L., & Levine, J. M. (1989). Newcomers and oldtimers in small groups. In P. B. Paulus (Ed.), *Psychology of group influence* (2nd ed., pp. 143-186). Hillsdale, NJ: Lawrence Erlbaum.
- Moscovici, S., & Mugny, G. (1983). Minority influence. In P. B. Paulus (Ed.), *Basic group processes* (pp. 41-64). New York: Springer-Verlag.
- Moscovici, S., & Zavalloni, M. (1969). The group as a polarizer of attitudes. *Journal of Personality and Social Psychology*, *12*, 125-135.
- Myers, D. G. (1982). Polarizing effects of social interaction. In H. Brandstatter, J. H. Davis & G. Stocker-Kreichgauer (Eds.), *Group decision making* (pp. 125-161). London: Academic Press.
- Myers, D. G., & Lamm, H. (1976). The group polarization phenomenon. *Psychological Bulletin*, *83*, 602-627.
- Neisser, U. (1980). On "social knowing." *Personality and Social Psychology Bulletin*, *6*, 601-605.
- Nemeth, C. (1986). Differential contributions of majority and minority influence. *Psychological Review*, *93*, 23-32.
- Newcomb, T., Turner, R., & Converse, P. (1965). *Social psychology: The study of human interaction*. New York: Holt, Rinehart, & Winston.
- Nisbett, R., & Wilson, T. B. (1977). Telling more than we can know: Verbal reports on mental processes. *Psychological Review*, *84*, 231-158.
- Pearson, K. (1901). Mathematical contributions to the theory of evolution, part IX. On the principle of homotyposis and its relation to heredity, to the variability of the individual, and to that of the race. *Philosophical Transactions of the Royal Society of London*, *197*(Series A), 285-379.
- Pennington, N., & Hastie, R. (1986). Evidence evaluation in complex decision making. *Journal of Personality and Social Psychology*, *51*, 242-258.
- Robinson, W. S. (1957). The statistical measurement of agreement. *American Sociological Review*, *22*, 17-25.
- Sherif, M. (1935). A study of some social factors in perception. *Archives of Psychology*, *27*, 1-60.
- Srull, T. K., Lichtenstein, M., & Rothbart, M. (1985). Associative storage and retrieval processes in person memory. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *11*, 316-345.
- Stasser, G., Kerr, N. L., & Davis, J. H. (1989). Influence processes and consensus models in decision-making groups. In P. B. Paulus (Ed.), *Psychology of group influence* (2nd ed., pp. 279-326). Hillsdale, NJ: Lawrence Erlbaum.
- Stinson, L., & Ickes, W. (1992). Empathic accuracy in the interactions of male friends versus male strangers. *Journal of Personality and Social Psychology*, *62*, 787-797.
- Street, W. R. (1974). Brainstorming by individuals, coacting and interacting groups. *Journal of Applied Psychology*, *59*, 433-436.
- Swann, W. B., Jr. (1984). Quest for accuracy in person perception: A matter of pragmatics. *Psychological Review*, *4*, 457-477.
- Thibaut, J., & Kelley, H. (1959). *The social psychology of groups*. New York: Wiley.
- Wegner, D. M., Giuliano, T., & Hertel, P. T. (1985). Cognitive interdependence in close relationships. In W. Ickes (Ed.), *Compatible and incompatible relationships* (pp. 253-276). New York: Springer-Verlag.