

Blackwell Handbook of Social Psychology: Group Processes

Edited by

Michael A. Hogg and R. Scott Tindale

 **BLACKWELL**
P u b l i s h e r s

**Blackwell Handbook of Social Psychology:
Group Processes**



Blackwell Handbook of Social Psychology

This authoritative handbook draws together 25–30 newly commissioned chapters in each of the four volumes to provide a comprehensive overview of specific topics in the field of social psychology. Designed to have considerable depth as well as breadth, the volumes encompass theory and research at the intraindividual, interpersonal, intergroup, and group levels. Editors have been chosen for their expertise and knowledge of the subject, making the *Blackwell Handbook of Social Psychology* an invaluable companion for any serious social psychology scholar.

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Group Processes, edited by Michael A. Hogg and R. Scott Tindale

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Series Editors' Preface

The Blackwell Handbook of Social Psychology

The idea for a new, international handbook series for social psychology was conceived in July 1996 during the triannual meeting of the European Association of Experimental Social Psychology (EAESP) in the idyllic setting of Gmunden, Austria. Over a glass of wine and pleasant breezes from the Traunsee, Alison Mudditt (then Psychology Editor for Blackwell Publishers) engaged the two of us in a “hypothetical” discussion of what a multi-volume handbook of social psychology at the start of the 21st century might look like. By the second glass of wine we were hooked, and the project that has culminated in the publication of this four-volume *Blackwell Handbook of Social Psychology* was commissioned.

The EAESP meeting provided a fitting setting for the origin of a project that was intended to be an international collaborative effort. The idea was to produce a set of volumes that would provide a rich picture of social psychology at the start of the new millennium – a cross-section of the field that would be both comprehensive and forward-looking. In conceiving an organizational framework for such a venture, we sought to go beyond a simple topical structure for the content of the volumes in order to reflect more closely the complex pattern of cross-cutting theoretical perspectives and research agendas that comprise social psychology as a dynamic enterprise. Rather than lengthy review papers covering a large domain of social psychological research, we felt that a larger number of shorter and more focused chapters would better reflect the diversity and the synergies representative of the field at this point in time.

The idea we developed was to represent the discipline in a kind of matrix structure, crossing levels of analysis with topics, processes, and functions that recur at all of these levels in social psychological theory and research. Taking inspiration from Willem Doise's 1986 book (*Levels of Explanation in Social Psychology*) four levels of analysis – intrapersonal, interpersonal, intragroup, and intergroup – provided the basis for organizing the Handbook series into four volumes. The content of each volume would

be selected on the basis of cross-cutting themes represented by basic processes of social cognition, attribution, social motivation, affect and emotion, social influence, social comparison, self and identity, as they operate at each level. In addition, each volume would include methodological issues and areas of applied or policy-relevant research related to social psychological research at that level of analysis.

Armed with this rough organizational framework as our vision for the series, our role was to commission editors for the individual volumes who would take on the challenging task of turning this vision into reality. The plan was to recruit two experts for each volume who would bring different but complementary perspectives and experience to the subject matter to work together to plan, commission, and edit 25–30 papers that would be representative of current and exciting work within their broad domain. Once selected, co-editors were encouraged to use the matrix framework as a heuristic device to plan the coverage of their volume but were free to select from and embellish upon that structure to fit their own vision of the field and its current directions.

We have been extremely fortunate in having persuaded eight exceptionally qualified and dedicated scholars of social psychology to join us in this enterprise and take on the real work of making this Handbook series happen. Once they came on board, our role became an easy one: just relax and observe as the project was brought to fruition in capable hands. We are deeply indebted and grateful to Abraham Tesser and Norbert Schwarz, Margaret Clark and Garth Fletcher, Michael Hogg and Scott Tindale, Rupert Brown and Samuel Gaertner for their creative leadership in producing the four volumes of this series. Through their efforts, a rough outline has become a richly textured portrait of social psychology at the threshold of the 21st century.

In addition to the efforts of our volume editors and contributors, we are grateful to the editorial staff at Blackwell who have seen this project through from its inception. The project owes a great deal to Alison Mudditt who first inspired it. When Alison went on to new ventures in the publishing world, Martin Davies took over as our capable and dedicated Commissioning Editor who provided guidance and oversight throughout the operational phases. Our thanks to everyone who has been a part of this exciting collaborative venture.

Miles Hewstone
Marilynn Brewer

Preface

“A whole volume on groups? One-fourth of the entire *Handbook*? In social psychology? Well it’s about time!” Such was our shared reaction when asked to edit the present volume of the *Blackwell Handbook of Social Psychology*. There was a time in the history of social psychology when such a response would have been out of place. Much of the early work on human social behavior focused on groups. In fact, the earliest empirical undertaking in the field was concerned with why people perform differently in groups, as compared to alone (Triplet, 1898). The key aspects that defined the field were group concepts: social facilitation and inhibition, norms, roles, group cohesiveness, social comparison, social interaction, etc. Even attitudes – often defined as individual-level phenomena – were studied in a group context (Lewin, 1943). Thus, a heavy emphasis on groups in a handbook of social psychology would have been (and in fact was) the norm (see Lindzey, 1954; Lindzey & Aronson, 1969).

However, by the late 1960s and early 1970s, the group began to lose its central position in the field. And by the mid-1980s, the notion of groups as a central focus in the field had all but evaporated – so much so that the 3rd edition of the Lindzey and Aronson (1985) handbook had but one chapter with the word “group” in the title, and that one focused on inter- rather than intragroup phenomena (Stephan, 1985). The decline of group research in social psychology has been well documented and lamented, and the reasons for the decline have been discussed and debated at length (see Abrams & Hogg, 1998; Davis, 1996; Moreland, Hogg, & Hains, 1994; Steiner, 1974; 1986; Tindale & Anderson, 1998). However, recent reviews have also noted a resurgence in group research – both in terms of intergroup (Moreland et al., 1994) and intragroup (Sanna & Parks, 1997) behavior. Although not all of this work has been published in the standard social psychology outlets, much of it is still performed by researchers trained in social psychology. Thus, it seems quite appropriate to us that separate volumes of the present four-volume *Handbook* have been devoted to intragroup (the current volume) and intergroup (the volume edited by Brown & Gaertner) processes. However, it is actually quite difficult and probably unwise to study intragroup processes in isolation from the intergroup

context in which groups exist – and so, many of the chapters in this volume quite naturally place a strong emphasis on intergroup aspects of processes within groups.

Although one could justify dedicating an entire volume to intragroup processes based on increased quantity of research in the field, we feel the true justification stems more from recent reconceptualizations that have in part fueled the resurgence. Part of the decline of group research in social psychology can be attributed to the cognitive revolution in psychology in general. Since cognitions were seen as contained within the individual, the important questions seemed to be at the individual level. However, more recent attempts at explaining human cognition have begun to realize that often cognitions are social in nature. The idea that cognition is not simply a mapping of physical reality to mental representation, but is often defined by social consensus once again places the group as social context into an important role (Resnick, Levine, & Teasley, 1991). The social nature of our thoughts, beliefs, even memories, has had important implications for what we mean by the notion of cognition, and the reasons why so many of them are shared among people in common social environments (Farr & Moscovici, 1984; Nowak, Szamrej, & Latane, 1990). Thus, as cognitions have taken on a more social definition, groups have become a more reasonable place to study them.

A related shift in conceptualization involves the notion of the self. Prior to the 1970s, most social psychological research was performed in the United States. As is now known, the United States is a relatively individualistic culture. Thus, social psychological definitions of the self were individualistic as well. However, research on intergroup relations by Tajfel, Turner, and their associates (see Tajfel & Turner, 1979; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987) demonstrated that self-definitions are largely social and shift depending on the social/group context. In addition, cross-cultural research (Markus & Kitayama, 1991; Triandis, 1989) has shown that the self-concept in many cultures is more collectivist than individualistic. For people in those cultures, the most important ingroup plays a central role in defining the self. Once again, this shift in conceptualization has placed the group in a more central position for understanding social behavior.

The present volume reflects both of the aforementioned trends as well as more standard issues associated with behavior in and by groups. Consistent with the other three volumes in the *Handbook*, we sought contributors who spanned international boundaries and theoretical perspectives. Given that groups have taken on a more central role in social psychological thinking, it was easy to find prominent scholars with a group perspective for each of the fundamental social psychological processes used to organize the entire project (cognition, motivation, emotion/affect, etc.). The difficult part was deciding who we would, unfortunately, not be able to include from our original long list of leading scholars. Space constraints forced us to exclude many excellent group researchers. However, the current list contains many of the most notable and active researchers in the field of group research and comprehensively covers the major topics of the field.

The general organization of the volume follows the framework originally devised for the entire *Handbook*, and revolves around basic social psychological processes: cognition and cognitive processes, social motivation, affect/emotion, social influence, attribution, social comparison, and self and identity. Although each chapter was chosen based on this list of processes, many if not all of the chapters can readily be cross-listed and many could just as readily be relocated under a different “process.” In addition, the volume includes

chapters on methods and on applications. There is also a chapter on cross-cultural issues. Because of the cost associated with studying groups as the unit of analysis, rarely are groups in different cultures directly compared, although each of the chapters discusses what we do know about culture and groups within specific domains. However, in general, there is a need for research on groups outside of the confines of Western, industrialized societies.

The opening section on cognition in groups flows nicely from the recent conceptualizations discussed above. Tindale, Meisenhelder, Dykema-Engblade, and Hogg's chapter (Chapter 1) focuses on *socially shared cognitions* and how this "sharedness" is important for understanding not only the cognitions of group members but also group performance and process in general. The notion of shared cognition resurfaces in a different form in Chapter 13, where Lorenzi-Cioldi and Clémence describe the wider social processes that produce and maintain social representations, and the consequences of such representations for social conduct.

Stemming from the other social trend in cognition represented by social identity/self-categorization processes, Hogg (Chapter 3) discusses the implications of social categorization and depersonalization for intragroup processes, showing how such ideas inform standard group research areas such as cohesiveness, leadership, and organizational effectiveness. This chapter describes the social identity perspective and its contribution to our understanding of processes within groups. The social identity theme is also pursued in Chapter 18, by Abrams and Hogg, but here the emphasis is on the collective self-concept and on the presentation of self in different social/group contexts. Marques, Abrams, Paez, and Hogg (Chapter 17) also adopt a social identity perspective to analyze people's reactions to and treatment of deviant members of their group. Darley's chapter (Chapter 14) takes a different perspective on deviance – as part of a general discussion of social comparison processes, the emphasis is on the ways in which groups try to include deviant members or people who do not fit the defining membership characteristics very well.

Returning to Chapter 2, Stasser and Dietz-Uhler continue the cognitive theme of Chapter 1. They discuss theory and research on group performance on cognitive tasks (decision making and problem solving), with a special emphasis on the development of mathematical and computer formalizations of groups and what we have learned from such endeavors. Group performance is also dependent upon motivation. Kerr and Park (Chapter 5) discuss group performance in both collaborative and social dilemma situations from a motivational perspective. Using some standard motivational models (instrumentality – value, self-efficacy), they provide novel explanations for both classic and more recent research findings while showing that motivation can be gained as well as lost in groups.

Motivation to join groups and to remain a member, and motivation for groups to recruit and retain members are important constructs in group socialization theory. Levine, Moreland, and Choi discuss group socialization in Chapter 4. Taking a slightly different tack, but still emphasizing the temporal dimension of group life, Worchel and Coutant (Chapter 19) discuss how different types of group and individual identities interrelate in group contexts. This discussion invokes the notion of roles, which is discussed in detail by Ridgeway in Chapter 15 – the status characteristics of particular roles are seen to be important determinants of influence within groups.

The idea of there being different roles within groups and that roles vary in how much power to influence is attached to them leads us in two directions. First the study of leadership. Chemers (Chapter 16) and Lord, Brown, and Harvey (Chapter 12) discuss leadership, both emphasizing that leadership is a group process. Chemers provides an integrative review, whereas Lord and his colleagues focus upon a new connectionist model of leadership in groups. The other direction is the study of influence, conformity, and normative conduct. Cooper, Kelly, and Weaver (Chapter 11) discuss how attitudes are related to norms through the context of groups, and generally review attitude change and attitude-behavior research from this group perspective. Martin and Hewstone (Chapter 9) provide a detailed and comprehensive discussion of how majorities and minorities can influence people – a particular emphasis is placed on the process of minority influence that is often considered to be the vehicle of social change. The idea of social change is explored further by Reicher (Chapter 8) who provides a wide-ranging analysis of crowd behavior. Far from being an irrational aggregate of deindividuated souls, Reicher considers the crowd to have a tight logic that is tied to the identity of the crowd. Crowd behavior is often a manifestation of collective protest or collective identity expression, and is often closely tied to the pursuit of social change. The final social influence chapter is by Latané and Bourgeois (Chapter 10). Latané and Bourgeois describe dynamic social impact theory which is a detailed and fine-grained analysis of the power (and limit) of numbers to gain influence. They show how particular distributions of people with varying impact can produce stable group arrangements that are more or less diverse or homogenous.

Although cognition and motivation have received a fair amount of attention in group research, affect and emotion, until recently, have received little if any. However, as has been demonstrated at the individual level, cognition and emotion are intricately entwined and it is difficult to understand one without the other – a fact that is beginning to impact research at the group level as well. Thompson, Medvec, Seiden, and Kopelman (Chapter 6) focus on the role of emotional expression in bargaining and negotiating. By discussing three different myths available as prescriptions for effective negotiation, they demonstrate both the complex role that emotion may play and describe the variables that may moderate the degree to which each myth holds some truth. Kelly (Chapter 7) describes what theory and research is available on emotion/affect and small group performance, and points out the importance of thinking about mood as both an individual and group-level phenomenon. She also points out a number of areas ripe for future research attention.

The last set of chapters focuses on cultural influences, methodological issues and innovations, and on how group research has been used for, and developed through, various applications. Carnevale and Leung (Chapter 20) place the self center-stage in their analysis of the impact of culture on negotiation and other mixed motive situations. McGrath and Altermatt (Chapter 22) describe both classic and recent developments in techniques for observing and analyzing group interaction. Sadler and Judd (Chapter 21) provide the basis for, and a variety of examples of, techniques that allow variance due to group-level phenomena to be differentiated from variance attributed to differences between individuals. And much like most other aspects of human behavior, groups are also changing as a function of technology. Hollingshead (Chapter 23) discusses how technology both has

changed and is changing the way we think about and study groups, and how the very definition of what a group is has been altered by recent technological innovations.

In terms of applications, one of the major areas where group research has had an impact on society is in relation to juries and legal decision making. Indeed, this area of group research continued to flourish even during the general decline of group research in the 1970s and 80s. It is an area which has helped to understand what factors impact a jury's ability to render justice. Tindale, Nadler, Krebel, and Davis (Chapter 24) focus on just such questions from a procedural perspective. Probably the applied area that has meant more for the resurgence of groups than any other is team performance in organizations. Taking a dynamical systems approach, McGrath and Argote (Chapter 25) discuss recent trends in research on groups in organizations and show the necessity for a dynamic, multi-leveled research agenda for understanding how groups function in an organizational context. Finally, Forsyth (Chapter 26) reviews the extensive role that groups have played in mental health care, both discussing what we currently know and making a plea for greater rigor and diversity in future research endeavors.

Bringing together such a diverse set of authors, ideas, and research agendas into a single volume has been both challenging and inspiring. We would like to express our deepest appreciation to all of the authors, for it was their efforts and insights that made the volume what it is. We would also like to thank the series editors and the publishers for their continued support and help along the way. We hope that this volume will show how valuable the group perspective is to both social psychology and our understanding of human behavior in general. This volume will both close the first century of group research and set the agenda for the next. We hope the ideas set forth in these chapters will provide both a strong foundation and a clear vision for the promising future research that is sure to come.

Michael A. Hogg and R. Scott Tindale
Brisbane and Chicago, June 2000

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CHAPTER ONE

Shared Cognition in Small Groups

**R. Scott Tindale, Helen M. Meisenhelder,
Amanda A. Dykema-Engblade, and Michael A. Hogg**

Two of the earliest texts in social psychology were Le Bon's (1896/1960) *Psychologie des Foules* (*Psychology of Crowds*) and McDougall's (1920) *The Group Mind*. Both espoused as a central tenet the view that behavior in social aggregates was not simply a function of some combination of individual acts. Rather, they saw social behavior as being guided by forces defined by the aggregate – a “collective consciousness” or “group mind” – that could not be understood fully by simply understanding individual behavior or individual minds. Such ideas were not unusual for the times. Durkheim (1893/1984, 1965), Mead (1934) and other sociologists and social philosophers also saw collective or shared meaning as an integral component for understanding social behavior (see Farr, 1996). However, with the onset of behaviorism, psychology's focus moved almost exclusively onto the individual, and the notion of collective thought and meaning fell out of favor (Allport, 1924). In mainstream social psychology, focus on aggregates versus individuals has waxed and waned (see Steiner, 1974, 1986; Moreland, Hogg, & Hains, 1994 for reviews), but the key explanatory variables have remained mainly at the individual level. Thus, in recent social psychology textbooks, the early ideas concerning “collective cognition” are rarely mentioned except for historical context, if they are mentioned at all (e.g., Baron & Byrne, 2000).

However, social psychology has seen a recent resurgence of the notion of cognition at the level of the collective, typically referred to as “socially shared cognitions” (Resnik, Levine, & Teasley, 1991; Thompson & Fine, 1999). This resurgence has developed from

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a number of different directions. Probably the most central influence has been European social psychology, through the writings of Henri Tajfel and his colleagues (Tajfel & Turner, 1979, Turner, Hogg, Oakes, Reicher, & Wetherell, 1987; Hogg & Abrams, 1988; see Abrams & Hogg, this volume, chapter 18; Hogg, this volume, chapter 3; Reicher, this volume, chapter 8). Tajfel's social identity theory placed the group front and center stage for understanding a number of aspects of behavior. These ideas eventually influenced theory and research in most of the major areas of the field: person perception, stereotyping, prejudice, attribution, attitudes, self-concept, and so forth (see Abrams & Hogg, 1999 for recent summaries in each of these areas), as well as work on small groups (Hogg, 1996). Another European influence that promoted the notion of shared thoughts and beliefs was Moscovici's (1984) notion of "social representations" (see Lorenzi-Cioldi & Clémence, this volume, chapter 13). Drawing on Durkheim's (1965) notion of "collective representations," Moscovici argued that collectives rely on shared images and ideas to form the basis of "common sense." These shared meanings then become the cognitive context within which members of the collective communicate and coordinate their actions. Similar ideas have more recently been developed by Bar-Tal (1990) in relation to group beliefs and their impact on individual and collective behavior.

Another major influence on the shared cognitions approach came from theory and research on organizations (Thompson, Levine, & Messick, 1999). Theorists such as Weick (1979) argued that organizations are defined by the process of organizing, which is defined, in part, at the cognitive level. Thus, organizations are defined by the "sense making" and "heedful interrelating" (Weick & Roberts, 1993) that occurs, and the shared cognitions that result. The popularity of work teams in organizations has also spawned a strong research tradition in the study of group performance in organizations (Guzzo & Shea, 1992; Hackman, 1998). Within this tradition, the notion of common understandings (Helmreich, 1997), and shared mental models (Klimoski & Mohammed, 1994; Thompson, 1998) have played significant roles in recent theorizing.

Specifically within the small-group literature in social psychology, probably the biggest influence in moving the field toward a focus on shared cognitions was the "hidden profile" paradigm formulated by Stasser and Titus (1985, 1987; see also Stasser & Dietz-Uhler, this volume, chapter 2). Although this paradigm and its offshoots will be discussed in depth later, the basic finding that shared information in groups plays a much more significant role in group process and performance than does information that is not shared, shattered a number of the prior basic assumptions underlying group research. A number of researchers have followed up on this finding (e.g., Larson, Foster-Fishman, & Keys, 1994; Gigone & Hastie, 1993, 1996), and this body of literature helped to crystallize the idea of groups as information-processing systems (Hinsz, Tindale, & Vollrath, 1997; Larson & Christensen, 1993) with "social sharedness" as an underlying theme (Kameda, Tindale, & Davis, *in press*; Tindale & Kameda, 2000).

The notion of socially shared cognitions has permeated virtually all areas of social psychology. Thus, a comprehensive review is beyond the scope of the present chapter (see Thompson & Fine, 1999 for a more thorough treatment of socially shared cognitions in general). True to the theme of the present volume, we will focus almost exclusively on intragroup phenomena and how the shared cognitions resurgence has influenced theory

and research on small-group process and performance. The remainder of the chapter is divided into two main sections. The first briefly discusses recent (and not-so-recent) ideas concerning how groups develop shared cognitions. Drawing on traditional (e.g., symbolic interactionism, social comparison, etc.) and more recent (e.g., models of evolution, communication, group identity, and dynamical systems) orientations, we will show that shared cognitions develop naturally in groups, often with little or no effort on the part of the constituent members. The second section discusses the effects that shared cognitions have on groups, in terms of both process and performance. We discuss both recent findings and some reinterpretations of earlier classic findings in the field. Although grounded in some of the earliest work in the field, the shared cognitions framework for studying groups is still evolving. Thus, we close the chapter with a few speculations as to where these ideas may be able to take the field.

How Shared Cognitions Develop

Common experience, learning, social interaction, and social comparison

Obviously, some of the cognitions, beliefs, knowledge, and so forth, that members of social groups share come from their shared experiences with the world around them. Human physiology is mainly constant in terms of how our sensory systems operate, so it is not surprising that we experience things in similar ways. In addition, the laws of physics are constant (at least at the level at which our senses operate) so that we fall *down* when we lose our balance, and feel *pain* when our flesh is exposed to fire, etc. (Although as is argued below, most – if not all – of the *meanings* we attribute to such common experiences are socially mediated.) In addition, all societies/cultures have in place mechanisms for teaching their younger members the shared *truths* as defined by them. Children learn math, science, history, and so forth, in schools or through family elders and are told that these ideas and procedures are both true and relevant. However, instruction and common experience are not the only ways that shared cognitions develop.

Some of the earliest discussions of shared social meanings in psychology and sociology stem from the symbolic interactionist approach (see Farr, 1996; Fine, 1990; Thompson & Fine, 1999). This perspective argued that collective meaning is an essential feature of social life and that social order depends on the subsequent shared interpretations based on those collective meanings. Even the definition of self was seen as dependent on our ability to take on the role of the other. By our ability to see the world through another person's eyes (so to speak), we develop a perspective of our place as an entity in the social environment. Symbolic interactionists contend that socially shared meaning develops through interaction among social actors, and is continually modified by those same interactions. Although the approach does not claim that all individual perspectives on a situation are identical, it does argue that the ability to share perspectives is what allows social interaction to exist in any meaningful way.

Moscovici's (1984) notion of social representation fits nicely with the symbolic interactionist perspective, though he attributes the basis of the idea to Durkheim (1964).

Through interactions with others, we learn what beliefs and attitudes are considered “givens” in our social environment. Thus, social representations are seen as the basis of what is typically referred to as “common sense.” Although some social representations have a physical basis for their existence (e.g., brick walls are hard – don’t pound your fist against them), others are more purely social or cultural in nature (i.e., the Sabbath is a day of rest – do not work on that day). Many of the social representations concerning social groups (e.g., stereotypes) are learned through a combination of social consensus and subsequent experience biased by social perceptions. Although social representations are dynamic – they change over time as both situations and knowledge bases change – they remain the common-sense basis for interpretation and understanding for the people that share them. (See Lorenzi-Cioldi & Clémence, this volume, chapter 13.)

Recent work on the role of communication also shows that simply exchanging information increases the perceived validity of the information (Hardin & Higgins, 1995; Higgins, 1992). Higgins (1992) has argued that part of the rules associated with communication is that the speaker “tunes” his/her message to the recipient so as to improve comprehension. This can often lead to recipients perceiving a greater degree of convergence in meaning than may have been the case. During the continued exchange, both participants gradually shift their perspectives to match what has been communicated. Thus, information that has been shared through communication acquires some validity purely from the sharing. This change in meaning seems to occur even when the communicator intentionally distorts the communication to match expectations concerning the audience (Higgins, 1992). Such ideas are quite consistent with theories of cognitive consistency (Festinger, 1957; Heider, 1958). When we tell someone else that something is true, it becomes truer to us as well.

Another way in which social interaction leads to shared cognitions is through social comparison (Festinger, 1950, 1954). Festinger argued that when physical reality does not provide cues for appropriate behavior or opinion, people use social reality (i.e., the other people around them) as cues for appropriateness. Thus, people compare their behavior, beliefs, attitudes, etc. with those of others around them in order to reduce uncertainty. Although some have argued that in fact all such comparisons are social because our perceptions of physical reality are also heavily socially mediated (Moscovici, 1976), the evidence that social comparisons guide many if not most of our behaviors is well established (see Suls & Wills, 1991; Darley, this volume, chapter 14).

Probably the best empirical example of this process is the work by Sherif (1936) on the development of social norms. Using the perceptual illusion of the autokinetic effect (perceived motion of a stationary light in a darkened room), Sherif had participants in small groups publicly judge how far the light had moved. Within a fairly small number of trials, Sherif found a fairly large degree of convergence among the judgments within the group. Thus, in the absence of any “real” physical cues, group members used the judgments of others to modify their own judgments. Social comparison processes are probably even more prevalent in situations where new members are intentionally trying to “fit in” in a new group or organizational context (Levine & Moreland, 1991, 1999; Levine, Moreland, & Choi, this volume, chapter 4).

Recent ideas on naturally occurring shared cognitions

Latané (1981) formulated a theory of social impact that posited three key aspects of social influence associated with the influence source – strength (e.g., power, persuasiveness), immediacy (physical and/or social distance) and number of influence sources compared to the number of targets. Recently, Latané and colleagues (Nowak, Szamrej, & Latané, 1990; Latané & Bourgeois, this volume, chapter 10) have adapted the theory, using a dynamical systems approach, to incorporate the dynamic and reciprocal nature of social influence. In addition to the assumptions specified above, the dynamic version of the model adds three more. First, it assumes that individuals (varying in strength and other attributes) are distributed in a social space. Where they are located in the space defines their immediacy in terms of other individuals within the space. Second, each individual is influenced by his/her own position (e.g., belief, attitude, preference) and by the other people in proportion to a multiplicative function of their strength, immediacy, and number. Third, a person will change his/her position if and only if the total persuasive impact (the pressure to change to a different position) outweighs the pressure to maintain one's own position (the strength of the initial position plus any supportive impact). Dynamic social impact is then taken to be the cumulative effect of the iterative, recursive influence present during interaction. The model makes no assumptions about intentions of the other people in the social space to influence someone.

Using computer simulations (SITSIM; Nowak & Latané, 1994), Latané and colleagues have discovered a number of consistent findings, which have then been tested in different experimental settings. The most central finding for current concerns is that people tend to cluster in the social space in terms of position similarity. In other words, a random distribution of positions within the space will soon become organized into “belief clusters.” Second, the space will tend to consolidate in such a way that majority positions tend to become stronger (more prevalent) and minority positions weaker. However, unless the initial majority is extremely large, minority clusters remain even after thousands of iterations. Thus, diversity of opinion continues despite the consolidation process. An additional aspect of the simulations shows that people in clusters tend to become similar to each other on multiple issues – what Latané has called correlation. Each of these simulation results have received empirical support in a number of different social aggregates, even in situations where there are few if any reasons for people to change their positions to match those around them (Latané & L'Herrou, 1996). Thus, it appears that shared cognitions are a natural product of even limited social interaction (simply exchanging position information), and they form as a consequence of self-organizing principles of the social system.

Two other recent ideas, born from thinking about social psychology and groups in evolutionary terms, help to elucidate how and why shared cognitions develop. Kameda and Hastie (1999) have run a number of simulations exploring the potential adaptive value of different social decision heuristics or group decision-making strategies. In their work, they assumed that a small band of foragers is to choose one patch or area out of many (10 in their simulations) to search for food/resources. They also assume the patches differ in resource level, and that individuals/groups can only know the resource levels of

different patches stochastically, based on environmental cues (using a Brunswik's lens model framework – Brunswik, 1956; Gigone & Hastie, 1996). They then simulated different group decision strategies and compared them both in terms of necessary computational resources to use the strategy and opportunity costs (resource differences between chosen patch and optimal patch). Although strategies with high computation demands performed best, they found that majority decision processes performed best of the low computations strategies – even better than “best member” (going with the most optimal individual choice) strategies. Research on group decision making has shown that majority processes are quite common (Kameda, Tindale, & Davis, in press) and often lead to post-decision convergence in individual member opinion. Thus, heuristically adaptive group decision strategies can lead to greater opinion sharing in groups.

On a more general scale, Caporael (1997) has argued that human evolution has at its core a social or group component. She argues that the notion of “repeat assembly” can be viewed as operating at many levels, not just in terms of genes. Given that one aspect of the human environment that has probably not changed from early evolutionary history is the social (face-to-face) group, it would not be surprising if a number of individual and group structural characteristics were “repeated,” as part of human evolution, in order to promote the adaptiveness of group life. A full discussion of these ideas is beyond the scope of the present chapter, but one of the key aspects of her “core configurations model” is that “demes” (bands of individuals larger than the single family unit) require and promote a shared reality. In other words, one of the functions of social groups is to promote a shared construction of reality (see Hogg, in press a). The shared reality then allows for behaviors such as group movement, general maintenance of the group, and work group coordination. Shared language and language capabilities play a large role in such shared realities, and thus, these ideas are quite consistent with the aforementioned symbolic interactionist perspective. Another natural function of such social groups is the development of social identity, a topic to which we now turn.

Social identity and self-categorization

The social identity perspective in social psychology is a systematic attempt to develop a model of the social group and of group and intergroup behaviors that rests upon collective self-conceptualization – social identity (e.g., Hogg & Abrams, 1988; Tajfel & Turner, 1979; Turner, 1982; see Hogg, this volume, chapter 3). Developing out of the collectivist and “social dimension” agenda of post-War European social psychology (Tajfel, 1984), the social identity perspective is an integrated theoretical framework that has a number of distinct but compatible conceptual components. It integrates categorization processes (e.g., Tajfel, 1972), social comparison processes (see Hogg, in press b; Turner, 1975), self-enhancement motivation (see Abrams & Hogg, 1988), and people's beliefs about relations between groups (see Tajfel & Turner, 1979), in order to explain intergroup behavior and the collective self/social identity. More recently the categorization process has been more fully elaborated (self-categorization theory: Turner et al., 1987) as has the motivational role of uncertainty reduction (e.g., Hogg, in press c; Hogg & Mullin, 1999). This approach continues to generate a great deal of research, and has been influential in placing

the study of groups back in the limelight of contemporary social psychology (see Hogg & Abrams, 1999; Moreland et al., 1994). Of particular relevance here, is that shared cognition lies at the heart of social identity processes.

People in groups categorize themselves and others in terms of relevant ingroup or outgroup prototypes. Prototypes form according to the principle of metacontrast – they optimize the balance between minimization of differences among people in the same group and maximization of differences between ingroup and outgroup (or non-ingroup). Prototypes define and prescribe the properties of group membership (perceptions, attitudes, feelings, behaviors) in such a way as to render the ingroup distinctive and high in entitativity (e.g., Campbell, 1958). Above all, prototypes are shared – they are shared representations of ingroup and outgroup properties. The process of categorizing someone as a group member perceptually assimilates them to the relevant ingroup or outgroup prototype, and thus depersonalizes them (i.e., they are not viewed as idiosyncratic persons, but as embodiments of the prototype). Categorization of self, self-categorization, has the same effect on self-perception, but more profoundly it transforms self-conception, attitudes, feelings, and behaviors. Self is experienced as collective self, and attitudes, feelings, and behaviors become group normative.

This analysis quite clearly identifies shared cognition as a fundamental feature of group life. In psychologically salient groups people form a shared representation of who they are and how they differ from people who are not in the group, or who are in specific outgroups. Information is selectively weighted and processed in order to clarify intergroup distinctiveness and intragroup uniformity and entitativity. The resulting group representations depersonalize our perceptions of other people and transform our own self-conception, attitudes, feelings, and behavior.

Thirty years of social identity research have assembled substantial empirical evidence for the way that psychologically salient group membership produces effects based on the emergence or existence of shared cognitions. For example, patterns of attraction within groups become based on shared prototype-based criteria (Hogg, 1992), ingroup and outgroup perceptions become based on shared stereotypes (Oakes, Haslam, & Turner, 1994), and social influence processes produce and are guided by shared membership-defining norms (Turner, 1991).

The Impact of Shared Cognitions on Group Process and Performance

A number of recent reviews of the small-group performance literature have used a cognitive or information-processing model as an organizing framework for understanding how small task-performing groups operate (Hinsz, Tindale, & Vollrath, 1997; Larson & Christensen, 1993; Kameda, Tindale, & Davis, in press; Tindale & Kameda, 2000). Hinsz et al. defined group information processing as “the degree to which information, ideas, or cognitive processes are *shared*, and are *being shared*, among the group members . . .” (1997, p. 43, italics added). Kameda et al. (in press; Tindale & Kameda, 2000) coined the phrase “social sharedness” as a general theme underlying group information process-

ing. The basic notion is that things that are shared among group members have a stronger impact on both group process and performance than do things that are not shared. We will restrict the present review mainly to cognitive aspects of “sharedness,” and will borrow heavily from these early reviews. Our purpose is to show how shared cognitions at many levels influence the types of processes and outcomes exhibited by groups. (For related discussions of some of the same theory and research, see Stasser & Dietz-Uhler, this volume, chapter 2 and Kerr & Park, this volume, chapter 5.)

Shared preferences

Much of the early research on group decision making or choice focused almost exclusively on member preferences as the legitimate inputs for aggregation (Kameda et al., in press). Social choice theorists (e.g., Arrow, 1963; Black, 1958) devised models of how these preferences should be aggregated in order to produce optimal group outcomes. In social psychology, the early work on small groups by Lorge and Solomon (1955), Smoke and Zajonc (1962), Steiner (1972), and others also devised models that used member preferences as the key inputs, although these models were more descriptive than prescriptive. Probably the most influential work on combining individual preferences in order to reach group decisions has been Davis’s (1973) social decision scheme (SDS) theory (see Davis, 1973, 1982, or Stasser & Dietz-Uhler, this volume, chapter 2 for a description of the theory).

The SDS approach has generated a large body of research findings concerning the match between differing task demands and the related group consensus processes (see Davis, 1982; Stasser, Kerr, & Davis, 1989 for reviews). Although a number of factors have been found to influence group decision processes (Davis, 1982; Laughlin, 1980), one of the more consistent and robust findings from this research has been that “majorities/pluralities win” most of the time. This is particularly true when no “demonstrably” correct alternative exists (Laughlin & Ellis, 1986). When groups cannot demonstrate that a particular alternative is “optimal” or “correct” during discussion, “correctness” tends to be defined by the group consensus, and larger factions tend to define the group consensus. Majority/plurality type processes have been found for groups working on a variety of decision tasks/situations, including mock juries (Kameda, 1991; Tindale & Davis, 1983), risk taking (Davis, Kameda, & Stasson, 1992), duplex bets (Davis, Kerr, Sussman, & Rissman, 1974), choosing political candidates (Stasser & Titus, 1985), reward allocation decisions (Tindale & Davis, 1985), and promotion decisions (Tindale, 1989).

One limitation of the SDS approach is that it is restricted to decision situations with discrete decision alternatives. However, a number of recent models have been developed that describe preference aggregation for continuous response dimensions. Crott, Szilvas, and Zuber (1991) developed a model based on Black’s (1958) work with single-peaked preference curves. Black showed that the median position among the group members dominates (in the game theoretic sense) any other possible position along the continuum, assuming member preference distributions are single peaked. Crott et al. (1991) found that a median model provided a good fit to group decision data from three different decision tasks. Davis, Au, Hulbert, Chen, and Zarnoth (1997) also found support for a

median-based model (i.e., median of the $r-1$ closest members, with r = group size) using a civil trial mock jury task. In both of the aforementioned studies, the arithmetic mean of the member preferences provided rather poor fits to the data.

Recently, Davis (1996) proposed a social judgment scheme (SJS) model for groups reaching consensus on a continuous response scale. The model is a weighted linear combination of member preferences where the weights are an exponential function of the distances between a given member's preference and all other members' preferences. (See Davis, 1996, or Kameda et al., in press for a more complete description of the model.) The amount of weight given to any member decreases exponentially as an increasing function of the discrepancy of that member's preference from the other members of the group. Thus, members whose preferences are similar to one another receive larger weights and members whose preferences deviate from most other members receive very little weight. Although formulated recently, the model has fared well in empirical tests (Davis, 1996; Davis, Stasson, Parks, Hulbert, Kameda, Zimmerman, & Ono, 1993).

The models discussed previously all share two common elements. First, they all show the influence of social sharedness at the preference level. This is most clearly demonstrated with the majority/plurality models in that the largest faction of members that share a particular preference are able to put forth that preference as the group's decision. In other words, the preference that shows the greatest degree of sharedness among the members wins. However, both the Black (1958) median model and Davis's (1996) SJS model also emphasize the degree of preference sharing. The SJS model emphasizes shared preferences explicitly by giving more weight to those members whose preferences are similar (i.e., close to one another on the response dimension). It is easiest to see the sharedness aspect of the median model by comparing it to a model based on the mean. In a six-person group with four members whose preferences are quite similar and two members whose preferences deviate substantially from the other four, the median of the member preferences would fall within the range of the four similar members. However, the mean would be influenced to a much greater degree by the two deviant members. Thus, if most of the members of a group have similar preferences, the median will reflect the shared preferences of those members.

The second common element relates to the implications of such models for group decision outcomes. All three models will tend to exacerbate in the group response distribution those preferences that are dominant at the individual level. Thus, all three models are consistent with the group polarization effect (Myers & Lamm, 1976). Again, this is rather easy to see with the majority/plurality models. For example, assume a group size of five and a response distribution containing two alternatives (Plans A and B). If one randomly selects members from a population where 55% favor Plan A and 45% favor Plan B, a majority process predicts that 59% of the randomly composed groups would choose Plan A. If the population were 60% in favor of A, then groups functioning under a majority process and sampled from that population would choose A 68% of the time. These effects are even larger with larger group sizes (e.g., 62% and 73% respectively with 10-person groups). The relationship between the other two models and the exacerbation or polarization effect can also be seen by comparison to a simple average of the group member preferences (which is often how group polarization is defined – as a deviation

from the mean of the pre-group discussion member preferences). Both the SJS and median models predict that group responses will be more influenced by members whose preferences are similar, relative to a simple average of preferences within the group. Thus, any skewness in the population distribution toward a particular end of a response continuum would be exacerbated in the group response distribution due to the higher likelihood of members having preferences in the smaller tail. In essence, all of these models give greater weight to preferences that are socially shared by a majority/plurality of members relative to the actual degree of preference sharing (i.e., the actual proportion of members who share the preference).

The above models do not make predictions concerning the individual-level preference structure after group consensus has been reached. However, a large body of research shows that group members tend to agree with, or move closer to, the group consensus choice after it has been made (e.g., Tindale & Davis, 1985; Tindale, Davis, Vollrath, Nagao, & Hinsz, 1990). Even in situations where consensus is not required, members are influenced by the positions held and arguments generated by other members (Sherif, 1936; Myers & Lamm, 1976). Thus, after group discussion, preference sharing tends to increase, regardless of whether the members must all agree on a single choice alternative or judgment position. In other words, the degree to which preferences are shared among group members both influences, and is influenced by, group decision making.

Shared information

The common knowledge effect. Although much of the early work on group decision making focused on preferences, some work did focus on the information distribution underlying those preferences (Graesser, 1982; Vinokur & Burnstein, 1974). Probably the best-known early attempt to understand groups at the information or argument level was Vinokur and Burnstein's persuasive arguments theory. In an attempt to explain group polarization, Vinokur and Burnstein argued that for any given issue, there is a population of arguments associated with it. They also argued that group discussion could be seen as members sampling arguments from that population. If there were more and/or more persuasive arguments favoring positions at one end of the continuum, then the sample of arguments would favor that end and would lead group members to move in that direction – thus, group polarization. One of the key assumptions of the theory was the importance of unshared or unique arguments. They assumed that shared arguments would have little impact when brought up during discussion because everyone already had that information. In contrast, they argued that unshared or unique information would affect member preferences and was crucial for polarization to occur.

However, more recent research has demonstrated exactly the opposite. Stasser and Titus (1985) designed a paradigm for studying the effects of shared and unshared information on group decision making that had a major impact on the field of small-group research. The paradigm has been referred to as the *hidden profile* technique and the basic finding has been called the *common knowledge effect* (Gigone & Hastie, 1996). Stasser and Titus had four-person groups choose one of three political candidates based on information profiles about the candidates. In some of the groups, all members were given complete

information about all three candidates. However, in other conditions, some information was shared by all members and some information was only held by individual members. With complete information, most individuals typically preferred a particular candidate (e.g., candidate A). However, in the hidden profile (unshared information) condition, the positive information about candidate A was divided among the group members while the negative information about A was shared. This led individual members to prefer some other candidate at the beginning of discussion. Even though the groups, with a thorough discussion, should have been able to discover that candidate A was optimal, this rarely happened. Most of the groups chose an alternative candidate, and the group discussions contained mainly shared information. In addition, a majority model tended to describe the group decision processes at the preference level.

Stasser and Titus (1987) showed that a simple information-sampling model could account for the above effects. First, research has shown that the likelihood of a piece of information being recalled by a group is a function of the number of members presented with that information (Hinsz, 1990; Tindale & Sheffey, 1992). Thus, shared information is more likely to be recalled than unshared information at the group level. In addition, even with perfect recall, the probability that a piece of information gets brought up is also a function of the number of members who have it. Based on these assumptions, Stasser and Titus (1987) formulated their information-sampling model. The model (based on Lorge and Solomon's (1955) model A for predicting group problem-solving outcomes) basically assumes that the probability, $p(D)$, that a given piece of information will be discussed is 1 minus the probability that no one mentions the item during discussion. This can be mathematically described as $p(D) = 1 - [1 - p(M)]^n$, where $p(M)$ is the probability of any given member mentioning an item that he/she has, and n is the number of members having that item. When only one member knows a given piece of information $p(D) = p(M)$. However, as n increases, so does $p(D)$ so that shared information always has an advantage over unshared information in terms of it entering into the discussion content. Gigone and Hastie (1996), using a rather different paradigm, demonstrated similar findings and shed additional light on the processes underlying the common knowledge effect. Gigone and Hastie used a multi-cue judgment task, and varied whether the cues were shared or unshared among the group members. Each group made multiple judgments so that Gigone and Hastie could assess the degree of importance each cue had for predicting individual member and group judgments. Consistent with the Stasser and Titus (1985) findings, shared cues were more important for predicting group judgments than were unshared cues, with importance generally being a linear function of the degree of sharedness (i.e., cues increased linearly in importance as more members received them). Interestingly, cues that were actually brought up during discussion did not increase in weight as a function of their being mentioned. In addition, the effects of the cues on group judgments were totally mediated by the member preferences. Thus, it seems that the distribution of information in the group (i.e., information sharedness) influences group judgments only indirectly through member preferences (i.e., preference sharedness) (though see Winquist & Larson, 1998 for an exception).

Although very robust and often replicated (see Wittenbaum & Stasser, 1996; Stasser, 1999 for review), the common knowledge effect can be attenuated by some procedural mechanisms. First, Larson, Foster-Fishman, and Keys (1994) have shown that unshared

information becomes more prevalent in group discussion over time. Thus, extending the discussion time of groups should help to insure that unshared information gets brought up during discussion. However, the opposite seems to happen when time pressures are put on the group. Groups focus on fewer alternatives and place more emphasis on shared information when under time pressure (Janis, 1982; Karau & Kelly, 1992). Recent work by Sawyer (1997) and Sheffey, Tindale, and Scott (1989) has shown that allowing group members to have access to informational records during discussion can attenuate hidden profile effects. Sawyer (1997) also found that instructing group members not to form a priori judgments helped to reduce the effects, although this has not always been found to be effective (Sheffey et al., 1989). Stasser and Stewart (1992) found that framing the task as a problem to be solved (implying a correct answer) led to greater sharing of unshared information during discussion. Finally, Stewart and Stasser (1995) demonstrated that assigning roles associated with the information distribution (e.g., "you are the expert on candidate x") led to more discussion of unshared information, but only when the roles were known by all of the group members.

Cognitive centrality of group members. Work on the common knowledge effect has focused on the effect of shared *information* or *knowledge* per se on consensus. Little emphasis has been placed on group *members'* status or power as a function of degree of knowledge sharing with other members. For example, one member may share a substantial amount of information with other members, while another member may share only a portion of it. Since shared information has a greater impact on final group decisions, it seems likely that members having more shared information may acquire *pivotal power* in the group. This idea was tested in a recent set of studies by Kameda, Ohtsubo, and Takezawa (1997). Using a social network framework, Kameda et al. devised a model to represent the degree to which any given member was "cognitively central" in the group. Much like Davis's (1996) SJS model, which locates members' preference centrality, Kameda et al.'s measure of *cognitive centrality* defines members in terms of the degree of centrality in the *sociocognitive network*. The greater the degree of overlap between the information held by a given member and the information held by other members on average, the greater the degree of centrality for that member.

Kameda et al. (1997) ran two studies to assess whether cognitively more central members would be more influential in their groups, regardless of their preference status (i.e., whether they were in minority or majority factions). In Study 1, they had three-person groups discuss whether a defendant in a highly publicized trial deserved the death penalty. By coding contents of knowledge each member held prior to group interaction, they calculated a cognitive centrality score for each member in each group. They then used the members' cognitive centrality score to predict participation rates and opinion change after group discussion. Members' ranking in terms of centrality were positively related to their ranking in terms of participation. For members in minority factions, their degree of centrality also predicted (inversely) their amount of opinion change, though centrality was unrelated to opinion change for majority members.

In Study 2, Kameda et al. manipulated the information given to each group member to create two different situations. In one condition, the most cognitively central member of the group was a lone minority (in terms of preference) against a two-person majority.

In the other condition, the most cognitively central person was part of the two-person majority, with the minority member being the least cognitively central. When the minority person was most cognitively central, the group went with the minority position (over the majority position) 67% of the time. When the minority person was most peripheral, the minority won only 42% of the time. In addition, groups were considerably more confident in the conditions where the central minority person's preference was chosen by the group. Thus, being the most central person in the group allows that person a greater degree of influence, even when he/she is a minority in terms of preference. Kameda et al. (1997) argue that such an enhanced social power accrues from perceptions of expertise for the cognitively central member in the focal knowledge domain.

Shared task representations

Research on the common knowledge effect tends to show that shared information plays a central role in group decision making. In addition, it shows that shared information and shared preferences tend to correspond with each other. Thus, the research on shared information has tended to fit nicely with the work on majority/plurality processes. However, there are a number of instances in the small-group literature where deviations from majority processes have been observed. Probably the most notable is the work by Laughlin and his associates (Laughlin, 1980; Laughlin & Ellis, 1986) on group problem solving. Problem solving, or "intellective" tasks are defined by Laughlin as tasks where a "demonstrably correct solution" exists, as opposed to decision-making tasks where "correctness" tends to be defined by the group consensus (Kameda et al., in press). A demonstrably correct solution is one where the group members can "demonstrate" a particular alternative is correct or optimal during the group discussion. Research has shown that majority/plurality models tend to severely under-predict group performance on such tasks. Models such as "truth wins" or "truth supported wins" (where either one or two members, respectively, who prefer the correct alternative can win out over incorrect majorities) provide much better fits to the experimental data (Laughlin, 1980). In defining demonstrability, Laughlin and Ellis (1986) argued that a key feature was a system of axioms or beliefs that were shared among the group members. This shared belief system serves as a background for the members understanding the logic behind the correctness of a given alternative. Thus, using the shared belief system, minority factions arguing for a correct alternative can win out over majorities favoring an incorrect alternative.

Tindale, Smith, Thomas, Filkins, and Sheffey (1996) generalized this notion and argued that whenever a "shared task representation" exists, alternatives consistent with the representation will be easier to defend and thus more likely to end up as the group's collective choice. Tindale et al. define a shared representation as "any task/situation relevant concept, norm, perspective, or cognitive process that is shared by most or all of the group members" (p. 84). Task/situation relevant means that the representation must have implications for the choice alternatives involved, and the degree to which a shared representation will impact on group decision processes will vary as a function of relevance. Its impact should also vary as a function of the degree to which it is shared among the group members. If no shared task representation exists (or if multiple conflicting representations

are present), then groups will tend to follow a symmetric majority/plurality type process. However, when one does exist, the group process will tend to take on an asymmetric structure favoring the decision alternative that is consistent with the representation. Thus, majorities or minorities favoring the alternative consistent with the shared representation will be more powerful within the group.

Although the work by Laughlin (1980) on group problem solving is the strongest example of such effects, a number of others also exist. For example, much of the work on mock jury decision making (Davis, 1980; MacCoun & Kerr, 1988; Tindale & Davis, 1983) has shown that “not guilty” is an easier verdict to defend than “guilty,” which is consistent with the shared processing objective of looking for “reasonable doubts” given to juries in all U.S. criminal cases. Thus, both majorities and minorities favoring not guilty are more powerful than comparably sized factions favoring guilty (Tindale et al., 1990). More recently, Tindale and associates (Tindale, 1993; Tindale et al., 1996) have shown that shared decision biases or heuristics can produce similar deviations from symmetric majority processes. For example, Tindale (1989) showed that biased feedback procedures intended to produce conservative hiring or promotion practices allowed minorities voting against a job candidate’s promotion to win out over majorities favoring promotion. Tindale, Sheffey, and Scott (1993) found that groups given the “loss” version of the standard “Asian Disease” problem (Tversky & Kahneman, 1981) would choose the riskier alternative even when a majority of the members favored the less risky alternative (see also Laughlin & Early, 1982).

A recent study by Smith, Dykema-Engblade, Walker, Niven, and McGrouh (in press) also showed how a shared-belief system could be used by a minority to influence a majority. In the sample of students used by Smith et al., between 80–85% were in favor of the death penalty. However, the population of students at the university also had rather strong religious (Christian) convictions. In group discussions concerning the death penalty, Smith et al. found that minorities arguing against the death penalty were effective in moving majority members toward their position if they used religious arguments to substantiate their positions. Minorities had little if any influence if they did not rely on the shared religious convictions of the majority. Other minority influence research has also shown that if a local minority (a minority within the current discussion group) argues in favor of positions that are shared by the larger population, they are more effective than local minorities that argue for positions that are also less prevalent in the population (Clark, 1990). This analysis is consistent with the social identity idea that minorities are more effective if they can be viewed as sharing social identity with the majority (e.g., Turner, 1991; see Martin & Hewstone, this volume, chapter 9).

Recent research has shown that shared representations potentially operate in two different ways to affect group decisions. First, Smith, Tindale, and Steiner (1998), using a “sunk-cost” problem, found that sunk-cost arguments were persuasive, even if only a minority of members mentioned them as reasons for their decisions. Thus, arguments that are consistent with the shared representation can be especially influential in a group-decision context. Second, a recent study by Tindale, Anderson, Smith, Steiner, and Filkins (1998), continuing a program of research looking at the estimation of conjunctive probabilities by individuals and groups (Tindale, Sheffey, & Filkins, 1990; Tindale, Filkins, Thomas, & Smith, 1993), videotaped the group discussions for conjunctive probability