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The History of Group Research

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The study of groups cannot be traced back to some single watershed event that can be identified by all concerned as *The Beginning* of research into groups and their processes. Plato, Aristotle, and other classical scholars frequently discussed the nature of groups and group-level processes, and they went so far as to suggest that humans are fundamentally group-living rather than solitary creatures (Ettin, 1992). Shakespeare's plays are filled with recommendations and analyses of groups, including vivid descriptions of shifting coalitions, leadership styles, and interpersonal trust (Corrigan, 1999). Centuries ago, political savants, such as Niccolo Machiavelli and Lord Acton, offered insightful analyses of how leaders could use their power to influence their followers (Jinkins & Jinkins, 1998). In the 1800s, scholars like Craik (1837), Mackay (1841/1932), and Le Bon (1895/1960) published major treatises examining the intriguing tendency for people, when part of large groups, to act in atypical and unusual ways.

But the scientific study of groups is scarcely a century old. Scholars and sages of long ago may have puzzled over the nature of groups and their dynamics, but it was the last 100 years or so that witnessed the emergence of a science of groups. In 1900, there were scarcely any scholarly books dealing with leadership, group performance, or social influence; no centers or institutes devoted to the scientific study of groups; no standardized or well-tested methods that investigators could use to examine group processes; no journals that specialized in research papers describing tests of specific hypotheses about groups; no departments or educational programs at colleges and universities that focused on scholarship related to groups; and certainly no scientists who, when asked what they studied, answered "groups." Today, in contrast, groups are studied by scholars in laboratories and research centers located throughout the world.

This chapter reviews the emergence of the scientific study of groups, albeit briefly, by examining

the origins of group research and changes that have influenced the course of the field's development. Contemporary group research did not emerge a scant 10 years ago but instead has roots in the work and thought of scholars who published their work from the 1900s to the 1960s. Even though the contemporary researcher may rarely cite these investigators, their findings, and their publications, their work shaped the paradigm and traditions that continue to guide the study of groups. The championing of one theory over another, choice of one method of study rather than another, the separation of the psychological study of groups from the sociological, or the shift toward one topic of study and away from another—all these aspects of the field's current state are manifestations of events and actions that occurred long ago in the discipline's past. Investigators, by studying the history of group research, can grasp how the field has changed over time and gain insight into the factors that caused those changes.

An awareness of historical antecedents also offers researchers protection against one of the gravest of scientific sins: reinventing the wheel. Researchers, in the rush to conduct their next study, concoct the next theory, or solve yet another practical problem, may ignore their past, but they do so at their own risk. As Shaw (1976) concludes, the history of group research, like all history, is an intriguing catalog of the missteps and mistakes of earlier investigators who sought to expand the field's base of knowledge about groups. Those who are familiar with these misadventures are more likely to avoid them in their own work. To spin Santayana's (1905/1924) oft-quoted warning, "Those who cannot remember the past are condemned to repeat it" (p. 284) in a positive direction, those who know their discipline's history are more likely to become a part of that history. The scientific study of groups, like all things, has a past, and that past shapes its present and its future.

Although it is tempting to trace the growth of group research from the philosophy of classical scholars up to the present day, this analysis

is primarily limited to the last century or so. Recognizing, too, that many of the other chapters in this handbook will provide generous descriptions of contemporary issues in group research, more attention is given to the classic studies in groups, with the identification of such studies guided by prior analyses of the history of group research. These include, within the field of social psychology, Allport (1968), Cartwright (1979), Cartwright and Zander (1968), Festinger (1980), McGrath (1997), McGrath and Kravitz (1982), Levine and Moreland (1990, 1998), Pepitone (1981), and Zander (1979). Other excellent resources include Gouran (1999), who provides an analysis of the history of group research within the field of communication; Golembiewski's (2001) handbook of groups and organizational behavior; and Austin, Scherbaum, and Mahlman (2002), who provide a detailed analysis of the history of research into groups in organizational contexts (with a particular focus on quantitative and statistical techniques).

The Origins of Group Research

Why were group researchers so slow to sit down at the table of science? As Cartwright and Zander (1968) suggest in their review of the field's historical roots, some scholars believed that collecting data about human behavior was misguided, for it would lead to public scrutiny of mysteries that should remain undisturbed. Others felt that group behavior was too complex to be studied scientifically, particularly during an era when psychologists were struggling to understand the acquisition of conditioned reflexes, the functioning of the nervous system, and the relationship between mental states and motor activities. Still others suggested that such group-level processes as group mind, social ideas, and collective mind are scientifically suspect and can, in any case, be understood entirely by studying the psychology of the individuals.

A number of intellectual, social, and political factors combined to counter these tendencies and, in so doing, stimulated the growth of research into groups. As research into human behavior proliferated across a number of emerging social science concentrations (e.g., psychology, sociology, organizational behavior, and communication), investigators in these newly defined areas realized their analyses would be incomplete if they did not understand group behavior. Specific methodological advances also served to stimulate research into group processes by removing barriers that had stymied investigators' efforts to measure group processes or design studies that would test their hypotheses adequately. World events also influenced the study of groups, for the use of groups in manufacturing, warfare, and therapeutic settings stimulated the need to understand and improve such groups. These societal influences, as noted below, stimulated research into group-level questions of social behavior, work and organizational behavior, and the use of groups to promote adjustment and positive change.

Group Dynamics and Social Science

The earliest scientists concentrated their studies on the physical world rather than the social one. As they learned to develop hypotheses, organize these hypotheses in theoretical systems, and then test these hypotheses by collecting data, they focused on the physics of motion, matter, and energy; the chemistry of compounds and elements, the mechanics of the stars and planets, and the biological systems of flora and fauna. The scientific study of human beings, in contrast, emerged more slowly. By 1850, scientists had already supplied answers to some very basic questions about the natural world and its processes, but the social world was known only through speculation, intuition, and conjecture. As Thomas (1896) noted, "man constructed a science of numbers, of the stars, of molar and molecular masses, of plants, of stones, and of creeping things, before he realized that he was himself an object capable of receiving scientific attention" (p. 434).

This selectiveness in the subjects examined by scientists began to be redressed in the late 1800s as the idea of a *social* science emerged from the grand arguments of such social philosophers as Hobbes, Locke, Hume, and Rousseau. These writers often speculated about the nature of humans and their societies, but it remained for the pioneering social scientists of the 19th and 20th centuries to seek out data to test the validity of their conjectures. Each of the new disciplines in social science—economics, sociology, psychology, political science, and anthropology—pinched off a particular area of human behavior and institutions as its specific subject for scientific study. The early economists were observers of vast changes in national and international systems of commerce and began raising questions about the relationships among income, labor, employment, and production. Political scientists watched as one revolution after another swept over Europe and America, prompting them to reexamine assumptions about government and forms of social organization. Early psychologists were fascinated by the way individuals in large groups or organizations seemed to change in fundamental ways, and sociologists began to explore how mass movements, mobs, and "the public" formed preferences and inclinations.

Researchers within all these disciplines studied, to some degree, groups and individuals' connections to those groups. Anthropologists and sociologists, trying to explain how religious, political, economic, and educational systems function to sustain society, highlighted the role groups played in maintaining social order. Durkheim (1897/1966), for example, linked differences in the suicide rates of individuals with the types of groups to which they belonged, concluding that those who belong to close-knit groups are more likely to internalize those groups' norms and rules. Anthropologists discovered

that in many cases, the study of ancient humans was the study of small tribal groups. Political scientists began to explore how political parties and other organized systems of social influence formed and evolved over time, and in many cases, their analyses led them to the study of small groups of closely networked individuals. Michels (1911/1999), for example, offered up his Iron Law of Oligarchy after observing that political associations tend to drift away from democratic decision making toward more centralized oligarchies and autocratic decisional procedures. The early psychologists also studied groups, but especially large groups such as mobs and crowds. In 1895, the French psychologist Le Bon (1895/1960) published his book *Psychologie des Foules* (Psychology of Crowds), which describes how individuals are transformed when they join a group. Wundt (1916), the recognized founder of a scientific psychology, also studied groups extensively. His folk psychology *(Volkerpsychologie)* combined elements of anthropology and psychology by examining the conditions and changes displayed by elementary social aggregates and describing how group memberships influence virtually all cognitive and perceptual processes.

Methods for Studying Groups

By the beginning of the 20th century, such scholars as Cooley, Durkheim, Simmel, McDougall, Ross, and Wundt were seeking answers to fundamentally important questions about the nature of groups and their processes: Why do humans affiliate with others in groups? How do leaders hold sway over the rest of the group? How do groups achieve social control over their members? To what extent is human behavior determined by instincts rather than reflection and choice? How do groups shape the personalities and beliefs of their members? What factors give rise to a sense of community with the in-group and distrust for the out-group? But these early

group researchers were limited by the lack of the tools and methods needed for measuring social phenomena and conducting rigorous scientific tests of hypotheses. They relied, initially, on the merest of data in their studies, often basing their conclusions on everyday experience, informal observations, and the arguments of authorities on the subjects they examined. But in time, their methods became more rigorous and empirical as they borrowed the template of the better-developed natural sciences for their own uses. Although uncertain if the methods developed in the natural sciences were appropriate ones to use in studying humans, researchers nonetheless turned to these sciences as a model for their own work.

Measurement of Individuals and Groups

Progress in the natural sciences was hastened, in nearly all cases, by the development of better methods for measuring the phenomena of interest. Better telescopes, microscopes, scales, meters, and gauges all contributed to better data, which in turn led to more precise descriptions and more comprehensive theory. Similarly, the science of groups required the development of methods for measuring more precisely not only the qualities of individuals who were in groups but also the characteristics of groups and the processes that occurred within them. Although turn-of-the-century theorists spoke of both individual-level qualities—attitudes, values, beliefs, traits, leadership skills, and the like—and such group-level qualities as imitation, contagion, group beliefs, and solidarity, reliable and valid methods for measuring these qualities of people and groups were not yet widely available.

Measurement of human characteristics expanded rapidly in the first third of the 20th century, and each new method was quickly applied to the study of individuals in groups. In 1916, Terman published his remarkably successful

and enduring measure of intelligence, and soon, differential psychologists were generating various measures of individual differences that were relevant to group behavior (e.g., leadership skills, communication ability). In 1928, Thurstone published his seminal paper, "Attitudes Can Be Measured," and subsequent investigators used the method to develop Thurstone scales of various group-level processes, including leadership and various national and social groups. In 1932, Likert introduced a simplified scaling procedure that could be used to measure more easily a range of group members' attitudes, opinions, and perceptions. Other measurement scales, focusing on such group-relevant characteristics as ascendance and submissiveness (Allport, 1928), personal values (Vernon & Allport, 1931), attitudes toward other racial and social groups (Bogardus, 1933), introversion-extroversion (Guilford & Braly, 1930), leadership traits (Cowley, 1931), and moral character (Hartshorne, May, & Shuttleworth, 1930), were used by investigators in the 1920s and '30s to quantify aspects of individuals when in groups.

Once they could measure individual-level qualities, researchers turned their attention to techniques for measuring group-level processes, primarily through the use of observational methods. Scholars had been watching groups for centuries, but their methods were informal and accidental rather than structured and deliberate. In many cases, individuals encountered groups during the course of their normal activities and noted what happened within these groups, but rarely did they deliberately seek out groups or describe the actions of these groups systematically and objectively (Cartwright, 1959). In the 1930s, Goodenough (1928), Olson and Cunningham (1934), and Parten (1932) pioneered the development of structured systems for observing multiple individuals interacting with one another, and these systems began to include all the components required of contemporary observational methods: focus on observable actions, restricted focus on a priori specified types of behavior, sampling of data

across time and settings, and the use of trained observers (McGrath & Altermatt, 2001). Bales's (1950) interaction process analysis represents the culmination of these developments, providing the basis for methods of observation for the next 60 years.

Early researchers also began to explore ways to measure structural aspects of groups, such as leadership hierarchy, status relations, and patterns of attraction and disliking within groups. At the forefront of these advances was Moreno's sociometric method, which he developed as early as 1932 in his work with groups of women living in 16 adjacent cottages at the New York Training School for Girls (Hare & Hare, 1996). To reduce conflict in the community, Moreno regrouped the women into more compatible units by giving the women a confidential questionnaire that asked them to indicate those in the community they liked the most. Thus, Moreno had developed the technique for measuring social relationships that he called sociometry. This method involves collecting, from all members if possible, choices of friends and nonfriends and then organizing this information in a sociomatrix of choices or a visual representation called a sociogram. Although a relatively simple method, it provides the basis for subsequent methods for assessing group structure, including social network analyses.

Research Procedures

As researchers became increasingly confident in their measurement methods, they began to adapt the procedures of the natural sciences to the study of groups. Initially, researchers relied heavily on case study and description in their studies. Scholars had used this method to study groups for centuries, but in the hands of a group researcher, the method became more rigorous and more informative. Investigators such as Wirth (1928), Zorbaugh (1929), Thrasher (1927), and Shaw (1930) used this method in studies of a variety of naturally forming groups, including

families, crowds, communities, gangs, and unions. Thrasher, for example, collected information about hundreds of inner-city gangs before concluding that these groups form for the same reasons that most groups form: As young men who live in close physical proximity come together in the course of their day's activities, similarities in interests and aptitudes promote the development of a group, which becomes a gang through intergroup conflict processes. Whyte's (1943) study of street corner gangs in Boston serves as the prototype for such studies, for he integrated his detailed, objective records of each day's events in a conceptually rich framework that highlighted the key role groups played in the lives of the individuals he studied. Whyte also included a detailed analysis of the methods he used in his research in an expanded edition of his initial report. Cartwright and Zander (1968, p. 17) trace the substantial impact of Whyte's study back to three factors: (a) its objectivity, (b) its focus on the meaning of the interactions among group members, and (c) its consistent focus on group-level processes, such as leadership, status, obligations, and group cohesion.

Case study designs are still used by researchers, but experience led researchers to supplement case studies with nonexperimental designs that sought to describe relationships among variables and experimental studies conducted both in laboratory and field situations. Nonexperimental studies grew in popularity when advances in statistical procedures, and the correlational coefficient in particular, allowed researchers to index more precisely the strength of relationships among quantitatively assessed variables. Rather than drawing qualitative conclusions from their interpretations of the cases they examined, researchers could use correlational studies to provide more information about the relationship between both individual- and group-level variables. A number of investigators described the level of association between variables statistically, but the work of Hartshorne, May, and their colleagues (Hartshorne & May, 1928; Hartshorne

et al., 1930) was particularly influential due to its scope and precision. These researchers measured a variety of characteristics of children with respect to morality, including moral knowledge, moral conduct, cooperativeness, reputation, deceitfulness, and so on. They discovered that even though moral knowledge was not related to moral conduct at the individual level ($r = .116$), at the group-level these two variables were correlated at .841.

A second landmark study that used correlational procedures was reported by Newcomb in his 1943 Bennington study. In this work, Newcomb measured the social and political attitudes and social standing of a substantial number of college students attending the relatively progressive Bennington College. When he examined the relationships among these variables, he discovered that attitude was closely related to the amount of time spent in the group, with first-year students displaying conservative political attitudes and graduating students reporting more liberal ones. Newcomb explained this shift in terms of the greater influence of the older, higher status, and more liberal students. New students who were "both capable and desirous of cordial relations with the fellow community members" (p. 149) tended to become more liberal due to the "informational environment of the community and the status structure embedded in that environment" (Alwin, Cohen, & Newcomb, 1991, p. 52). As Cartwright and Zander (1968) explain, whereas "most of these points had been made in one form or another by writers in the speculative era of social science, this study was especially significant because it provided detailed, objective, and quantitative evidence" (p. 17).

Studies of groups using a true experimental design, although relatively rare, were also appearing in the scientific literature at this time. Ringelmann, a French agricultural engineer, conducted some of the earliest experiments in group productivity in the 1880s. He created groups of varying sizes and carefully measured their efficiency before noting the reduction of

productivity in groups that now carries his name: the Ringelmann effect. His study, however, remained largely unknown at the time, for Ringelmann (1913) was more concerned with productivity per se than with group processes (Kravitz & Martin, 1986). By the turn of the century, researchers in the United States began studying—experimentally and in earnest—two basic group processes: the facilitative effects of others on performances and the impact of group discussion on attitudes. In 1898, for example, Triplett published the results of a laboratory study of competition confirming that other people, by their mere presence, can change us. He arranged for 40 children to play a game that involved turning a small reel as quickly as possible. He found that those who played the game in pairs turned the reel faster than those who were alone, experimentally verifying the impact of one person on another. F. H. Allport extended these studies throughout the 1920s (e.g., Allport, 1924).

The accumulating advances in methodological sophistication were punctuated in the 1930s by two particularly influential experimental studies: Sherif's (1936) study of conformity to group norms and Lewin, Lippitt, and White's (1939) study of leadership styles. Both of these studies created ad hoc groups in laboratory-like settings; both studied multiple groups to determine the replicability of their results; and both systematically manipulated aspects of the situation while measuring participants' responses. Sherif arranged for groups of three to make judgments, aloud, about the distance a dot of light appeared to move in an otherwise darkened room. Sherif discovered that group members' judgments tended to converge in the group setting, suggesting the group was guided by a social norm. Significantly, this norm also guided members' responses when they made decisions alone, suggesting that this social norm was not completely dependent on the interpersonal setting—individuals had internalized the group product and used it as a frame of reference when making individual judgments.

In 1937, Lewin, Lippitt, and White conducted an equally influential experimental study by randomly assigning a specific type of leader to artificial groups working in a laboratory-like setting (Lewin et al., 1939; White, 1990; White & Lippitt, 1968). Their subjects, young boys, worked on various projects in five-person groups led by an adult who adopted one of three styles of leadership: autocratic, democratic, or laissez-faire. The researchers observed the groups as they worked with each type of leader, measuring group productivity and aggressiveness. They discovered that the autocratic groups spent more time working than the democratic groups, which in turn spent more time working than the laissez-faire groups, but hostility and aggression were highest in the groups working with an autocratic leader.

These studies signaled a transition away from a reliance on studies of naturalistic groups and studies that focused on individuals rather than groups. Both studies succeeded in creating group-level process in a laboratory setting, with Sherif (1936) creating norms and Lewin and his colleagues (1939) manipulating leadership. The groups studied were artificial ones, but the use of experimental techniques with these groups "gave the findings a generality not ordinarily achieved by naturalistic research" (Cartwright & Zander, 1968, p. 16). Lewin's study, in particular, was lauded as the first to create a political system in the microcosm of the small group laboratory.

These studies also laid to rest a conceptual challenge that had nagged early group researchers. Even though interest in group research surged during the early 1900s, some investigators remained skeptical about the value of developing group-level explanations of interpersonal behavior. Allport, for example, argued in 1924 that groups should never be studied by psychologists because they did not exist as scientifically valid phenomena. Allport believed that "the actions of all are nothing more than the sum of the actions of each taken separately" (p. 5), so he felt that a full understanding of the behavior of individuals in groups could be

achieved simply through studying the psychology of the group members. But studies conducted by Sherif (1936) and Lewin and his colleagues (1939) convinced most researchers that the behavior of individuals in groups might be significantly influenced by potent group-level processes, such as norms, leadership, and cohesiveness. Allport (1961) eventually amended his position on groups and himself conducted extensive studies of such large group phenomena as rumors and morale during wartime (Allport & Lepkin, 1943) and how norms can cause a skewness in the distribution of social behaviors (the J-curve hypothesis; Allport, 1934).

Groups and Applied Professions

The efforts of researchers working in the first half of the 20th century resulted in the gradual accumulation of a set of procedures for studying groups scientifically, but not all of the research conducted during this period was motivated by scientific curiosity about the nature of groups. Group researchers were, from the outset, as much motivated by the quest for useful, practical information about groups as by the quest for scientific understanding. From Cartwright and Zander (1968): Some "of the most influential early systematic writing about the nature of groups came from the pens of people working in the professions, people whose motivation has often been said to be purely practical" (p. 8).

Groups in Industrial/ Organizational Settings

In the early decades of the 20th century, analyses of work motivation and performance in industrial and business settings adopted a scientific-management orientation popularized by Taylor (1911). Employees were considered to be egoistically motivated and so worked to earn the pay they needed to support themselves and

their families. Productivity was assumed to be tied closely to supervision, payment, and training, with Taylor cautioning against reliance on groups in the workplace. He believed that in some cases, workers conspired to work as little as possible. In others, groups contributed to a loss in productivity by masking each individual's contribution to the product: Motivation dwindles when people are "herded into gangs instead of being treated as separate individuals" (Taylor, 1911, p. 72).

Studies conducted in the 1920s and '30s by Münsterberg (1913), Mayo (1933), and other early organizational psychologists challenged Taylor's emphasis on individuality. Münsterberg agreed that individuals should be carefully selected and trained, but he felt that groups could contribute to productivity by increasing "solidarity amongst the laborers and their feelings of security" (p. 234). But it was the work of Mayo and his colleagues at the Hawthorne plant of the Western Electric Company, conducted from 1927 to 1932, that signaled a transition away from scientific management to a human relations paradigm (Landsberger, 1958; Mayo, 1945; Roethlisberger & Dickson, 1939). These researchers systematically manipulated features of the work situation, such as the lighting in the room and the duration of rest periods, while measuring output. They were surprised when all the changes led to improved worker output, and after further study, they realized that the change was being produced by group-level influences: The workers were now "members of a working group with all the psychological and social implications peculiar to such a group" (Roethlisberger & Dickson, 1939, p. 86; cf. Bramel & Friend, 1981; Franke, 1979; Franke & Kaul, 1978).

These studies altered both the course of research into organizational behavior and the methods of management used in business and industry (Cartwright & Zander, 1968; Haire, 1956). Researchers who were interested in organizational behavior, no matter what their professional identity, considered groups to be of central importance in their analysis, and this

emphasis continues to increase even now (Levine & Moreland, 1995). Those who were responsible for managing organizations and businesses also increasingly adopted approaches that fully recognized the importance of groups and interpersonal relations. Indeed, "the emergence of group dynamics in the late 1930s came, then, at the very time when administrators and organization theorists were beginning to emphasize the importance of groups and of 'human relations' in administration" (Cartwright & Zander, 1968, p. 10). This influence remains strong, as organizational specialists continue to stress the importance of group-level approaches to productivity and performance.

Groups and Interpersonal Change

During the first half of the 20th century, social workers, physicians, educators, public health workers, and therapists became increasingly interested in using group methods to achieve their professional goals. Linking all these disciplines was a shared interest in group work and interpersonal skill training, which included understanding the forces at work in groups, learning how to work effectively in groups, and promoting individual adjustment and change through interventions that are conducted in groups. Busch (1934), Coyle (1930), and other early leaders in the emerging field of social work recommended using social clubs and societies, summer camps and community centers, athletic and recreational programs, and other social groups to promote desired changes in communities. Groups became increasingly important in both the classroom and in schools in general, as educators recommended using active forms of learning in response to Dewey's (1910) broadened conceptualization of teaching and learning. Curriculums were revised to teach leadership, cooperation, and interpersonal sensitivity, and schools increasingly incorporated groups (student government, clubs) into their activities.

In addition, mental health professionals used groups to achieve therapeutic goals during this period. As early as 1905, Pratt (1922), a physician, arranged for patients to gather in groups for instruction, social support, and "thought control." Burrow (1927), even though he was trained as a psychoanalyst and was a founding member of the American Psychoanalytic Association, turned to group approaches to explore problems that sprang from interpersonal rather than intrapsychic processes. Moreno (1932) made use of group activities in treatment as early as 1910, when he asked group members to reenact specific turbulent episodes from their lives or events that happened within the group. Moreno believed that such psychodramas were more involving than discussion and that the drama itself helped members overcome their reluctance to discuss critical issues.

These applications of group research to achieve practical goals emerged as one of the foundational principles of the field of group dynamics. Although in most sciences a line is drawn between basic and applied research, group research emerged from a tradition that blurred this distinction.

Group Research Across Time

Just as groups pass through stages as they mature from a newly formed aggregate into a unified group, so group research has progressed through a series of stages, with some periods marked by more rapid progress than others. Throughout the first half of the 20th century, group research expanded in step with the tremendous growth of the social sciences and vast improvements in the quality of social science methods. As the social sciences exploded into such new fields as psychology, sociology, and anthropology, so did interest in small groups. Methodological advances also stimulated group research: They provided investigators with the means of measuring individual and group-level processes accurately, and they

offered templates for case, correlational, and experimental research designs. But complementing these theoretical and methodological developments was an increased concern about having a practical understanding of groups in manufacturing, warfare, and therapeutic settings.

The slow but steady progress in theory and methods of the first half of the century set the stage for a period of confluence, amplification, and productivity: a heyday of group research (Steiner, 1974). By the late 1940s, centers for the study of groups were founded in colleges and universities across the country. The publication rate of papers dealing with groups jumped by 200% (Zander, 1979). Academics and the general lay public felt that the study of groups held the key to important scientific and practical problems, and researchers were able to secure support for their work from both federal and private sources. The relatively narrow focus of earlier years was broadened to include a wide range of topics. Group research had passed through the forming and norming stages of its development and was ready to perform.

Lewin's Legacy

Cartwright (1979), when searching for the cause of the unprecedented increase in group research that occurred in the period from 1945 to 1965, highlights one factor in particular: World War II. The war stimulated studies of leadership, community morale, intergroup relations, and other group topics, and for the first time, researchers were funded to carry out their studies (Johnson & Nichols, 1998). Hitler's rise to power also forced many European researchers and intellectuals to emigrate to America, where they contributed in all areas of psychology. One of these individuals, in particular, had a pronounced impact on group research, for he is generally regarded as the field's founder: Kurt Lewin.

Lewin shaped the field's paradigm through his theoretical work, his research, his teaching and collaborations, and his social and political activism. Born in Prussia in 1890, Lewin studied

and taught in Freiberg, Munich, and Berlin before growing anti-Semitism forced him to move to the United States in1932. For the next decade, he taught at the Child Welfare Research Station at the University of Iowa, where he refined field theory, his psychological model of human behavior. The approach argued that at any point in time, a group exists in a social and psychological field of forces, and those forces interact dynamically to determine the behavior of groups and the individuals in them. To predict the productivity of a group, for example, one must consider not only the personalities of the individuals in the group but also the type of tasks the group is attempting, the way the leaders interact with followers, and the aspirations of the group's members. To predict the unity of a group, one must study the way members interact with one another, their degree of similarity in general attitudes and values, and their location relative to one another (Lewin, 1947). Lewin's famous formula, B = f (P, E), summarizes the assumption that the interplay of both personal factors and environmental factors determines the actions and reactions of individuals in any social setting, including groups. Interactionism remains one of the central assumptions of research into group processes (Lewin, 1951).

Lewin also spawned, and occupied the central position in, an extensive network of students, researchers, and practitioners who were drawn to the study of groups (Festinger, 1980; Marrow, 1969). That network included not only individuals who worked directly with Lewin on research, including Bavelas, Festinger, French, Lippitt, and White, but also individuals who were affiliated with the Research Center for Group Dynamics. Lewin founded this center in 1944 at the Massachusetts Institute of Technology, and its staff and students were a "who's who" of group researchers, including Back, Cartwright, Deutsch, Kelly, and Schachter. When Lewin died in 1947, the center moved to the University of Michigan, where it continues to fulfill its mission of studying groups scientifically. This group of scholars is responsible for much of the theoretical and

empirical work on groups in the 1950s and '60s, including Festinger's (1954, 1957) social comparison theory and dissonance theory; Schachter's (1951, 1959) analysis of communication and cohesion in groups and of affiliation; Thibaut and Kelley's (1959) exchange theory; Back's (1972) analyses of groups as agents of change; Festinger, Schachter, and Back's (1950) analysis of attitude change in groups; Newcomb's (1961) studies of the acquaintance process and social networks; French's (1956) analysis of power; Zander's (1971/1996) studies of motives and goals in groups; Cartwright's (1968) conceptualization of group cohesion; Deutsch's (1949) work on conflict; and Zajonc's (1965) synthesis of the social facilitation literature.

Lewin also solidified the field's emphasis on research of practical significance with his conception of *action research.* Lewin (1943) argued in favor of intertwining basic and applied research, for he firmly believed that there "is no hope of creating a better world without a deeper scientific insight into the function of leadership and culture, and of other essentials of group life" (p. 113). To achieve this goal, he assured practitioners that in many instances, "there is nothing so practical as a good theory" (Lewin, 1951, p. 169), and he charged basic researchers with the task of developing theories that can be applied to important social problems. Lewin and his students conducted studies of executive leadership, productivity in the workplace, organizational development, the use of group discussion to promote attitude change, and the impact of training in group process on self-development. He was instrumental in creating the National Training Laboratory in Group Development, which continues to hold workshops designed to help individuals improve their relationship and group skills (Highhouse, 2002).

Contemporary Group Research: Rise, Decline, and Renewal

The work of Lewin and his colleagues set the foundation for the research themes and

advances in the second half of the 20th century. Group research became paradigmatic (Kuhn, 1970) as researchers used increasingly agreed-upon methods to examine emerging theoretical principles and hypotheses pertaining to a wide range of group processes. The young field of group dynamics transitioned into "normal science," with a focus on three themes noted by McGrath (1984, 1997): influence, interaction, and performance. Researchers who viewed groups as sources of social influence examined such topics as conformity (Asch, 1955), obedience (Milgram, 1963), normative influence (Deutsch & Gerard, 1955), compliance and conversion (Kelman, 1961), social comparison (Latané, 1966), affiliation (Schachter, 1959), and deviance (Schachter, 1951). Those who viewed groups as social systems that pattern interactions studied group structures such as roles and norms (Biddle & Thomas, 1966), interpersonal attraction (Newcomb, 1963), interaction process analysis (Bales, 1950), and communication networks (Shaw, 1964). And those who viewed groups as systems for influencing task performance launched programmatic studies of productivity (Davis, 1969), performance (Hackman & Morris, 1975), group tasks (Steiner, 1972), risky decision making (Wallach, Kogan, & Bem, 1962), faulty decision making (Janis, 1972), leadership (Fiedler, 1964), and bargaining and negotiation (Blake & Mouton, 1964).

The three themes—influence, interaction, and performance—remain the core of a social psychological approach to groups, but by no means do they summarize the variety, creativity, or interdisciplinary scope of research work during this period. In the 1960s and '70s, for example, interest surged in a number of specific group topics, such as shifts of opinion following group discussion, coalition formation, the prisoner's dilemma game, and juries. In the 1970s and '80s, researchers studied perceptions of leaders, conflict resolution, and minority influence. In the 1990s, such topics as intergroup relations, social identity, cognition in groups, social networks, and team-based processes drew the interest of group researchers. These areas of

intense study were complemented by increased interest in groups in many other social sciences, such as organizational and clinical psychology, political science, and communication studies.

By the mid-1970s, however, the field's growth had slowed, signaling to some a period of doldrums and waning interest. Steiner (1974), for example, asked, "Whatever happened to the group in social psychology?" and suggested that studies of groups were disappearing at an alarming rate. McGrath (1997), in reflecting on that period, suggested that small group research, "weighed down by excess conceptual, methodological, and perhaps ideological baggage, simply faded from the mainstream social psychological scene" (p. 12).

Trends emerging at the end of the century, however, suggest a renewed interest in groups. This rise in interest is due, in part, to the increase in research conducted outside of social psychology. As many social psychologists lost interest in groups, researchers in other fields such as organizational behavior, political decision making, education, and family studies increased their investigation of these processes. The interdisciplinary approach blended ideas from the three distinct schools of influence, structure, and performance and, in doing so, offered novel conceptualizations for studying groups. As Moreland, Hogg, and Hains (1994) conclude, groups were still being actively studied, but by researchers from a wide variety of disciplines.

This increase in research was due, as well, to a groundswell of interest in all things cognitive that was sweeping psychology. In step with the waxing of interest in perceptual and cognitive processes in virtually all the social sciences, group researchers expanded their studies of how groups organize and process information (Hinsz, Tindale, & Vollrath, 1997). Studies of transactive memory, information exchange, group memory, and group decision making all highlight the cognitive bases of interpersonal processes in groups, but much of this research also focuses on perceptions of individuals who are members of different groups. Indeed, the rise in the number of publications dealing with groups (Moreland et al., 1994; Sanna & Parks, 1997) in the final decade of the 20th century was due, in large part, to an upswing of interest in intergroup relations and social identity. Although the study of intergroup relations reaches back to Sumner (1906), in the 1990s, intergroup processes returned as the dominant topic in the study of groups.

Future of Group Research

Nostradamus made astoundingly accurate predictions about future events, but the same cannot be said for those who make predictions about the future of group research. During a dinner meeting of the Society for the Psychological Study of Social Issues in 1942, Lewin predicted that the field of group dynamics would soon be "one of the most important theoretical and practical fields" in the social sciences (quoted in Zander, 1979, p. 418). In 1954, Bogardus predicted that researchers would soon develop extensive measures of group personality and that "groupality" would become as important a concept as personality. In 1974, Steiner predicted a tremendous upswing of research into groups in the 1980s.

Will the study of groups increase in the 21st century? Despite the field's failure to live up to the expectations of past prognosticators, we cannot resist offering an optimistic prediction about the future of groups. Our optimism is based not only on the field's prior record of achievement, but also on methodological, statistical, theoretical, and societal developments that may change the way research is conducted and the value attached to such research.

At the methodological level, advances in statistics and revised attitudes about the value of non-experimental research have combined to ease some of the labor and time costs of conducting group research. The increasing use of sophisticated statistical approaches to grouped data, such as hierarchical linear modeling, has helped the field effectively deal with group-level data. Although group-level research once posed thorny

problems of analysis, as Sadler and Judd (2001) note, "There is nothing inherently difficult to the analysis of group data, once one appreciates the multiple sources of variation that exist in group data structures and treats groups as the effective unit of analysis" (p. 523). Similarly, advanced methods for handling nonexperimental data, such as structural equations modeling, have dethroned experimentation as the gold standard for scientific research, liberating researchers to use a wider variety of research methods (e.g., network analyses, bona fide group studies, ethnography). These advances in methodological sophistication are complemented by an increased theoretical sophistication. Simplistic box-and-arrow conceptualizations of groups, which yielded bivariate predictions that ignore recursiveness and process, are giving way to more complex models that take into account a wider array of neurological, evolutionary, cognitive, and interpersonal processes (e.g., Arrow, McGrath, & Berdahl, 2000).

The field of groups will also change as the people who study groups change. As researchers become more diverse in terms of their ethnicity, sex, race, and cultural backgrounds, the field's theories, methods, and applications will also diversify. Minorities and women will offer a new perspective on groups, stimulating the analysis of issues both overlooked and understudied.

The future of group research also depends, fundamentally, on the role groups play in contemporary and future society. Human behavior is more often than not group behavior, but the importance of groups in shaping human behavior is only beginning to be recognized by researchers and lay people alike. Although Western countries such as the United States and Great Britain traditionally stress the individual over the group, this cultural norm will change with increased contact between individualistic cultures and collectivistic cultures. Corporations will continue to evolve into multinational organizations, and with that global perspective will come increased exposure to collectivistic values. This general increase in collectivism at the societal level will stimulate the acceptance of a collectivistic, Gestalt view of groups and interpersonal processes as researchers recognize that the sum is, in fact, greater than its parts. As society adjusts to a more technological and united world, and as economic success is determined more by group decisions and work team efforts, the focus on group research will become increasingly relevant, practical, and important (Forsyth, 2000).

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