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ORIGINAL PAPER

Community Psychology at the Crossroads: Prospects for Interdisciplinary Research

Kenneth I. Maton · Douglas D. Perkins · Susan Saegert

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Abstract Effective engagement in interdisciplinary work is critical if community psychology is to achieve its promise as a field of ecological inquiry and social action. The purpose of this paper and special issue is to help make the benefits of interdisciplinary community research clearer and to identify and begin to address its challenges. Although some areas of psychology (e.g., biological, cognitive and health) have made substantial interdisciplinary strides in recent decades, progress in community psychology (and related areas) is more modest. In this article we explore the prospects for expanding and improving interdisciplinary community research. Challenges include designs, measures, and analytical frameworks that integrate multiple levels of analysis from individuals through families, organizations, and communities to policy jurisdictions, and the complexities involved in simultaneously bringing together multiple disciplinary collaborators and community partners. Challenges to interdisciplinary collaboration common to all disciplines include the disciplinary nature of academic culture and reward structures, limited funding for interdisciplinary work and uncertainties related to professional identity and marketability. Overcoming these challenges requires a synergy among facilitative factors at the levels of the interdisciplinary project team (e.g., the framing question; embedded relationships; leadership), the investigators (e.g., commitment to new learning; time to invest), and the external context (e.g., physical, administrative, economic and intellectual resources and support for interdisciplinary work). We conclude by identifying several exemplars of effective interdisciplinary collaborations and concrete steps our field can take to enhance our development as a vibrant community-based, multilevel discipline increasingly devoted to interdisciplinary inquiry and action.

Keywords Interdisciplinary · Community psychology · Levels of analysis · Ecological · Community partnerships · Transdisciplinary · Multidisciplinary · Collaborative research

K. I. Maton (✉)
Psychology Department, University of Maryland, Baltimore County, Baltimore, MD 21250
e-mail: maton@umbc.edu

D. D. Perkins
Human and Organizational Development, Vanderbilt University, Peabody #90, 230 Appleton Place, Nashville, TN 37203-5721
e-mail: douglas.d.perkins@vanderbilt.edu

S. Saegert
The Graduate Center, Environmental Psychology, City University of New York, 365 Fifth Avenue, New York, NY 10016
e-mail: ssaegert@gc.cuny.edu

The importance of interdisciplinarity for community psychology

Community psychology has been struggling to heed the call for interdisciplinary collaboration since the founding of the field. Those who met 40 years ago in Swampscott, MA, to launch and define the new field emphasized that "if psychology wants to make an impact on large social processes. . ., it will have to step out of its immersion in strictly clinical-medical settings" (Anderson et al., 1966, p. 5). A full chapter of the report was devoted to relations with other disciplines and emphasized the importance of a training faculty and student body from multiple disciplines. Among fields singled out for interdisciplinary collaboration were sociology, social work, medicine, anthropology, political science, education,

public health, economics, nursing, law, business administration, city planning, philosophy, and theology (Anderson et al., 1966).

Similarly, at the Austin, TX, conference on training in community psychology in the early 1970s, the field was defined as:

> being concerned with participating in planning for social change; with organizing and implementing planned changes; with designing and conducting programs of service to provide for the human needs generated by social changes; and with the development of community resources and process to deal with the future implications of social changes. It was recognized that these are activities that involve the efforts of persons from several different fields, and that community psychologists should give a high priority to cooperation and collaboration with the community and with other disciplines. . . (Mann, 1978, p. 18).

Why did the founders of community psychology (and others since) so clearly see the need for interdisciplinary work? The answers have to do with their recognition that by itself, an intrapsychic, person-centered psychology was limited in (a) contributing to transformative social change, (b) developing programs to improve settings and community life, (c) advancing theory development in psychology and other fields, especially with regard to understanding contexts and communities, and (d) creating a new and distinct field of community-based research on social behavior and well-being at multiple levels of analysis. Let us briefly examine the potential importance of interdisciplinary work in each of these areas.

Contributing to social change

The Swampscott and Austin conferences did not emphasize amelioration of problems, or incremental change, as much as they did larger social change. Those attending the conferences were fully aware that psychologists have far less knowledge of social movements, social change and political action than do sociologists, political scientists, and social historians. Yet through to the present time, few community psychologists have collaborated with researchers in these and related fields to further our understanding of social change mechanisms and processes.

The importance of focusing on social change, and doing so in collaboration with other disciplines, has been argued repeatedly over the years. A recent textbook succinctly states the case:

> The world's greatest problems—poverty, disease, hunger, violence, war, oppression, environmental contamination, resource depletion . . . have as root causes, solutions, or both, complex political, economic, environmental, and sociocultural issues. If community psychology is to contribute anything useful to addressing those problems, we must think more ecologically, act more politically, and actively engage the various disciplines that understand those issues, or at least their particular piece of those issues, including political science, economics, sociology, anthropology, public health, law, urban planning, community development, and others. (Levine, Perkins, & Perkins, 2005, p. 471)

Although little empirical work has been conducted in this area, community psychologists over the years have highlighted key foci within the larger social change arena where interdisciplinary collaboration may be fruitful. For example, Maton (2000) emphasized the need for sustained work with allied disciplines to understand and jointly influence four key, interrelated processes linked to the social transformation of environments: capacity-building, group empowerment, relational community-building, and culture challenge. Prilleltensky and Nelson (1997) called for our field to address underlying structural issues of power, oppression, and liberation. Christens and Perkins (in press) expand on that vision by proposing a comprehensive framework for interdisciplinary community research and action which includes the need to focus systematically on multiple levels of analysis and on economic, political, physical, and socio-cultural forms of both capital and oppression. Clearly, collaborations with other disciplines are essential to usefully frame questions related to social change, to generate relevant theories, to conduct research and analyze data encompassing multiple, higher levels of analysis, and to initiate and evaluate change efforts at all those levels. We cannot do so by ourselves. Moreover, over time we must move from occasional communications or collaborations with other disciplines to sustained, robust interdisciplinary or transdisciplinary interactions in which new perspectives and knowledge about social problems and means to address them are developed over the longer term.

Developing programs and improving settings and community life

Involvement in efforts to improve the everyday lives of citizens inevitably brings us into contact with professionals from diverse fields who work in a multiplicity of community settings. Effective collaboration with staff and administrators in these settings, along with the community itself, is essential if our applied work is to be successful and sustainable and our theories are to contribute to improving the human condition. These collaborations may involve development of prevention or promotion programs, program evaluation, action research, organizational and community consultation,

community development, advocacy, policy analysis, and community coalition building (e.g., Rappaport & Seidman, 2000; Rich, Edelstein, Hallman, & Wandersman, 1995; Speer et al., 2003). These intervention and social action activities must be done with a clear understanding about larger social structures and dynamics, cultural diversity, political and economic considerations, global interdependence, and the physical environmental context. They therefore would greatly benefit from collaboration with other disciplines.

The more complex and multifaceted the problems and settings being addressed, the more likely involvement in an interdisciplinary effort will yield a sufficiently complex, sophisticated and useful intervention effort. Researchers from other disciplines, including those in applied fields (e.g., education, public health, law, health services research, community development), bring theoretical and practical knowledge, sensitivity and understanding about larger social structures and dynamics, enhanced access, and strategies, tactics and skills related to specific domains in their area of expertise (e.g., schools, human services, criminal justice system, health care settings, neighborhood organizations, religious settings, etc.). They can bring to bear alternative intervention perspectives and approaches that complement and expand those with which we are familiar, thus enhancing the odds of success. They can also help community psychologists more deeply understand the socio-cultural obstacles to and facilitators of change that operate at multiple levels in these systems.

Advancing theories and understanding of contexts and communities

The ecological concepts and principles proposed by Kelly (1966; 2006), Barker (1968) and others helped define community psychology in the 1960s. These principles were key drivers in differentiating community psychology from mainstream individual psychology. Ecological and systems principles embraced a critical focus on context and community. Nonetheless and unfortunately, over the years our research studies have in many cases been limited to the individual level of analysis, excluding the systematic study of context, community and social ecology. Our home discipline of psychology does not prepare us well for the latter work.

At the time of the founding of community psychology, through to the present, other disciplines have possessed important methodological tools, theoretical perspectives, and bodies of knowledge that are extremely important to enhance our understanding of contexts and communities. Examples of methodological tools, some now beginning to be included in our studies of context and community include ethnography, qualitative methods, narrative and discourse analysis, social epidemiology, population perspectives, participant observation, social historical analysis, multi-level statistical models, and geographic information systems. Relevant theoretical and conceptual perspectives, to name just a few, include the social structure vs. agency debate, social systems, critical theory, biological ecology, culture, population perspectives, role theory, and political economy. Specific fields that have generated perspectives, methods and accumulated empirical knowledge relevant to our understanding of contexts and communities include urban and community sociology, public health, urban and regional planning, applied anthropology, political science, social history, education, and applied economics. Collaboration with like-minded researchers in these fields can yield important new, interdisciplinary understanding of contexts of interest, including the larger geographical community.

Community-based, multilevel, interdisciplinary research: A niche for community psychology

Collaborating with other fields often requires collecting and analyzing data at different levels of analysis. Currently, community psychology stands balanced on one foot in psychology at the individual level, with its other foot testing the ground at higher levels (e.g., Maton, 1989; Perkins & Taylor, 1996; Rappaport & Seidman, 2000; Saegert & Winkel, 1990; Shinn, 1996; Trickett, 1996). We desire to work across levels with other applied social sciences, but have done so rarely. Incorporating more interdisciplinary work into community psychology would help create a new and more distinct niche for the field: community-based research on social behavior and well-being encompassing multiple levels of analysis. We will continue to explore the level of individual behaviors, emotions, cognitions, beliefs, and interpersonal microsystem relationships. That will continue to set us apart from other social sciences and, along with our multiple methodological skills, interpersonal competencies, value base, and ecological perspective, provide much of our valued expertise in interdisciplinary relationships. To work effectively with other disciplines and be of more value to other psychologists, however, we must also expand our knowledge of groups, voluntary associations, and other local organizations and social networks at the mesosystem level and of communities, institutions, and social structures at the macrosystem level, along with how each of these influence the others. As we extend our work to global settings, we must expand our cultural and language literacy and our knowledge of political affairs, both foreign and domestic.

As discussed later in the paper, the multiple levels of analysis that are an implicit and fundamental orientation in social ecology (Bronfenbrenner, 1979) have, surprisingly, never been fully developed or exploited in community psychology. As a unit of analysis, the community and the social or physical setting still have a long way to go, even in community psychology, although that has begun to change (Shinn & Toohey, 2003). The advent of multi-level statistical

procedures is an exciting step in that direction. Even so, multi-level analysis by and large has been used only to predict variation at the lowest level, which in psychology, education, and even sociology still usually means individual-level outcomes. We should also be analyzing the psychological, behavioral, policy, and other contextual factors that lead to change at the organizational, community, and societal levels, along with the mechanisms of change within and across levels, (cf. Maton, 2000; Maton, Schellenbach, Leadbeater, & Solarz, 2004; Phillips, Howes, & Whitebook, 1992; Task Force on Urban Psychology, 2005; Yoshikawa & Hsueh, 2001).

In sum, there continues to be a belief in community psychology that bringing psychology into communities and larger social systems, and these systems into psychology, would benefit theoretical and applied psychology and ultimately communities themselves. An ongoing limitation or challenge is that psychologists who consider themselves to be focused on the community and on social change are a small proportion of all psychologists. At the same time, however, there is a tremendous opportunity for recognition and growth in community psychology and our interdisciplinary work as we stand readier and better equipped to work with other social sciences and community-based professionals and organizations than most other branches of psychology.

We do not claim that interdisciplinary work is a panacea. It clearly involves many challenges and limitations, which will be discussed below. Nor do we argue that all work in community psychology should be interdisciplinary. Interdisciplinary collaboration simply needs to be a more prominent and well-developed approach in our field, and used when appropriate. The appropriate times and places, in our view, are on the rise and we must train the next generation of community psychologists, and help the current generation, to be more comfortable and knowledgeable in collaborating with other disciplines. Most of us do not venture very far into interdisciplinary work, perhaps because the benefits are not fully clear, and the challenges appear substantial. The purpose of this paper and special issue is to help make the benefits clearer, and to begin to show how the challenges can be successfully addressed. Before discussing these challenges, we next examine several definitional and conceptual issues related to interdisciplinarity.

Interdisciplinarity: Definitional and conceptual issues

"Interdisciplinary" collaboration can take a variety of forms, depending on the nature and extent of work done. The term is most often applied to research, but can also be applied to theory, training, intervention teams, or funding streams. In terms of research, to help sort out the different levels of collaboration, three categories of interdisciplinary work have been distinguished. According to Stokols et al. (2003; following Rosenfield, 1992):

> Multidisciplinarity refers to a process whereby researchers in different disciplines work independently or sequentially, each from his or her own discipline-specific perspective, to address a common problem. Interdisciplinarity is a process in which researchers work jointly, but from each of their respective disciplinary perspectives, to address a common problem. Transdisciplinarity is a process by which researchers work jointly to develop and use a shared conceptual framework that draws together discipline-specific theories, concepts, and methods to address a common problem. (Stokols et al., 2003, p. S24).

In the current paper, for ease of communication, we most often use the term "interdisciplinary" generically, to cover any of the three forms of collaboration noted above, unless it is emphasized in a given case that the collaboration was explicitly multidisciplinary or transdisciplinary in orientation.

New theoretical perspectives and intellectual developments in a field may result from the borrowing or adaptation of ideas and approaches from other disciplines. This may follow from (1) a lone theorist reading in multiple disciplines, (2) active interdisciplinary communication (e.g., at conferences) or training in a second discipline (e.g., during a sabbatical year), or (3) collaboration among members of an interdisciplinary team. Examples of the sole multidisciplinary thinker creatively drawing from other fields were abundant in the early years of community psychology (e.g., Albee, Barker, Kelly, Levine, Newbrough, & Sarason).

As the Swampscott conferees made clear, interdisciplinary training in community psychology was to be a high priority. Prominent examples of interdisciplinary social science programs had already been created at several of the leading universities in the U.S. (e.g., Yale's Institutes of Human Relations and for Social and Policy Studies, Harvard's Department of Social Relations, University of Chicago's Committee on Human Development, and University of Michigan's Research Center for Group Dynamics, which was founded by Kurt Lewin and is now part of the Institute for Social Research). Some of the leading interdisciplinary programs, however, had disbanded by the late 1960s, reflecting the difficulties involved in such efforts. In recent decades, only a handful of interdisciplinary training programs have emerged in community psychology, with several others indirectly linked to the field (e.g., Social Ecology, Human Development, Public Policy, Education, Environmental Psychology). Interdisciplinary training programs differ in the extent to which courses from other disciplines are required or electives, courses are team taught or taught by sole instructors, and research experience with faculty from other

disciplines is common. Interestingly, some of the most enduring interdisciplinary training programs are in applied disciplines (e.g., Public Health, Social Work, Community Development, Criminal/Justice Studies), or involve emergent interdisciplinary fields (e.g., Gerontology, Policy Analysis, Environmental Design).

Finally, in terms of intervention, collaboration generally will involve working with administrators or staff from various community sectors (e.g., teachers, physicians, social workers, public housing directors). Increasingly, however, this can involve faculty from other academic disciplines as well, as in the case of university-community partnerships. It may be more appropriate to use the term "intersectoral" collaborations to describe the former, and "interdisciplinary collaboration" for those that involve more than one discipline in the academy.

Distinctive domains for interdisciplinary community research

Collaboration across disciplines may involve (a) "horizontal" integrations at one level of analysis, (b) a narrow range of levels, or (c) a "vertical" integration of concepts and methods across disciplines using widely dispersed levels of analysis (also called "grand transdisciplinary scientific collaboration"). Stokols et al. (2003) note that "Vertical integrations are more challenging to achieve because they span so many different analytic levels and scientific perspectives, yet they have the potential to yield highly novel conceptual integrations and intervention strategies since they encompass so many facets of the same phenomenon" (p. S24). Most interdisciplinary work to date has been horizontally integrated. Due to its crossroads position, between the micro and macro levels, it would seem that community psychology has a great opportunity to facilitate more vertical collaborations. Such initiatives should prove especially useful in the social change arena, and for the understanding of contexts and communities.

A second potentially distinctive area of contribution for community psychology is interdisciplinary intervention research. Community-centered intervention research involves the conceptualization, implementation, and evaluation of programs in partnership with communities to enhance well-being and the quality of community life; such work at the community level of analysis in particular represents a potentially distinctive contribution of our field. Community action-research involves the active participation of members from community settings in research designed to yield practical information to directly benefit the community. Given our field's focus on both research and action, and our track record of success both in research and in collaborations with various sectors of the community, interdisciplinary intervention research may prove a natural strength of our work in the interdisciplinary arena.

More generally, as we see it, the goal for interdisciplinary community psychology, as for individual community psychologists, is for our theories, methods, and collaborations to become as ecological as are our implicit conceptions of social phenomena and much of our applied professional work. We interact with diverse groups in multiple contexts and at multiple levels in various kinds of joint service and professional activities. But when it comes down to selecting theories (if we do so explicitly), methods, and research collaborators, most of us rely on the familiar and convenient, but in many cases terribly limiting, confines of individual psychology.

Interdisciplinary theory and research in community psychology to date

The development of community psychology as an interdisciplinary field has been surprisingly slow given the bold and expansive beginnings at Swampscott and Austin, and the creation of the Society for Community Research and Action in 1988. (SCRA's purpose was not only to provide some degree of independence from the American Psychological Association, but also to encourage the interdisciplinary development of the field.)

The textbooks in community psychology published over the past 30 years suggest a promising awareness of literature from other fields. For example, Rappaport (1977) identified the intellectual roots of community psychology as including all the social sciences and biological ecology as well as many practical lessons from law, planning, community organizing, political action, public health, preventive psychiatry, social work, and education. Heller et al. (1984) prefaced their text by observing that community psychology was "initially only an orientation" and so the field borrowed ideas from other fields, such as "sociology, political science, and public health" (p. ix); they later discuss the influence of anthropology, organizational and environmental studies, and many other fields. Orford (1992) also emphasizes anthropology's relevance to community psychology as well as sociology and public health. Finally, Levine, Perkins, and Perkins (2005) have revised a text which previously had a great deal of connection to law, history, education, psychiatry, the sociology of deviance, and public policy, and have added more attention to community development, environmental studies, and sociological and political conceptions of social capital. Their concluding chapter calls on community psychology to become more interdisciplinary (and, in particular, more political in the action realm).

Aside from these references and others like them, research over the years has rarely included a substantive

interdisciplinary focus. A PsycINFO search of the community psychology literature for references to "interdisciplinary," "multidisciplinary," and "transdisciplinary" found that most were calls for more cross-disciplinary work and training rather than examples of it. And of the few extant examples, a majority concerned intersectoral (not truly interdisciplinary) interventions (e.g., using combinations of social workers, counselors, psychologists, and health care workers) or interdisciplinary *training* rather than interdisciplinary *research*. The focus on intervention makes sense since it often involves community partners from other fields, such as education or public health. But the level of involvement of such partners in the research process to develop and understand these interventions is not always clear.

A search of "community psychology and (anthropology or sociology or political science or economics)" in the general literature yielded a few more examples of actual research that relied on theories from multiple disciplines. The majority were reviews of non-psychological literature. Most of the articles were identified not because the title or abstract mentioned another discipline, but because of an author affiliation (e.g., a university department of sociology) or, in some cases, a journal name or affiliation. It is encouraging that non-psychologists have published in community psychology journals and that journals in other disciplines occasionally publish papers mentioning "community psychology." But neither example necessarily indicates interdisciplinary work.

Despite this generally disappointing record of interdisciplinary research published in our field, there is some evidence of the interdisciplinary involvement of the SCRA membership. In 1999, a survey found that the typical community psychologist considers more than two other disciplines and/or professional organizations to be important to his or her research or intervention work (Maton, 1999). Community psychologists reported connections to every social science and virtually all of the professions. The most frequently mentioned disciplines were public health, education, sociology, anthropology, political science, policy/public affairs, evaluation, and social work. A number of community psychologists have also studied law. Some of the professional organizations community psychologists belong to are the American Public Health Association, American Evaluation Association, Society for Prevention Research, Society of Public Health Education, Community Development Society, Urban Affairs Association, Environmental Design Research Association, American Orthopsychiatric Association, Association for Policy Analysis and Management, Population Association of America, and Society for Applied Anthropology.

Nearly all of those surveyed believed that community psychology should develop enhanced linkages with other disciplines and, in fact, over the past several years, SCRA has initiated formal liaisons and other ties with several professional associations representing other disciplines (and other branches of psychology). The SCRA Interdisciplinary Initiative has engaged partner organizations in joint efforts in minority recruitment, many conference exchanges, cosponsorship of the annual conference in applied anthropology, and the 2004 Interdisciplinary Working Conference, which was the basis for this special issue.

Challenges to interdisciplinary community research

In recent years, as interest in interdisciplinarity has increased, a number of accounts of the barriers to and challenges involved in interdisciplinary work have been published (cf. Kahn & Prager, 1994; Kessel, Rosenfield, & Anderson, 2003; Klein, 1990; Lattuca, 2001; Morgan et al., 2003; Pellmar & Eisenberg, 2000; Rhoten & Parker, 2004; Rosenfield, 1992; Stokols et al., 2003; Younglove-Webb, Gray, Abdalla, & Thurow, 1999). Many of the challenges reported appear generally relevant to interdisciplinary collaboration. First, these generic challenges will first be noted. Then, we will discuss challenges that appear distinct to theory and research in community psychology in particular.

Generic challenges to interdisciplinary work

The self-contained and distinct cultures of individual disciplines represent one clear challenge to interdisciplinary work. Disciplines differ in their revered practices, values, priorities, levels of analysis, and definitions of good science (and application, if relevant). These differences create serious obstacles to communication and collaboration; as a recent National Academy of Medicine report noted, each discipline tends to feel superior and see interdisciplinary science as "second rate" (Pellmar & Eisenberg, 2000, pp. 4–5). Relatedly, there is the fear of limited career options, and major challenges to professional identity, for investigators who highly value an interdisciplinary orientation.

At the level of academic institutions, academia has been increasingly pushed to adopt a market orientation toward their educational "products." Mostly this militates against developing innovative but costly new collaborative interdisciplinary approaches. Competitiveness is often judged by sharply defined, and commercially ranked, standings within disciplines. Co-authored publications where an individual is not the first (or sole) author, a natural result of interdisciplinary work, may be viewed negatively. When positions and promotions are at stake, disciplinary credentials and norms form a common record while interdisciplinary contributions may be unknown to promotion and tenure committee members and external reviewers. Thus, the time commitment necessary for learning about and working with other disciplines can reasonably be viewed by individuals as a risk for

promotion and tenure, and more generally for career advancement and development. Unless reward structures for working collaboratively across disciplines are changed (e.g., tenure and promotion decisions, extramural funding opportunities, journals interested in publishing interdisciplinary work, collaborative teaching opportunities, etc.), it appears unlikely that large-scale progress will be made.

In the external context of publication outlets and grants, the disciplinary focus is again predominant, and works against interdisciplinary efforts. It can be difficult to find appropriate outlets for interdisciplinary work. It can be equally difficult to find funding sources—especially ones sustainable over time—necessary for the development of state-of-the-art interdisciplinary research programs.

Equally daunting barriers face the development of interdisciplinary graduate training programs. Interdisciplinary training would appear to be an important means to enhance levels of future interdisciplinary work within a field. However, within the academy interdisciplinary training options are often limited by administrative policies restricting the credit that faculty members are given for team teaching and limitations on teaching outside the home discipline. Students may find that their advisors and disciplines are reluctant to allow credits outside the core field. Although a range of informal networking opportunities among students and faculty members from relevant disciplines may be helpful, the need to provide similar experiences within the core discipline competes for time. Conflicting demands may confuse priorities (and personal sense of identity) among faculty and students alike. And where external funding is available for the development of interdisciplinary pre- and post-doctoral fellowships (e.g., NIH), the levels provided do not fully compensate the training institution for administrative costs, which tend to be higher for interdisciplinary programs that require more coordination.

Despite the challenges and obstacles cited above, some fields have made significant interdisciplinary theory and research gains in recent decades, in some cases leading to the development of innovative new interdisciplinary subfields. For example, psychologists involved in health research, those studying neurocognition and social neuroscience, and others working at the border of psychological experience and biological processes (e.g., psychoneuroimmunology) have developed dynamic programs of research in close collaboration with researchers in the hard sciences.

A number of explanations have been provided for these innovative interdisciplinary gains. They include: 1) a national consensus on the importance of work in these areas; 2) the resulting availability of large amounts of research funding and supportive infrastructure over extended periods of time; and 3) the development of new, highly specialized and sophisticated measurement techniques (e.g., magnetic resonance imaging), facilitating precise measurement of phenomena at adjacent levels of analysis (cf. Kessel, Rosenfield, & Anderson, 2003; Pellmar & Eisenberg, 2000. Two additional factors that appear important are that work in these areas, including the mind/body interface, all reside within the individual (albeit, at different sub-levels) and do not require collaboration with applied sectors in the community. These are two of the factors, as we indicate in the discussion that follows, that present distinct challenges to interdisciplinary, community-centered research.

Distinct challenges for interdisciplinary community theory and research

Psychological and behavioral phenomena of interest to our field are embedded within higher levels of social analysis, beyond the individual—the group, setting, community, cultural, and societal levels. Research which spans these multiple levels is inherently difficult, given the need to obtain large samples of groups, settings and communities, for example, along with samples of individuals, to examine variation within each. In addition, there appears to be a greater conceptual leap crossing from psychological and behavioral to setting, community, cultural and societal levels of analysis than may exist crossing sub-levels within the individual. And some have argued that there does not appear to be the same potential for radical, exciting new theoretical breakthroughs in understanding social phenomena as exists in the biomedical and related areas (e.g., Sewell, 1989); such breakthroughs appear necessary for the generation of national interest and large amounts of funding for sustained interdisciplinary research.

Relatedly, sophisticated, highly technical, specialized, commonly used measurement tools at adjacent levels of analysis generally do not appear to exist as much in the social sciences as in the neuro- and biological sciences (e.g., magnetic resonance imaging). Nor are the mechanisms of causal influence within the social sciences as well established as in the neuro- and biological sciences. Thus, the necessity for collaborations with other disciplines to facilitate measurement at other levels of analysis that appears to exist at the psychological/biological interface (along with the associated understanding of cross-level mechanisms) do not appear as clearly to exist at the interface of the individual and higher levels of analysis.

Third, interdisciplinary community-centered research of all types, and especially intervention and action research, involves ongoing collaborations with community partners, including organizational staff, administrators, and representatives of the community, along with researchers from other disciplines. Community psychologists have excelled in general when we work with community sectors; however, special complexities and challenges exist when simultaneously crossing cultural divides between two or more disciplines and

between the university and community sectors. Communication difficulties involving language and meaning, deciding among multiple research and action oriented priorities, and the challenges of finding enough time to cultivate high quality working relationships and to work through inevitable conflicts with parties inhabiting different "life worlds" all will be multiplied in such interdisciplinary-intersectoral work. Furthermore, the cultural values and collective goals that shape problem identification, research and study in the community may fall between or be completely foreign to the cultures and goals of scholars in other disciplines, or even within the academy as a whole (Bourdieu, 2000). This will challenge the integrity of the interdisciplinary effort, and also may create identity issues for community psychologists who equally emphasize academic and community priorities.

Finally, at the macro level, a national consensus is lacking concerning community-centered approaches to social problems, in contrast to the consensus that exists on the priority of scientific and applied approaches to biomedical and related problems. Indeed, the socially dominant definitions of the problems that community psychologists address have moved since the Swampscott conference away from being seen as community responsibilities to be solved collectively, to an emphasis on individual deficits and responsibility to be addressed by individual choices, market forces, and if those fail, individual punishment and failure. The institutional infrastructure for community research and action has likewise changed. Since the abolition of the Community Action Agency after the Carter Administration, no federal institution has consistently promoted community based action, nor research. The mandate, and consequently the staffing, for the National Institutes of Health has increasingly reflected the priority for biomedical problems and medical or individual behavioral cures. As solutions to a wide range of problems from education to physical and mental health have become individualized, the very notion of community problem solving has come into question. Community building initiatives, for example, have been largely funded by private foundations, grantees for the action components have been national community intermediaries, or local Community Based Organizations (CBOs) or coalitions, and they have been largely evaluated by private, free-standing research institutes rather than academic institutions (Kubisch et al., 2002; Saegert, 2004). The lack of social consensus on the importance of social change and community betterment consistent with community psychology models, and the resulting lack of an infrastructure to provide funding, represent serious constraints on the development of substantive interdisciplinary community-centered projects commensurate with those in other areas.

Taken together, the challenges to interdisciplinary work common to all disciplines, and those distinctive to community-centered work, help to explain the relative slow progress in this area in community psychology; multiple facilitative factors will likely need to be present for substantial interdisciplinary innovations to emerge in our field. We next turn to a discussion of some of those facilitative factors.

Factors that facilitate successful, innovative interdisciplinary research

Empirical research examining the factors that contribute to successful interdisciplinary collaboration in general or to community-centered work in particular is scant. However, extant descriptive accounts of interdisciplinary research endeavors, many in the health area, suggest multiple factors linked to successful interdisciplinary research collaboration (cf. Kahn & Prager, 1994; Kessel, Rosenfield, & Anderson, 2003; Klein, 1990; Lattuca, 2001; Morgan et al., 2003; Pellmar & Eisenberg, 2000; Rhoten & Parker, 2004; Rosenfield, 1992; Stokols et al., 2003; Younglove-Webb, Gray, Abdalla & Thurow, 1999). The facilitating factors discussed in these accounts, and also voiced at the SCRA Interdisciplinary Working conference, occur at the level of the interdisciplinary research project, the individual investigators, and the external context. Below, we briefly highlight several key factors at each of these levels. The list of factors discussed is not intended to be comprehensive, and further empirical work is necessary to substantiate the relative importance of these and other factors.

To help bring to life the factors listed, for each level we include illustrative quotes from a recent compendium of innovative interdisciplinary case studies, *Expanding the boundaries of health and social science: Case studies in interdisciplinary innovation* (Kessel, Rosenfield, & Anderson, 2003). The 12 case study accounts highlight the benefits, challenges, and facilitating factors linked to innovative interdisciplinary collaboration, within the domains of cardiovascular health, affective and cognitive neuroscience, positive health, population health perspectives, and the prevention and management of HIV/AIDS. Although most of these accounts do not focus on community-centered research, the underlying dynamics revealed likely hold relevance for many interdisciplinary endeavors.

The interdisciplinary project team

Successful interdisciplinary teams appear to share a number of characteristics. One key characteristic is the project leadership. The leader(s) need to develop a climate of shared mission and trust among participants from different backgrounds, and be resourceful in helping to resolve conflicts and tensions as they emerge. A second important feature is the quality of relationships among participants, including mutual respect and commitment and openness to mutual

learning. This can be facilitated by team- and relationship-building activities (e.g., retreats, extended face-to-face contact), a history of prior working relationships among the individuals (and institutions) involved, time spent learning each other's disciplines, and the inclusion of individuals with complementary expertise and perspectives. A third key characteristic is the nature of the framing question. Problem-focused work (in contrast to theory-focused), and work focused on high-profile public issues, may be especially likely to lead to successful collaboration, given high levels of shared commitment among those participating. The two quotes below, the first focused on work in social neuroscience, and the second on early work in HIV/AIDS prevention, illustrate several of the above qualities.

"There was an immediate compatibility between us, both personally and professionally. Both of us had a long history of efforts to bridge at least proximate levels of analysis. . .The fit was natural, as each of us bridged distinct levels, and the confluence afforded the opportunity for a broader bridge—that between social psychology and neurobiological mechanisms. . .In part, the success of our effort lies in the dissatisfaction and frustration each of us had felt (independently) over the limitations of single levels of analysis. An additional cohering force was the mutual respect that we shared over each other's prior multilevel research efforts" (Bernston & Cacioppo, 2003, p. 31).

"In many ways, this case study in multidisciplinary research is a story of individuals. . .who came together to address an urgent public health problem. . .Behavioral science, population science, anthropological research, sociology, epidemiology. . .would be needed to supplement clinical and laboratory efforts in this epidemic" (Chesney & Coates, 2003, p. 350, 353).

Individual participant characteristics

A number of personal characteristics have been offered in the literature to describe investigators likely to successfully pursue innovative interdisciplinary work. These include a passion and commitment to learning from other disciplines, an interest in substantive questions that necessitate the crossing of disciplines, broad vision, the willingness to invest substantial time in collaboration, and the ability to negotiate conflict and differences. Several of these factors are illustrated in the two quotes below.

> I think it takes a specific mind-set to appreciate, and in fact, thrive on interdisciplinary research. First, one must believe that other disciplines can make important contributions. I, for one, cannot imagine that sociology could explain anything in its entirety. Still, I also don't believe that there are many phenomena that aren't affected to a significant degree by social factors. A common characteristic of my interdisciplinary colleagues is the conviction that the perspectives from multiple disciplines are needed to even begin to understand complex realities. Second, it's helpful if one likes to be challenged and forced to "sell" the potential contributions of his or her discipline. . .Third, it takes incredible patience to participate effectively in interdisciplinary research. I've sat through at least 100 lectures on the biological components of our interdisciplinary aging research—lectures in which I was lost after the first sentence. . . (George, 2003, p. 245).

> . . .our research team always included investigators who did not perceive boundaries between fields and disciplines (such as between psychophysiology and renal physiology, or between cardiology and social psychology) as barriers, but instead saw them as bridges" (Light, Girdler, & Hinderliter, 2003, p. 46).

The external context

A third set of facilitating factors concerns the external project context. The development of successful collaborations is aided by the physical proximity of participants, an organizational context supportive of interdisciplinary work, and sustained, external funding. Physical proximity to other disciplines is especially likely to be present in applied departments or schools (e.g., public health) and in interdisciplinary research centers. Relatedly, the organizational climate in such settings will likely be supportive of interdisciplinary training and interdisciplinary collaboration, in contrast to traditional disciplinary departments where strong support is less likely to be present. At the level of the university, the climate for and support of interdisciplinary work will likely depend on the traditions and mission of the university, and the relative priority given to crossing disciplinary divides by key university officials.

Finally, at the national level, sources of funding and mechanisms to bring together sustained focus on interdisciplinary work can greatly facilitate interdisciplinary initiatives. The MacArthur Foundation, for example, has funded a variety of interdisciplinary research networks. Similarly, several NIH institutes (National Institute on Drug Abuse and National Cancer Institute) and the Robert Wood Johnson Foundation recently funded a major initiative titled, "Transdisciplinary Tobacco Use Research Centers." NIDA also funded an initiative titled, "NIDA National Prevention Research Initiative (NNPRI): Transdisciplinary Prevention Research Centers." These are but a few examples of recent funding mechanisms that have embraced an interdisciplinary focus. The quote below illustrates the potentially important role of external factors:

> Many of the players in our collaboration initially crossed paths via MacArthur research networks. While the

> substantive foci of the networks vary, those selected to participate in such endeavors tend to. . .possess an intellectual proclivity for reaching out to connect their own area of expertise with other, sometimes distant, realms of inquiry. . . (p. 195) The significance of the MacArthur route into the joint venture cannot be underestimated. Such network experiences provided the critical ingredient of time—time to listen, *repeatedly*, to researchers outside one's discipline and therefore gain sufficient understanding of the different domains required to forge integrative agendas" (Ryff & Singer, 2003, p. 197).

The factors reviewed above that contributed to innovative interdisciplinary research in various health-related areas would appear to be relevant to the generation of innovative interdisciplinary research in community psychology. However, as discussed previously, attempts to achieve interdisciplinary innovations in the community domain may face some unique and potentially more difficult challenges (e.g., incorporating higher levels of analysis along with the individual level of analysis; the complexities of intervention and action research that aim to advance understanding through action, and that include collaborators both from other disciplines and from various community sectors). In recent years, examples of interdisciplinary work in the community domain have become more prevalent (cf. Rich, Edelstein, Hallman, & Wandersman, 1995; Shinn & Toohey, 2003; Speer et al., 2003). As increasingly innovative interdisciplinary work (e.g., multi-level; community action partners along with multiple disciplines) is generated in the community domain, it will be important to examine whether effective projects require a distinct number and quality of the facilitative factors discussed above, and similarly whether they will require additional types of facilitating factors not present in other interdisciplinary areas, such as those suggested below.

Distinct facilitating factors for interdisciplinary community theory and research

Several factors can facilitate overcoming the barriers to interdisciplinary research that are unique to community psychology and other action oriented, community and society focused research. These include:

1. Commitment to solving a community or social problem through common action or policy, based on shared values.
2. Positive working relationships forged by collaborating with scholars from other disciplines for common social action goals.
3. External demands (from the community, from policy makers, from economic and institutional stake holders) that solutions to community problems and programs for social change address multiple community sectors and societal levels, including individuals and the family, the local community and the local economy, and their relationship to national and international political and economic forces.

Although such facilitating factors have not received much focus from scholars or national grant-making institutions, their importance is illustrated in the community-focused work of a number of psychologists.

For example, the work of Paul Speer, Joe Hughey and their colleagues exemplifies the natural links that can be forged across disciplines when pursuing common goals with communities. This work incorporates theories developed by educators and activists trained outside of psychology (Speer & Hughey, 1995) and more recently, social capital theory (Perkins, Hughey, & Speer, 2002). The writings of Paulo Friere and Saul Alinsky that they draw on also remind us that not all intellectually significant work is generated by disciplinary focused scholars within the academy. Furthermore, their adoption of Geographic Information Systems methodologies from geography and urban planning to facilitate identification of clusters of noxious land uses in poor communities reflects the necessity of collaboration with and learning from allied disciplines in community action research. More recently, efforts to support community organizations aiming to improve the quality of life in Camden, New Jersey, led Speer et al. (2003) to collaborate with urban planners (Mark Ontkush, Brian Schmitt, & Kris Rengert), an economist (Padma Rahman), a sociologist (Courtney Jackson), and another community psychologist (Andrew Peterson).

Feminist community psychology provides another example of interdisciplinary integration spurred by commitment to shared social goals. For example, Stephanie Riger's work exemplifies interdisciplinary collaboration on topics ranging from sexual harassment in the work place (cf. Sullivan, Riger, Raja, & Stokes, 1997) to rape (Gordon & Riger, 1989). Her collaborator Margaret T. Gordon personifies the sort of scholar that interdisciplinary feminist research produces: she has held positions in Sociology, Journalism, and Public Policy. The collaboration of Jackie Leavitt and Susan Saegert shows how the relationships forged around feminist causes (Leavitt & Saegert, 1984) led to further interdisciplinary collaboration focused on tenant organizing and low-income housing (Leavitt & Saegert, 1988; Leavitt & Saegert, 1990). Of note, Riger, Saegert, and Leavitt all went on to head interdisciplinary centers and programs (The Women's Studies program at Northwestern, The Center for the Study of Women and Society and the Center for Human Environment at CUNY, and The Community Scholars Program at UCLA).

A third example is the recent, intensive collaborative project between community psychologist Hiro Yoshikawa, anthropologists Tom Weisner and Edward Lowe, and a team of researchers from the fields of policy analysis, psychology, and anthropology (Yoshikawa, Weisner, & Lowe, forthcoming). The research examined the factors influencing work

trajectories among working-poor parents in the context of the New Hope anti-poverty experiment in Milwaukee, and the influence of low-wage work dynamics on family life and child development. The investigators shared strong commitments to addressing these social issues, and worked together for many years to attract and integrate the diverse perspectives and skills of the disciplines involved. Each book chapter combined longitudinal quantitative with ethnographic data from the New Hope project. Each team member conducted both quantitative and qualitative analyses. This allowed both rigorous quantitative analysis and holistic, in-depth ecological portrayals of neighborhood, family, and individual variables and contexts. The multi-faceted understanding of the phenomenon under investigation, and resulting implications for policy, illustrate well the potential of collaborative work across disciplines in community context.

It should be noted that in some cases, collaboration with colleagues from other disciplines will be natural and easy, devoid of major challenges arising from divergent biases, perspectives or approaches. This appears especially likely to occur when researchers from different fields share pre-existing perspectives, values and approaches, perhaps due to prior interdisciplinary experience or training, to broad rather than narrow training and socialization within their home discipline, or to the use of perspectives and approaches that are shared across disciplines.

Future directions

Given the critical importance of interdisciplinary work to our long-term goals as a field, what can we do to move forward in this domain? Four important steps are suggested below: highlighting the value and nature of interdisciplinary community-based theory, research and action; developing mechanisms to support and encourage interdisciplinary work and interdisciplinary linkages; embedding interdisciplinarity into our graduate training programs; and redefining our field to encompass an interdisciplinary identity. Each is briefly discussed below.

Greater efforts must be made to highlight the value and nature of interdisciplinary community theory, research and action. One important approach is to publicize and carefully examine existing exemplars of such work. Learning about exemplary efforts (and the stories behind them) will help inspire us all and help persuade us of the value and the feasibility of interdisciplinarity. An initial step in this direction has been taken with the recent SCRA Interdisciplinary Conference and the current special issue. Future steps should include a continuing set of conferences, workshops and publications that highlight exemplary interdisciplinary endeavors, along with the distinctive contributions of knowledge, methods and perspectives from other disciplines (cf. Christens & Perkins in press; Maton, 2000; Snowden, 2005). Such efforts will prove especially valuable if, taken together, they encompass the wide range of content areas of interest to SCRA members, and the various types of institutional settings (e.g., psychology departments; interdisciplinary departments or centers; applied settings) in which we work. Of special value will be efforts that highlight the distinctive role of interdisciplinary intervention and action research and interdisciplinary community-centered research that crosses multiple levels of analysis. Identification of private and public funding sources, both local and national, that endorse and support such work will be important for generating the necessary critical mass of intellectual discourse, emergent social norms, and accompanying research and action needed to move forward in these arenas. As we move forward in the interdisciplinary arena, multidisciplinary, interdisciplinary, and transdisciplinary collaborations each have distinct advantages, though our bias leans towards the special potential of transdisciplinary efforts to facilitate distinctly new learning with maximal potential to contribute to social change and social transformation.

A second critical step is to institutionalize an interdisciplinary emphasis within SCRA as an organization. Toward this end, SCRA recently established a new standing committee, Interdisciplinary Linkages. The challenge is to involve on this committee, over an extended period of time, passionate and energetic members capable of undertaking initiatives that greatly raise the status of interdisciplinarity within our field. As part of this process, for example, an award can be developed for exemplary interdisciplinary work, occasions to acknowledge and support members who are undertaking valued interdisciplinary work can be created (including featuring such work periodically in our journals), and a series of formal linkages with allied disciplines can be developed that lead to joint conferences, publications, policy advocacy, and community action projects.

A third critical step is to embed interdisciplinarity to a greater extent within our graduate training programs. Being exposed early in one's training to knowledge and perspectives from other disciplines should increase the likelihood that career development will encompass a substantial interdisciplinary focus. Taking elective and/or required courses from faculty in other disciplines, working on research and action projects with faculty and students from other disciplines (programs might even require dissertation committees to include at least one nonpsychologist), and learning from core faculty who model an interdisciplinary perspective, taken together, should help instill an awareness and appreciation of learning from, and working with, other disciplines. Selection of students with openness and interests in interdisciplinary training, as well as development of a track record of successful employment (academic and applied) for graduates with interdisciplinary training also represent key

aspects of movement towards enhanced interdisciplinarity in training. Graduate program directors represent an important constituency to engage and mobilize to help ensure progress in the graduate training arena.

Finally, we must challenge our narrowly-focused identity as psychologists, and consider the possibility of adopting a more expansive, interdisciplinary component to our self-identification, both as individuals and as a field. To begin to bring about such an expansion of identity we will need to invest time and effort working closely with individuals from other disciplines, spend time in settings beyond self-contained psychology departments, and bring a greater number of non-psychologists into SCRA. An expansion of our core identity will not be easy to come by, and likely will have costs as well as benefits. One key step to reverse the cost-benefit ratio is to challenge and ultimately change the embedded reward systems that exist in our academic silos and in many funding agencies. If these reward structures truly promoted interdisciplinary exchange, the likelihood that individuals would participate in such work would increase

We should also consider the benefits and costs for interdisciplinarity development of maintaining "psychology" as our primary identity. On the positive side, it underscores a unique, valuable disciplinary perspective that we bring to our collaborations with other disciplines and also enhances the likelihood we can influence psychology as a discipline. On the negative side, it reduces the likelihood we will become a truly interdisciplinary field, as those trained in other disciplines will less likely view SCRA as an interdisciplinary "home" as long as "psychology" is a key defining element of our identity.

As noted earlier, interdisciplinarity is not a panacea. There is no single, simple solution to the complex research and intervention problems with which our field is concerned—including interdisciplinary collaboration. And in some cases interdisciplinary efforts may prove cumbersome or ineffective, or pose special career risks (e.g., junior faculty in traditional psychology departments). However, the motivation to broaden our identity should be enhanced as we remember that many of the people doing community psychology related theory, research and action are not community psychologists, and that we cannot, by ourselves, make a difference in the complex, multi-leveled social problems, and the related social structural changes, that we so deeply care about. Viewing ourselves as part of a larger community of like-minded scholars and activists that encompasses multiple fields and sectors will help facilitate the interdisciplinary cross-fertilization, linkages and project teams that are so essential to our mutual visions and goals.

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