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# Qualitative and Mixed Methods Research in Dissemination and Implementation Science: Introduction to the Special Issue

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This special issue provides examples of how qualitative and mixed methods research approaches can be used in dissemination and implementation science. In this introductory article, we provide a brief rationale for why and how qualitative and mixed methods approaches can be useful in moving the field forward. Specifically, we provide a brief primer on common qualitative methods, including a review of guidelines provided by the National Institutes of Health. Next, we introduce the six articles in the issue. The first of the articles by Palinkas represents a more thorough and authoritative discussion related to qualitative methods, using the other five articles in the issue (and other published works) as examples. The remaining five articles are empirical and/or descriptive articles of recently completed or ongoing qualitative or mixed methods studies related to dissemination and implementation of evidence-based practices for children and adolescents.

This special issue of the Journal of Clinical Child & Adolescent Psychology focuses upon the role that qualitative and mixed methods research approaches can and do play in research focused on treatment and dissemination and implementation of evidence-based treatments (EBTs) for child and adolescent mental health problems. Children's mental health care represents a critical public health concern in the United States, with prevalence of child mental health problems being high and the numbers of those receiving services being quite low (e.g., Merikangas et al., 2010; Tang, Hill, Boudreau, & Yucel, 2008). Despite the existence of literally hundreds of EBTs studied for more than 40 years (e.g., Chorpita et al., 2011), the widespread dissemination of those treatments has been slow (e.g., Aarons, Hulburt, & Horwitz, 2011; McGlynn, Norquist, Wells, Sullivan, & Liberman, 1988). For example, an Institute of Medicine (2001) report stated that there is a 17-year lag between the development of an evidence-based practice and its use in practice settings.

This gap between science and practice has led scientists and other stakeholders in clinical care to consider how best to bring optimal care to those in need. Indeed, the science-practice gap was an important reason for the rise of the field of dissemination and implementation (D&I) science (e.g., Fixsen, Naoom, Blasé, Friedman, & Wallace, 2005; Glasgow, Green, Taylor, & Stange, 2012; Proctor et al., 2009; Southam-Gerow et al., 2012), a field focusing on a variety of critical research questions at the juncture of science and practice (e.g., identifying how to increase the speed of dissemination, how to improve the effectiveness of psychosocial treatments across multiple contexts).

One important result of our grappling with the science-practice gap has been the realization that D&I of EBTs will not be a simple matter of "build it and they will come." Instead, as outlined by a variety of scientists (e.g., Proctor et al., 2009; Schoenwald & Hoagwood, 2001; Southam-Gerow, Rodríguez, Chorpita, & Daleiden, 2012), there has been increasing awareness of the need to consider the complexities involved in

implementing mental health treatments across diverse ecologies. Several frameworks have been proposed to help guide our efforts, with most focusing on the need to consider more than just the primary mental health disorder of the identified child client. These models underscore the importance of complexity at the level of child, family, therapist, organization, and system (e.g., Fixsen et al., 2005; Proctor et al., 2009; Schoenwald & Hoagwood, 2001; Southam-Gerow et al., 2012). In short, many scientists have contended that understanding context is a key to improving clinical services. To further that understanding, scientists, including some at the National Institutes of Health (NIH), have turned to qualitative and mixed methods approaches as a means to that end. Some of the fruit of that effort is presented here in this special issue.

In this introductory article, we accomplish two primary goals. First, we provide some definitions and a brief rationale for the use of qualitative and mixed methods approaches for clinical child and adolescent psychological research. Although our discussion touches briefly on specific qualitative methods, we leave most of the methodological discussion to Palinkas in his article in this issue. Second, we orient the reader to the six articles in the issue.

# QUALITATIVE AND MIXED METHODS RESEARCH

Before describing some of the reasons that qualitative and mixed methods approaches have become more common, some definitions and a brief history will be helpful. Qualitative and quantitative research methods tend to be differentiated in a number of ways. The first is the sort of data collected. Quantitative data involve numerical representations and are typically obtained through the use of closed-ended questionnaires, rating scales, or numeric observational ratings scales, with limited response options. These data are aggregated and reduced by using a variety of calculations (e.g., mean, variance, etc.). Quantitative data are generally further manipulated through a variety of statistical testing techniques and then presented in a structured manner in research papers.

On the other hand, qualitative data are words, typically collected using individual interviews, focus groups, and observations involving field notes. Qualitative data can also be collected from existing text documents, including newspaper articles, legislative materials, charts or electronic medical records, or even photographic material. Qualitative data are aggregated and reduced generally through the use of coding or tagging approaches, often organizing the words into themes. Themes can be predetermined by research

question or theory (e.g., the investigator is looking for any mention of a particular topic) or can be defined after reviewing the qualitative data sources, with themes emerging from the text. Often, researchers use a combination of coding techniques (both predetermined codes and emergent; see Aarons et al., this issue). Qualitative data can be presented in a variety of ways and formats, including traditional research papers, books or book chapters, or even sometimes other media forms (e.g., video, collage). Further, qualitative data are sometimes reduced to quantitative data and then presented in a manner quite similar to that used by traditional quantitative methods (see Murray et al., 2006; Rodriguez et al., this issue).

Mixed methods studies are quite diverse, but a general definition is that they are some combination of qualitative and quantitative approaches, either together or in a sequence. Palinkas, Horwitz, Chamberlain, Hulburt, and Landsverk (2011) described mixed methods applications from 22 studies in mental health services research, using seven different ways to link the quantitative and qualitative data. As one example, the researcher conducts a qualitative study simultaneously with the quantitative study, with the goal of elucidating quantitative results, and the analyses are presented together. In the Palinkas et al. review, 19 of the 22 studies used a simultaneous structure. A second common configuration is for a qualitative study to precede a quantitative one, with the results of the qualitative study used to inform aspects of the quantitative study (see Dorsey, Conover, & Cox, this issue, for an example; nine of the 22 studies in the Palinkas et al. review used a sequential structure). Both qualitative and mixed methods have ways to establish rigor, and thus both types of studies can be evaluated as to their quality. Palinkas (this issue) describes how to evaluate qualitative and mixed methods approaches.

As Peters (2010) observed, qualitative methods have a long history in many diverse fields, including mental health. Indeed, some of the earliest scientific works related to mental health are qualitative evaluations and include early clinical case studies as well as important observational studies (Peters, 2010). The rise to prominence of behaviorism and empiricism in the middle of the 20th century was accompanied by a decline in emphasis on qualitative methods and a devaluing of those methods, because quantitative methods were viewed as more objective. However, qualitative methods, despite often being viewed as the ugly duckling of methodology, may often be the best methodological "fit" for many research questions, particularly when research is early stage and/or, as is often the case with D&I research, conducted in a diverse contextual settings with too many potentially influential factors than can be specified a priori or measured quantitatively. As a result, there has been a recent return to, and recognition of, the value of qualitative and mixed methods, the reasons for which we now discuss.

The reemergence of qualitative and mixed methods approaches in mental health research has been driven by several factors (e.g., Creswell, Klassen, Plano Clark, & Smith, 2011). As mentioned earlier, the challenges associated with D&I of EBTs in community settings has been one important reason. D&I science spurred the use of qualitative methods in part because of the role that well-designed and implemented qualitative research can play in a program of clinical research. Whereas quantitative methods are strongest for testing specific theories in controlled settings, the same methods are less helpful when attempting to understand context and meaning (e.g., Hohmann & Shear, 2002; Palinkas et al., 2011; Peters, 2010). Qualitative research, in comparison, has as its strength in these very things. For example, qualitative research can help scientists better understand (and then generate hypotheses about) how complex contextual factors may influence a phenomenon of interest, a strength viewed as particularly important when "assessing consumer perspectives and of contextual influences on disparities" (Palinkas et al., 2011, p. 255). This strength of qualitative methods is particularly pertinent in translational research, when the input of various stakeholders is needed to understand how to proceed with the "translation" optimally, and the researchers do not have an a priori understanding about all the possible factors that should be investigated.

Another reason for the return of qualitative methods is their use in developing new or modified theories. Peters (2010) noted the use of qualitative research for exploring new areas when quantitative (e.g., survey methods) have proved unfruitful. Because quantitative data are generated based on what is already known, they are best suited for testing theories and are not ideal for identifying new theories or ideas, or for identifying possible confounds not measured quantitatively. For example, in D&I research, studies are situated within a particular political and organizational climate. Often, the ability to achieve study aims through investigator control of variables is not possible. Legislation related to EBTs, changes in funding streams or regulatory requirements, and federal and state budget problems can influence outcomes measured quantitatively. Quantitative results could indicate that a tested strategy-improving supervision of EBT within an agency, for example—was ineffective. With qualitative methods, it can be possible to identify reasons for implementation failure, or success, that may not have been expected (Aarons, Fettes, Sommerfeld, & Palinkas, 2012). Continuing this example, using qualitative methods, the investigator might explore reasons for limited adoption of EBT-specific supervision and identify that due to state budget problems, 25% of the supervisors were laid off, putting more pressure on those remaining to attend only to basic clinical oversight (e.g., crisis management, administrative tasks). Or, during the study period, one agency with poorer results than other agencies launched an electronic medical record system, which forestalled follow through with the research initiative. In these examples, qualitative research not only may explicate the quantitative findings but also could lead to a subsequent study investigating the very factors (e.g., impact of budget climate, staffing) that impeded the success of a studied strategy (e.g., EBT supervision), which can now be defined a priori, and measured quantitatively.

Qualitative research methods are also used when the richness of multiple perspectives is sought. Although quantitative studies can include reports from a variety of stakeholders, they rarely do so and when they do, the format of the data collected conforms to the a priori ideas of the investigator. With qualitative methods, input from multiple stakeholder groups often involves open-ended questions that permit a variety of views and meanings to be discussed.

For these reasons, the NIH, a primary source of treatment and services research funding in the United States, has strongly encouraged the use qualitative and mixed methods approaches. In 2010, NIH through the Office of Behavioral and Social Sciences Research identified a leadership team and charged them to develop a set of guidelines for conducting and evaluating mixed methods research (Creswell et al., 2011). These various factors have led to a moderate explosion of published qualitative and mixed methods studies in mental health journals (Palinkas et al., 2011). For example, from 2000 to 2005, Palinkas et al. (2011) found three qualitative and mixed methods papers published in mental health services journals. From 2005 to 2009, the number of published papers was 47.

### ARTICLES IN THE SPECIAL ISSUE

That brings us to this special issue of qualitative and mixed methods studies. We have six articles from a variety of investigators all focused on D&I science in the context of children's mental health services. The articles represent a variety of methods and were selected to provide readers with an introduction to the sort of high-quality qualitative and mixed methods research being conducted. We hope that this set of articles will generate ideas for how qualitative methods can enhance research methodology, rigor, and data interpretation for other investigators in D&I and child clinical research. Next, we describe each article in turn.

In the opening article, Palinkas focuses on providing readers with an authoritative primer on qualitative and mixed methods studies. He offers guidance for readers related to design, data collection, and data analysis in qualitative and mixed methods research. He also provides a key description of how rigor is evaluated in qualitative research. Using the other five articles in the issue, along with many other studies, he provides a variety of examples that typify the diversity of qualitative and mixed methods research.

In the second article, Rodríguez et al. describe a project using qualitative data collection and processing methods in which the data are transformed and analyzed quantitatively, presenting a third type of mixed methods research (e.g., qualitative data that are quantified). Specifically, the authors present data from a partnership research effort designed to adapt EBTs for use in a public mental health setting for children and adolescents. Using both focus group and interview methods, they engaged in an intensive theme coding process grounded in an ecological model of mental health services (e.g., Proctor et al., 2009; Schoenwald & Hoagwood, 2001; Southam-Gerow, Ringeisen, & Sherrill, 2006). Their results highlight how stakeholders at different levels—parents, clinicians, and administrators—are aware of the barriers to optimal services posed at all levels of the ecology. Of interest, though, stakeholders were focused primarily on the barriers most immediately relevant to their specific stakeholder group.

The third article, Dorsey et al., is an example of a sequential study, in which a small qualitative study preceded a larger quantitative study, with the goal of guiding tailoring of an intervention to enhance relevance and fit for a particular population. In their study, Dorsey et al., piloted a predominantly perceptualfocused evidence-based engagement intervention (i.e., McKay, Stoewe, McCadam, & Gonzales, 1998), previously untested with a foster care population, prior to undertaking a randomized controlled trial of the engagement intervention plus Trauma-focused Cognitive Behavioral Therapy (TF-CBT) compared to TF-CBT, standardly delivered. In the Phase 1 qualitative study, the authors used thematic coding of foster parent interviews, conducted shortly after receipt of the engagement intervention. The authors also conducted a modified member-check procedure with a board of different foster parents, to more broadly assess generalizability of findings. This foster parent board, and separately, a board of child welfare caseworkers, as key stakeholders in the child welfare system, also reviewed findings and the engagement materials and provided feedback on material revision. Not surprisingly, a number of the engagement elements were relevant for a foster care specific population (e.g., need to address past negative experiences with mental health), but unique aspects also emerged.

The fourth article, Lyon et al., evaluates the appropriateness (i.e., "perceived fit, relevance, or compatability";

Proctor et al., 2011, p. 69) of an EBT for a specific care setting. Appropriateness is a frequently cited barrier to the implementation of EBP in community settings, in that EBT typically are not developed with the end user and setting in mind. The authors examine school-based counselor perspectives on the delivering a modular psychotherapy (i.e., Managing and Adapting Practice; Chorpita & Daleiden, in press) within school-based mental health centers. Given early stage research on both studying and operationalizing appropriateness, as well as early research on modular psychotherapy, using qualitative methods allowed the authors to investigate a much wider range of perspectives on appropriateness that might influence adoption or sustainability of the practice. Demonstrating the variety of analysis methods available to qualitative researchers, the authors used a combination of conventional and directed content analysis, pairing the method (i.e., conventional or directed) that was the best fit with the question of focus. For service context, conventional coding was used, to openly capture the broadest description of the service setting. For Managing and Adapting Practice relevance within the setting, the authors used directed coding, as they were guided by existing theory about relevance (i.e., Aarons et al., 2011). Here, the authors were specifically looking for perspectives on value and practical aspects of appropriateness at the organizational, managerial, provider, and consumer level.

The fifth article, Murray et al. (this issue), also examines appropriateness, and acceptability, of an intervention within a unique context. The authors piloted TF-CBT in a low-income country, Zambia, using a task shifting/sharing model, in which mental health treatment is delivered by non-mental-health professionals (Patel et al., 2010), given the shortage of professionals in low- and middle-income countries. Given both cultural differences between the setting in which the treatment was developed (i.e., United States) and differences in provider type (i.e., professionals vs. lay counselors), the authors use qualitative methods to examine both provider and recipient perspectives on TF-CBT in Zambia. Recipients and providers were asked about similar content areas, to facilitate ability to examine common themes across the two groups. Unique to this article, the authors involve and train local collaborators (e.g., providers themselves) in data collection and analysis. Local TF-CBT providers collected qualitative data from TF-CBT recipients (in one of three tribal languages), and local, Zambian students assisted with coding and analysis both within, and across, respondent types (recipients, providers). All recipient data were coded in the original language (Nyanga, Bemba, Tonga) to preserve the richness of themes and then translated postanalysis completion. To facilitate collaborative coding, "lower tech," but equally valid, coding methods of domain analysis, developed by the larger investigative team were used (see Bolton, 2001), demonstrating the ability to identify themes and achieve convergence across raters using a variety of methodologies (NVivo, Atlis.ti, Excel, highlighters/colored pens).

The sixth and final article, Aarons et al. (this issue) capture perspectives on the scale-up of an EBT across an entire service system, at various implementation stages. The study was guided by a framework of implementation, Exploration, Preparation, Implementation, and Sustainment (Aarons et al., 2011). The authors explore the complex nature of "collaboration," a factor repeatedly stressed as essential to any D&I effort and at the same time underdefined and somewhat "black box" in nature. In their study, which employs the Interagency Collaborative Team model to scale up SafeCare (e.g., Chaffin, Hecht, Bard, Silovsky, & Beasley, 2012), Aarons et al. (this issue) use both focus groups and individual interviews with the full range of involved constituents in the service system (e.g., executives from foundations and child welfare, home coaching providers, supervisors). The goal of focus groups and interviews was to identify areas of challenges, tensions, and strategies to resolve tensions, as well as aspects of collaboration that might undermine implementation efforts. The overall approach (i.e., focus group vs. individual interview) and questions were tailored to each constituent group. The authors used a staged approach, starting with opencoding and then moving to focused coding to determine frequency of emergent themes while still allowing for coding of unique aspects of collaboration that emerged. The authors then used constant comparison to develop a coding system for major themes related to interagency collaboration and processes and outcomes.

### CONCLUSIONS

Although the focus of the special issue on treatments for children's mental health problems will be familiar to readers of the journal, the methods used in the various articles may be less familiar. Indeed, a primary goal of the special issue was to introduce the readership to the relevance of qualitative and mixed methods approaches for the science that we conduct. The various articles demonstrated the diversity of methods and applications of qualitative and mixed method research. However, all of the articles shared in common the exhibition of how such research can be used to meet some of the important goals we share. Data from these studies can be clearly connected to next steps in the iterative process of tailoring interventions to contexts, or the data can inform initial steps needed to prepare or facilitate dissemination and implementation efforts in new

contexts. In addition, the articles also demonstrated that dissemination and implementation science often focuses on a broad, ecological model emphasizing the importance of variables from child/family to therapist to agency to system (e.g., Aarons et al., 2011; Proctor et al., 2009; Southam-Gerow et al., 2012).

Beyond introducing the readership to these methods, our hope was to inspire some to explore using these methods as complements to their current approaches. As interest in qualitative methods for D&I grows, there is a greater need for researchers to receive training in these methods. Although some doctoral programs offer training in qualitative methods, many do not. Given the recent emphasis of these methods by NIH, the recent report by Creswell et al. (2011) provides an excellent set of suggestions for researchers to incorporate these methods into their studies. In summary, qualitative methods and mixed methods have a place at the table, providing rich data, offering opportunities to achieve considerable breadth, thereby extending, informing, and enhancing quantitative approaches.

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