



The National Endowment for the Arts Guide to Community-Engaged Research in the Arts and Health

In partnership with the NEA's Interagency Task Force on the Arts & Human Development

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December 2016

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National Endowment for the Arts
400 7th Street, SW
Washington, DC 20506
202-682-5400
arts.gov

Published by the NEA Office of Research & Analysis
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Both the authors and the NEA's Office of Research & Analysis would like to acknowledge help from the following researchers and arts professionals: Kathryn Azevedo-Mendoza, PhD (VA Palo Alto Health Care System); Marie Bernard, MD (National Institute on Aging); Debra Burns, PhD, MT-BC (Indiana University - Purdue University Indianapolis); Sandra E. Crewe, PhD (Howard University); Lisa Gilotty, PhD (National Institute of Mental Health); Maria Jukic, JD (Cleveland Clinic); Girija Kaimal, EdD, MA (Drexel University); Amy Kitchener, MA (Alliance for California Traditional Arts); Joe Lambert (StoryCenter); Maura O'Malley (Lifetime Arts); Lisa Onken, PhD (National Institute on Aging); Tom Prohaska, PhD (George Mason University); Andrea Romero, PhD (University of Arizona); Rupal Sanghvi, MPH (HealthxDesign); and Marete Wester, MS (Americans for the Arts).

Library of Congress Cataloging-in-Publication Data

Names: Chapline, Jeffrey, author. | Johnson, Julene Kay, 1965- author. |
National Endowment for the Arts. Office of Research & Analysis, publisher.
Title: The National Endowment for the Arts guide to community-engaged
research in the arts and health / prepared by Jeffrey Chapline and Julene
K. Johnson.

Description: Washington, DC : NEA Office of Research & Analysis, 2016. |
Includes bibliographical references.

Identifiers: LCCN 2016052762

Subjects: LCSH: Art and society--Research--United States. | Art and
society--United States--Methodology. | Health in art--Research--United
States. | Art therapy--Research--United States. | Artists and
community--United States.

Classification: LCC N72.S6 C345 2016 | DDC 700.1/08--dc23 | SUDOC NF 2.8:C
73/2

LC record available at <https://lccn.loc.gov/2016052762>



202-682-5496 Voice/TTY
(a device for individuals who are deaf or hearing-impaired)



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PREFACE

This guide, co-authored by Julene Johnson (University of California, San Francisco) and Jeffrey Chapline (New Art Horizons), entails many different kinds of collaboration. First, there is the fortuitous partnership of the authors themselves—one, a cognitive neuroscientist and National Institutes of Health-funded researcher examining the effects of community choir programs on health and well-being; the other, an artist, an arts consultant, and the innovator of cross-generational arts programs serving the Bay Area.

Second, the guide itself is a blueprint for collaboration, among academic researchers and arts-in-health practitioners, and among both these groups and the larger communities they serve (hence the lynchpin phrase *community-engaged research*, in the title of this guide).

Third, there is the deeply collaborative impulse behind the guide. At multiple meetings of the National Endowment for the Arts' Interagency Task Force on the Arts and Human Development—a coalition representing 19 federal entities—members expressed and examined the value of such a document. This guide is intended to help arts organizations and biomedical or behavioral researchers in forming strategic alliances, in reconciling different vocabularies, in identifying study goals and methods, and in bringing community members along as equal partners.

Professionally-trained researchers can help arts organizations and artists to understand the efficacy and effectiveness of their programs; to validate, improve, and replicate these programs as health interventions; and to obtain broader support from funders, policy-makers, and the community members who are most likely to benefit.

Arts professionals, meanwhile, bring specialized skills, talents, and methods that are critical to program delivery; but they also can identify questions, issues, and concerns of importance to their artists and audiences. They can help participating study-subjects to explore social or

emotional factors linked to their health condition or to the resulting intervention, and they can help to ensure smooth communications between the researchers and study subjects.

Apropos of communications: this guide is intended equally to serve arts professionals and biomedical or behavioral researchers. Here, the term “arts professional” is broadly defined to include *practicing community visual and performing artists, arts administrators, designers, and arts therapists, plus their associated organizations and community collaborators*. Credentialed arts therapies include music therapy, dance therapy, drama therapy, art therapy, and others. Although “creative” or “expressive” arts therapy is gaining ground as a descriptor, this guide uses the term “arts therapy.” With the term “arts” (as in “arts professionals” or “arts programs or interventions”), we refer broadly to the *visual, performing, and literary arts*, as well as to individual forms of visual art, music, theater, dance, folk arts, design, poetry, creative writing, and other artistic creations through traditional and non-traditional media.

Arts professionals—including arts therapists—work in a variety of settings, whether museums, performing art venues, schools, civic centers, prisons, hospitals, or clinics. Likewise, the biomedical and behavioral researchers most likely to benefit from this guide may come from different backgrounds. Such researchers commonly work in academic centers, in government agencies or nonprofit organizations, or in private research firms.

Arts professionals *and* researchers who have an interest in studying the effects of the arts on health, in filling other gaps in knowledge, or in extending research to new programmatic or therapeutic areas, are encouraged to use this document. It gives practical tips on how to engage in research collaborations and how to design and implement meaningful arts-and-health research studies.



In fulfilling this need, the guide takes its place alongside other NEA research products that have stemmed from the work of the Interagency Task Force on the Arts and Human Development. These products include:

- *The Arts and Early Childhood: Social and Emotional Benefits of Arts Participation*: a literature review and gap-analysis (2000-2015): <https://www.arts.gov/publications/arts-early-childhood-social-and-emotional-benefits-arts-participation>
- *The Arts and Aging: Building the Science*: a summary of a National Academies research workshop, cosponsored by the NEA and the National Institutes of Health (National Institute on Aging, the National Center for Complementary and Integrative Health, and the Office of Behavioral and Social Sciences Research): <https://www.arts.gov/publications/arts-and-aging-building-science>
- *The Arts and Human Development: Framing a National Research Agenda for the Arts, Lifelong Learning, and Individual Well-Being*: <https://www.arts.gov/publications/arts-and-human-development-framing-national-research-agenda-forthe-arts-lifelong>
- Archives of a public webinar series showcasing research and practice in the arts and human development: <https://www.arts.gov/partnerships/task-force/videos>

For examples of NEA-funded research projects at the intersection of the arts and health, consult the NEA's online grants-search tool at <https://apps.nea.gov/grantsearch/>.

Office of Research & Analysis
National Endowment for the Arts
December 2016

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CHAPTER 1

INTRODUCTION

HISTORICAL CONTEXT OF RESEARCH INTO THE ARTS AND HEALTH

Therapeutic uses of the arts have been documented since antiquity (West, 2000). For centuries, artists, philosophers, physicians, and others have proposed specific benefits of the arts for health and well-being. For instance, early examples about the therapeutic value of music date back at least to the 18th century, when references to music appeared in medical texts and references to medicine in music treatises (Leon-Sanz, 2014).

An interest in using the arts to influence health developed substantially in the 20th century when arts professionals formalized distinct arts therapies by founding professional organizations and creating educational training programs. As discussed [in the preface to this guide](#), arts therapies are delivered by trained and credentialed professionals. Among these interventions are music therapy, visual art therapy, dance/movement therapy, drama therapy, and several other genre-based forms of creative arts therapy. (See National Coalition of Creative Arts Therapies Associations, <http://www.nccata.org/>.)

Although each arts-therapy profession has specific definitions and pursuits, the practice collectively focuses on using the arts in a therapeutic relationship to achieve specific therapeutic goals. As a part of their training, most arts therapists complete professional practice requirements and obtain certification. Most arts therapy organizations also support academic journals that publish research findings, although research studies about the arts and health are also published in academic journals not restricted to an arts focus. Arts-in-medicine and arts-in-healing programs contribute further to the arts' delivery in healthcare settings.

Application of the arts to promote health and well-being has also arisen in other contexts. Over the last several decades, national, state, and local arts initiatives in the U.S. have increasingly located their work within broader community solutions and services. Some examples include arts programs in correctional institutions, in after-school programs for at-risk youth, and in community programs for older adults or military veterans. The concept of “creative placemaking,” which integrates arts, design, and culture into community planning, is often represented as an effort to address the social determinants of health.

DEFINING THE RESEARCH CONTINUUM

Good science uses rigorous methods to examine research questions. In studying the arts' benefits for health, many different approaches can be used (see [Chapter 2](#)), just as different types of partnership can help to advance unique research goals. This section discusses scientific research about the arts and health in the context of studies that aim to improve the efficacy or effectiveness of an arts-based health program or intervention.

What is research?

By investigating a phenomenon, and by experimenting with it, research aims for new and generalizable knowledge. Most health researchers use the scientific method to conduct research. The scientific method is a systematic process of making observations, formulating hypotheses, and conducting scientific experiments. When direct experimentation is not possible, scientists modify the scientific method. But even when modified, the goal remains the same: to discover cause-and-effect relationships by asking questions and carefully gathering and

examining evidence. Scientific research typically follows a series of steps, discussed further in [Chapters 2](#) and [5](#). Arts-based health research applies the scientific method to obtain a better understanding of the arts' effects on the health and well-being of individuals and communities.

There has emerged, in recent years, a growing number of well-designed studies that reveal important insights about the arts' relationship to positive health outcomes. These studies range from basic and exploratory research, which contributes to our core understanding about the relationship between the arts and health, to applied research studies that examine the effectiveness of specific arts practices for improving health and/or well-being. Basic research, while not explicitly about health benefits associated with specific arts practices, has contributed to greater understanding about the neurocognitive, psychosocial, and physiological processes underlying creative arts activities. Research studies examining the effectiveness of arts practices for improving specific health outcomes, such as studies concerning the effects of a community dance program on health and well-being, often build upon knowledge gained through basic research. The latter type of research is the focus of this guide.

A word about evaluation

Because evaluation methods are commonly used to document arts programs in a community, it is useful to consider how scientific research—as discussed in this guide—is both similar to and different from program evaluation. There is, admittedly, overlap. Scientific research and program evaluation both collect, analyze, and interpret data. Further, program evaluations may employ experimental or quasi-experimental research designs similar to the rigorous designs found in scientific research.

Still, research and evaluation differ in at least two ways. First, let's look at their respective goals. As discussed above, the goals of scientific research are to discover new knowledge and facts and to improve our understanding of a phenomenon so that it can be generalized to a larger population.

In general, the goals of evaluation are to gather information to make decisions, such as to select alternatives (e.g., to continue a program or not), make modifications to a program, or to assess the merit or worth of an existing program in real-world settings. The results of program evaluations apply to the specific program being examined and are not typically generalized to larger populations. Results obtained from research studies are often published in peer-reviewed journals, whereas results from evaluations might be published as peer-reviewed or non-peer-reviewed reports, the latter of which might be shared only with immediate stakeholders.

For the purpose of this guide, we focus our discussion primarily on scientific research methods as they apply to arts-and-health research. Other resources exist for researchers or practitioners interested in program evaluations of arts programs. Links to evaluation resources that might be relevant to arts-in-health projects are given below.

<http://creativeandcredible.co.uk/>

<https://www.arts.gov/grants-organizations/art-works/program-evaluation-resources>

<https://www.cdc.gov/eval/guide/>

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CHAPTER 2

RESEARCH INTO THE ARTS AND HEALTH

Research into the arts and health typically follows the tradition of other empirical research, whereby the scientific method is used to help explain, predict, and understand phenomena.

In the context of arts-and-health research, a variety of research methods can be used to gain knowledge about the arts' effects on health and well-being. In this guide, we focus on the most common methodological approaches relevant to arts-and-health research.

As discussed below in more depth, community-engaged research can be a particularly good model for arts-and-health research. This is because arts programs commonly take place in community settings (e.g., schools, rec centers, healthcare settings), and community-based approaches involve local stakeholders, by design, in the entire research process. In addition, chances are that any arts program in the community has been developed and adapted especially for people in that local cultural milieu. Although there remain many other models for conducting studies of the arts and health, this guide will focus on community-engaged research.

COMMUNITY-ENGAGED RESEARCH IN THE ARTS AND HEALTH

What is community-engaged research?

The role of community in research has evolved over the past several decades. Communities are increasingly becoming integral to the research process, and community-engaged research is often viewed as critical to improving the health of individuals on the population level (Michener, 2012). For the past 30 years, several professional fields (e.g., medicine, nursing,

sociology, psychology, public health) have adopted community-engaged approaches for conducting research studies.

The Community of Voices study involves a partnership between the San Francisco Department of Aging and Adult Services, the San Francisco Community Music Center, and the University of California, San Francisco. The study recruitment, assessments, and delivery of the Community of Voices choir intervention are occurring in 12 community senior centers. (Johnson et al., 2015)

Community-engaged research is an approach or framework for conducting research; it is not a research method. Just as the term implies, community-engaged research brings community stakeholders, including arts professionals, into the research process alongside actual researchers.

Community-engaged research involves a partnership between researchers and community stakeholders to design and execute research studies. In the context of arts-and-health research, community members, arts professionals, and researchers can bring their distinctive experiences and expertise to the shared goal of making discoveries important to researchers and community members alike. As discussed below, this thoroughly interprofessional approach can prove advantageous for research in the arts and health, if only because such investigations often require complex problem-solving from multiple perspectives.

How is community-engaged research different from traditional research?

Community-engaged research differs from traditional approaches to research during all steps of the research process. Traditional research is almost exclusively driven by researchers who work in academic settings. In traditional research, the researcher identifies the problem, plans the study, obtains funding, and conducts the research. The researcher also analyzes the results and publishes the findings, primarily for academic audiences. Thus, there is little interaction between researchers and community stakeholders, and the community is not actively involved in the research process. More traditional approaches to research often have been criticized for lacking relevance to the community and for enabling a lengthy timeframe for any research findings to be translated into recommended practices for the community in question.

Community-engaged research, by contrast, involves a partnership between the researchers and community members, thus ensuring that the research questions hold relevance for community members and that any resulting knowledge is shared quickly and comprehensively.

Why is community-engaged research a good model for arts-and-health research?

Community-engaged research is a particularly apt model for arts-and-health research because it acknowledges and builds upon the unique skills, expertise, and experiences of both arts professionals and researchers.

For arts professionals, community-engaged research can:

- facilitate arts-and-health research relevant to a community and address community priorities
- acknowledge the different perspectives that arts professionals bring to the research process

- include populations that are understudied or that are not typically represented in research
- encourage the design of more culturally relevant arts programs and interventions
- increase the likelihood that the arts program will be sustained

These advantages are accompanied by potential challenges. For example, it takes time to establish and maintain successful interprofessional relationships. Because the perspectives, terminologies, and goals can be so different, effective communications across disciplines can prove difficult. It is also possible that some research studies are not practical to design, given irreconcilable differences in goals. Quite often, however, the potential benefits of having community-grounded science will offset barriers to such partnerships.

RESEARCH METHODS RELEVANT TO THE ARTS AND HEALTH

As discussed earlier, research into the arts and health can take many forms. Appropriate scientific research designs and methods are essential in order to reach valid conclusions to research questions. This section provides an introduction to several types of research methods that are the most relevant to arts-and-health research.

Although the boundaries are not always clear, most research methods can be classified by the approach or strategy used for data-gathering. All research methods have procedures that must be followed as directed in order to gain useful information. Selection of the appropriate research method is almost entirely driven by the nature of the research questions.

For the purposes of this guide, we classify research methods as broadly qualitative or quantitative. Each category presents a range of methodological choices.

Qualitative research

Qualitative research uses an in-depth approach to gather information and develop an understanding about lived experiences or processes. Qualitative research methods were developed in the social and behavioral sciences (e.g., sociology, anthropology, and psychology) in the early 20th century. Qualitative research is particularly useful for gathering data about a new topic or phenomenon in order to form theories that can be tested with quantitative research methods.

Qualitative research emphasizes the importance of gathering information in the setting in which it is found. This type of research can provide real-life accounts of how a person interprets meaning in everyday life. For example, semi-structured interviews can be used to gain insights into how a visual arts program might affect mood in people who are clinically depressed.

Qualitative research is also used to elicit beliefs and attitudes and move beyond initial impressions. If little or no research has been done on the topic, then focus groups can be used to determine the acceptability and feasibility of a Latin folk dance intervention for increasing physical activity in teenagers.

Thus, qualitative research studies often lead to new insights that can help frame research questions or develop or revise conceptual frameworks.

In qualitative studies, information is gathered through a number of methods, including open-ended questions, participant observation, and document analysis in individual or group settings (e.g., semi-structured interviews, focus groups). Participant observation may include field notes, photographs, audio or video recordings, and other representations (e.g., drawings). The researcher attempts to gain information through the process of attentive observation, openness to new perspectives, and “empathic understanding.”

Standardized research instruments such as questionnaires are not typically used in qualitative research; the researcher is the main “instrument” in the study. Still, interview protocols describing the content and flow of question-items are likely to be prepared in advance.

Interviews are typically audio- or video-recorded, and the interview text is often transcribed verbatim so that a comprehensive analysis can be completed. To enable the researcher to carefully listen during the interview, and to recalibrate questions accordingly, this method is preferable to taking notes alone.

Qualitative analysis of the interviews and other data involves several steps. The researcher carefully reviews the transcript and/or notes and identifies categories and themes (codes), as well as quotations that illustrate these themes. The researcher then organizes themes, reflects on the themes, and interprets the material. Software programs (e.g., nVivo and AtlasTi) can be used to help with the analysis. This process of identifying categories and themes can be labor-intensive or not, depending on the purpose of the study.

Knowledge gained from qualitative research studies is often used to frame conceptual models, develop new research questions and hypotheses, and help inform the development of future quantitative studies.

In some cases, both qualitative and quantitative methods can be used in one study (as in mixed-method studies, described below).

Quantitative research

Quantitative research is a broad category of research that involves developing research questions and testing specific hypotheses, which are predictions about relationships between variables. Quantitative research involves the collection of numerical data that help elucidate these relationships.

Data are collected by using instruments (e.g., questionnaires, cognitive tests, performance measures) and research tools (e.g., brain-imaging devices, blood tests, accelerometers). Quantitative studies emphasize the importance of measurement, especially measurement of participant outcomes. Naturally, it is important to ensure that a specific measurement tool used in a research study is valid (measures what the researcher intends) and reliable (measures consistently). In general, it is best to use or adapt existing outcome measures rather than to develop them independently. For example, in a study about whether participating in a group music therapy can help decrease agitation in nursing home residents, it is important to define the meaning of agitation, determine how to measure agitation, and consider what is meant by “decreasing agitation.” It is also important to define the “treatment.”

As discussed in [Chapter 4](#), comprehensive documentation of an arts intervention/program is important for research. It is vital to have knowledge of what is being delivered in order to understand its potential effects on health and well-being and to facilitate its replication in other settings after the study concludes.

Objectivity is also important in quantitative research. Researchers try to avoid situations in which their presence affects the results. Quantitative researchers typically use well-validated and published outcome measures (e.g., surveys, questionnaires) and standardized procedures for collecting data to reduce possible bias and minimize the effects of individual testers. While it is impossible to completely remove these factors, a number of procedures can increase objectivity and reduce bias in research studies. There are a number of ways to minimize possible bias in assessment. One common method is to use an independent research professional who is not engaged in the program or is unaware of who participated and who did not.

There are many quantitative research methods. For the purposes of this guide, the next sections will focus on two quantitative research methods that are most relevant to arts-and-health research: experimental and descriptive/observational research methods. Several other research methods are also discussed.

Experimental research methods.

Experimental research methods aim to establish a causal (cause-effect) relationship. In experimental research, the “cause” would be an arts intervention, while the “effect” would be the observable change on one or more aspects of health (e.g., blood pressure, well-being).

The GEMS study (Girls’ Health Enrichment Multi-site Studies) randomly assigned 8- to 10-year-old girls and their parents/guardians to either a 1) culturally tailored after-school dance program and a screen time reduction intervention or 2) information-based health education. Although there were no differences in the change in body mass index (BMI), significant reductions in lipids, hyperinsulinemia, and depressive symptoms were reported. (Robinson et al., 2010)

In studies using experimental research methods, an independent variable is often manipulated (e.g., amount of time a person might participate in a dance program) in order to observe the effect on one or more other variables, known in this case as dependent variables (e.g., depression).

Experimental methods often use two or more groups: experimental and control groups. The experimental group(s) receives the treatment

of interest, while the control group(s) either participates in a different activity or continues its usual activity. Two commonly used control groups in arts-and-health research include a wait-list control group and a “social-” or “attention-” control group.

The wait-list control is just as it sounds—a group of persons who would like to be in the program and agree to participate in the same assessments as the intervention group. People on the wait-list (to receive, for example, an arts intervention) eventually are able to participate in the program. The social- or attention-control groups are individuals who participate in a non-arts program and experience a similar amount of social interaction or attention as those in the intervention group. Thus, a social- or attention-control group (theoretically) eliminates the effect of social interaction or attention as the cause for improved outcomes.

Ideally, the decision about who participates in which group is made randomly (i.e., through random assignment). Control groups are essential to help establish whether or not the experimental treatment is more effective than usual activities or other programs. In an arts-and-health research context, the researcher may be investigating whether or not an existing arts program has an effect on health and well-being, when compared with changes in outcomes for one or more control groups.

Participants in an experimental study complete assessment tools and other measures that will document whether a change or difference between the experimental and control groups is evident. Quantitative data are almost always analyzed by using statistics.

Randomized controlled trials (RCT) are considered by researchers in health to be a gold-standard research design. This design is most commonly used for clinical trials involving pharmaceuticals and medical devices. However, it is important to remember that there are several types

of RCT designs, and the double-blind RCT (whereby both the researchers and participants are “blinded” to which participant group is receiving the treatment) is ill-suited for arts-based research. Other RCT designs are more feasible for this purpose. For example, a cluster-randomized design involves randomly assigning groups of people (e.g., at a school) to one intervention, while another site receives another intervention or functions as a control group.

A multi-site, randomized controlled trial examined the efficacy of a therapeutic music video (TMV) intervention, compared with audiobook-listening, for increasing resilience in adolescents and young adults undergoing transplantation surgery for cancer. Compared with the control group, the participants in the TMV group reported significantly better coping skills post-intervention and significantly better social integration and family environment 100 days post-transplant. (Robb et al., 2014)

Quasi-experimental methods. As the term implies, quasi-experimental methods are partly experimental in nature. Quasi-experimental research methods share some similarities with experimental designs, but they lack random assignment to treatment or control groups. Quasi-experimental designs may be more feasible in community settings where random assignment is challenging or impossible. Quasi-experimental methods are commonly used in educational settings where classrooms with students are pre-existing groups.

In a study conducted in a senior independent living setting, a quasi-experimental design was used to examine the effect of a tango program on mobility, motor-cognitive function, gait, depression, and quality of life. Participants were assigned to either tango or education classes, according to their residential site. After 20 sessions, the participants in the tango group had significantly improved mobility and gait, while the participants in the education group had reduced depressive symptoms. (Hackney et al., 2015)

Other types of research methods

Other types of research methods that do not fall easily into the preceding categories can also be used when examining the arts' effects on health and well-being.

Mixed Methods. Mixed methods is an approach to research that combines both qualitative and quantitative methods. It includes collection of both quantitative (e.g., questionnaires) and qualitative data (e.g., focus groups). This research approach is well-suited to answer complex questions, such as those involving the arts, and also when the mechanisms of action are not well-understood.

A mixed-methods approach might be used to gain insights into the benefits of a six-week piano instruction program for older adults. Quantitative data about cognitive function and well-being could be collected at baseline and after three and six weeks; a focus group could be conducted at the conclusion of the program to learn about the perceived

benefits and challenges from the point of view of participants. Both the quantitative and qualitative data would be synthesized to better understand the benefits of the piano instruction program.

While mixed methods might seem like the best of both worlds, there are tradeoffs in terms of cost and time needed to complete the research. It is sometimes difficult to integrate both qualitative and quantitative data, as they derive from different approaches. Another important characteristic of mixed-method approaches is that one can use qualitative data to tailor the program to the targeted group. Similarly, one can run qualitative analyses after the program occurs, as a way to clarify important issues such as program attrition and/or differences in program effects across groups of participants.

Observational/Descriptive Methods. As the term implies, observational or descriptive research methods use tools to describe the characteristics of an individual or a group. This method does not determine causality. Descriptive data are typically collected through questionnaires, surveys, or direct observation of behavior. There are several types of approaches to descriptive research, including:

- cross-sectional (one group with one time point)
- cohort (one group with multiple time points)
- correlational (association between one or more variables)
- case study or case series

Descriptive research methods are useful for collecting information on large groups of people or for comparing two or more groups. Descriptive data can help answer the question: How do young adults participating in an acting class rate their self-esteem and mood, compared with young adults participating in a writing class?

Descriptive research appears simple on the surface; however, a number of issues must be considered in order to maintain rigor and validity. For example, questionnaires are often difficult to design; the way in which questions are framed or presented can have a large effect on how participants interpret and respond to questions. In addition, people collecting data through observation may require training so that the data are collected in an objective and reliable manner.

Fundamentally, research methods should be dictated by research questions. Some research questions are best answered by mixed methods, while other questions may be best answered either through qualitative or quantitative methods alone.

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A music therapist works bedside with a patient in the Cleveland Clinic's Arts and Medicine Institute. Photo courtesy of the Cleveland Clinic

CHAPTER 3

PARTNERSHIPS BETWEEN RESEARCHERS AND ARTS PROFESSIONALS

STARTING OUT: VESTED INTERESTS AND COMMUNITY ASSETS

As discussed in the previous chapter, researchers work with data in the hope of discovering facts to address particular problems or questions and to gain new knowledge that can be applied in a range of settings and for various types of people. Arts therapists work in a similar fashion, but with a particular focus on the therapeutic benefits of the arts for their clients, and supported by evidence and clinical observation. Working in their chosen media, artists generally are concerned with achieving or evoking a unique creative outcome or with working toward social impact. As is the case with researchers and arts therapists, artistic processes involve complex problem-solving, studious experimentation, and careful processing of media to achieve desired results.

To be sure, artists, arts therapists, and researchers view situations through different lenses while using different tools for their work. Still, because all three are inevitably caught up in the experience of exploration, discovery and effect, they are far more alike than different. All three are aligned in their keen interest in exploring and understanding the basic phenomena associated with arts participation, and more generally the arts' impact on the world. Additionally, because the arts and the sciences are two domains of knowledge that are widely believed to elucidate what makes us human, arts professionals and researchers, in addressing their distinctive audiences, often share a common objective: a desire to identify and maximize the beneficial effects of the arts.

Throughout the continued growth of community-based arts programming in recent decades,

many arts leaders and health professionals have observed and documented positive, health-related effects associated with arts programs for individuals and their communities. In hospitals, medical centers, and clinics, arts therapists continue a long-standing tradition of assessing the role of the arts in health. Through research, many arts providers seek a better understanding of how the arts fill innate human needs. This quest for new knowledge extends to such study topics as the effects of arts and design in clinical care environments and the effects of the arts not only on patients, but also on caregivers, visitors, and hospital staff.

The Cleveland Clinic's Arts & Medicine Institute has an art and music therapy component led by credentialed art and music therapists; a performing arts component lead by professional musicians-in-residence; and an extensive visual arts collection used for on-site exhibitions featuring prominent artists. The Institute "was created for the purpose of integrating the visual arts, music, performing arts and research to promote healing and to enhance the lives of our patients, families, visitors and employees." http://my.clevelandclinic.org/services/arts_medicine

Increasingly, public health professionals, researchers, and arts leaders have clamored to know more about the extent of the arts' impact on health, and about the underlying mechanisms for those impacts. Additional research and evidence-building in this space will lead to a more robust understanding of artistic and creative processes in general, and it also will strengthen public discourse about the relationships between arts engagement (of various types) and positive health outcomes. Beyond understanding these relationships in detail, further research into the arts and health can offer opportunities for considering other approaches to measuring the effects of the arts, including analyses of cost-effectiveness.

The centrality of partnerships to a community-engaged research approach

For this unique category of research—wherein community members are actively engaged in partnering with researchers to design and implement studies—the link between researchers and arts professionals is essential. For arts leaders, implementing arts programming in a community setting takes enormous foresight, skill, and planning. For researchers, designing and executing a community-engaged research study is equally challenging, with a focus on precise measurement and the need for fidelity of the arts intervention being studied, and in accordance with a rigorous research design and methods. Pooling efforts in a collaborative approach can help improve the quality and relevance of the research.

The need to increase research capacity and make important gains in our understanding of arts' impacts on health requires that arts professionals have a basic understanding of the research profession, including its methods, tools, and language. Making research more accessible to the arts community by working toward a common language and by clarifying the mutual goals of this type of partnership is a main focus of the present guide.

BENEFITS OF PARTNERING WITH ARTS PROFESSIONALS: FOR RESEARCHERS

For an academic researcher in an area of biomedical or behavioral science, there can be many reasons for seeking out an arts professional as a research partner if the goal is to study the health effects of an arts program or arts therapy within a community or subpopulation. Researchers and artists have only begun to identify the impact of the arts in terms of health. Both groups should collaborate in exploring new and unidentified benefits of participating in the arts.

Knowledge of art in practice

Arts professionals are experts in the practice of their art forms; researchers are experts in the practice of research. Such statements may seem obvious, but it is important to stress that researchers and arts professionals have different, but complementary, types of knowledge, skills, and experiences. And yet, as suggested above, there are some basic similarities.

“Artists and scientists tend to approach problems with a similar open-mindedness and inquisitiveness—they both do not fear the unknown, preferring leaps to incremental steps. They make natural partners.” (Maeda, 2013)

Depending on the settings in which they practice, arts professionals may have a wealth of experience in engaging individuals in the arts to improve health conditions (e.g., an arts therapist who works with premature infants to attain a specific health outcome, or a choir director who leads a choir for older adults without a specific intent to improve health). Although the results

might not be supported by research evidence, such professionals often witness first-hand the effects of their artistic practice on individuals, on groups, and on whole communities. Because they are experts in their fields, arts professionals likely will have insights into what types of arts programs or interventions work best in which settings and for whom. This knowledge can be invaluable in helping to shape research questions, to design research studies, to communicate with the population being studied, and to interpret research results.

Access to different perspectives

A difficult research question often demands input from multiple perspectives. In general, greater collaboration and more interdisciplinary approaches are increasingly required in studying community health interventions. There are fundamental issues yet to be fully explored, such as the “dosage” of the intervention (e.g., the frequency and duration of the arts activity), the maintenance of the effect, and the underlying mechanisms of action. Because arts-and-health studies are inherently challenging to plan and execute, arts professionals can help to strengthen a research team’s problem-solving capacity, with ultimate benefits for the study design. Another benefit of partnering with arts professionals can be to expand the scope of research in terms of the diversity of people involved or the breadth of topics being studied. Diverse partnerships can help to promote co-learning during a research project and will guard against a “silo-ing” of disciplines.

Understanding of communities

Arts professionals may also have practical knowledge of the communities or settings in which they work. Community-based researchers now understand the bi-directional partnership involved in research: research informs practice and practice informs research. For the researcher, this background information can facilitate the development of research questions relevant to both the arts professionals and the greater community. Similarly, arts professionals can help researchers identify and gain access to research

participants. Finally, a solid grasp of general and unique characteristics of a community or setting can help the research team to improve the translation and dissemination of findings after the study is completed.

BENEFITS OF PARTNERING WITH RESEARCHERS: FOR ARTS PROFESSIONALS

For arts program managers and sponsors who want to understand more precisely how their programs positively affect individuals, working with researchers to measure potential health outcomes has several advantages.

Knowledge of health conditions

Researchers already involved in research about health can be a good resource for identifying which health issues and conditions need attention and how the arts might be applied to help solve those problems. Researchers also are skilled in conducting literature searches to determine what already has been done and in pinpointing knowledge gaps. Researchers may also be helpful in identifying which components of an arts program are the most essential to study and which indeed may be the most plausible to study.

Experts in measurement

Most researchers have extensive training in how to develop research questions, design research studies, and select appropriate outcomes to measure the phenomenon of interest. They also know how to apply the scientific method in ways that support unbiased design and interpretation of the results. The researchers will likely be knowledgeable about how to reduce bias and assure research validity. Also, researchers often have access to the infrastructure needed to submit grant applications and to conduct the research (e.g., reviewing confidentiality issues in research and ensuring protections for human subjects).

Basis of evidence

Because good research builds on prior research results, concepts, and peer review, the importance of using a sound scientific foundation to help propel discovery in the arts and health sector is critical. Partnering with researchers can help ensure development of studies that maintain high rigor and have the potential for reproducibility. Research results then become foundational for future research. They also may lead arts professionals to new sources of funding.

The Alliance for California Traditional Arts (ACTA) commissioned studies by researchers at University of California, Davis's (UC Davis) Center for Reducing Health Disparities to formally evaluate health effects and other outcomes experienced by participants in two of its signature programs. According to ACTA Executive Director Amy Kitchener, after three years of collaboration and assessment with UC Davis, the results of the study (Weaving Traditional Arts Into the Fabric of Community Health) helped to inspire a commission from The California Endowment's Building Healthy Communities initiative to develop new programs in four sites throughout California. <http://www.actaonline.org/sites/default/files/images/docs/briefing.pdf>

CREATING PARTNERSHIPS

There are many ways to locate arts professionals and researchers with a twofold interest in the arts and health. More challenging is to find a good research partner—a key concern in forming any strategic alliance.

Finding researcher-partners

There are many advantages to finding researchers in the proximity of your arts-and-health research project location. Local colleges and universities often have research divisions or individual researchers. Doing an online search via websites associated with your local institutions is a good way to seek partners. Research projects supported by the National Institutes of Health can be found via the NIH Research Portfolio Online Reporting Tools (NIH Report) at <https://projectreporter.nih.gov/reporter.cfm>. This resource can be used to find research projects generally, but also to find research and researchers in your local area.

The advantages of a local partner include having someone with whom you can readily meet, in person, to discuss research and program design options; there also may be an ability to coordinate more closely in the writing of research grants. Having researcher-partners nearby will allow them to conduct joint fieldwork, monitor study fidelity, and perform other duties first-hand. To identify names of potential research partners, arts professionals may want to partner with researchers to conduct literature searches (e.g., PubMed) to find principal investigators associated with studies similar to the type desired. Visit websites such as PubMed and type in keywords to identify publications linked to the query. Further, arts professionals seeking researcher-partners may consult professional organizations, conference agendas, and popular press articles.

Finding arts professional partners

First, think about the setting in which the research study might occur (e.g., community setting, healthcare setting, school). Depending on this context, it might make sense to determine whether or not an arts professional already functions in that setting. For example, if a researcher is interested in examining visual arts programs in an adult daycare setting, it would be helpful to contact local adult daycare programs and ask about any visual arts professionals currently engaged at those facilities. Meeting and observing an arts professional in his or her work environment is also helpful.

Organizations that focus broadly on health and currently employ arts professionals are another source for finding arts professionals who may become research partners. These organizations include hospitals, schools, community centers, senior centers, treatment centers, and assisted-living settings. Organizations can put researchers in contact with arts professionals already working in these settings.

Another approach is to contact arts professionals who work in academia (e.g., arts therapists). These individuals often have active research programs. Separately, a number of arts-therapies training programs exist across the country, and it is easy enough to search the Internet for such programs. Researchers may also contact the national-level professional arts therapy organizations, several of which have research committees. Browsing the journals of arts therapy organizations is additionally helpful, and relevant research is often presented at conferences for professional arts therapists. Several journals focus specifically on the arts and health, thus furnishing yet another method for finding arts professionals already involved in research. Finally, identifying organizations or national programs targeting the arts and health (e.g., National Center for Creative Aging, Americans for the Arts, and International Society for Music in Medicine) is yet another opportunity for finding arts partners.

Locating a potential arts-professional partner is only the first step in developing an effective and meaningful research alliance. Other desirable attributes in an arts-professional partner include: 1) a clear interest in the research process, 2) a curiosity about how and why the specific arts program might work, 3) a willingness to engage in interprofessional cross-training, 4) partnership compatibility and, 5) capacity or ability to dedicate appropriate human and financial resources to the effort.

Additional partnering resources and tools

There are many other types of organizations that can be helpful for finding arts professionals and researchers who may be interested in working together. Some examples include: local and state arts agencies, local community arts organizations, local and state arts and health alliances, as well as local, state, and national arts advocacy organizations. Arts for Health Florida (<http://www.artsforhealthflorida.org/>), the Alliance for Arts and Health New Jersey (<http://www.artpridenj.com/aahnj/>), and the cross-sector efforts in arts and health by Cleveland's Community Partnership for Arts and Culture (<http://cultureforward.org/Reference-Desk/Research-Library/Health-and-Human-Services/Creative-Minds-in-Medicine>) are some examples.

As with any professional relationship, mutual respect and trust are important to achieve; this is especially true of lengthy research endeavors. Even if most of these elements can be accomplished, it is important to create a carefully crafted agreement, or a Memorandum of Understanding (MoU), which can serve as a guide to how the professional relationship will unfold. The MoU also can explain how and which responsibilities will be assigned, and to whom.

Similarly, mutually agreed-upon definitions of key terms may be important to establish at the outset. The National Institute of Environmental Health Science, for example, offers a "Glossary of Commonly Used Terms in Research Ethics." See <http://www.niehs.nih.gov/research/resources/bioethics/glossary/index.cfm#a750753>

POTENTIAL CHALLENGES IN PARTNERSHIPS

Arts-and-health research has existed for decades. This research has involved arts professionals to varying degrees, particularly arts therapists who often both design and execute their own research studies. Nevertheless, much of the current research into the arts and health does not involve active partnerships between researchers and arts professionals.

There are several potential reasons why partnerships between researchers and arts professionals are not yet common. Although philanthropic institutions often voice interest in supporting trans-disciplinary research and in building partnerships across sectors, funds are often insufficient where arts-and-health research is concerned; moreover, such partnerships often take time. Another obstacle is that the funding streams for arts and for research are often separate, and researchers and arts professionals tend to work in different settings. Historically, there have been few opportunities—few well-funded opportunities—for supporting relationships between arts professionals and researchers.

Further, the goals of researchers and arts professionals may differ in essential ways. For example, an arts professional may be passionate about creating art and sharing related experiences with others (serving clients). By contrast, a researcher may be passionate about understanding how and why the arts affect health (acquiring new knowledge). Arts professionals and researchers often use different vocabularies, which can create challenges for identifying and articulating mutual goals.

Some researchers have training in the arts and research alike. For example, many arts therapists complete academic training in the practice of arts therapy and in research design as part of their degree program. For that matter, a number of academic arts therapists have active research programs.

It can be argued, moreover—indeed, it is the root assumption of this guide—that the potential benefits of research-practitioner partnerships in the arts and health far outweigh any conceptual, logistical, or technical challenges.

Examples of partnerships in arts-and-health research

- HARMONY project (partnership between Harmony Project and Northwestern University) <https://www.harmony-project.org/>
- Gamelan Project (partnership between Museum School, a San Diego City Schools charter school, and the University of California, San Diego) <http://tdlc.ucsd.edu/gamelan/>
- Voices Together: Music Therapy and Autism in Schools (partnership between Voices Together and Bass Connections and the Social Science Research Institute at Duke University) <https://sites.duke.edu/voicestogether/>

INTERPROFESSIONAL PARTNERSHIP TRAINING

There are several training models that can help arts professionals and researchers to establish and maintain partnerships. The Interprofessional Education (IPE) model is one that can be easily adapted. It is intended for professionals from different disciplines with the goal of improving health. The core themes (competencies) involved in IPE are suited for dealing with key challenges associated with arts-and-research partnerships. IPE helps arts-and-research partners to 1) become knowledgeable about and to respect the competence that each partner brings to the effort and 2) incorporate checks and balances that can help to maintain the partnership and bring success to the research endeavor.

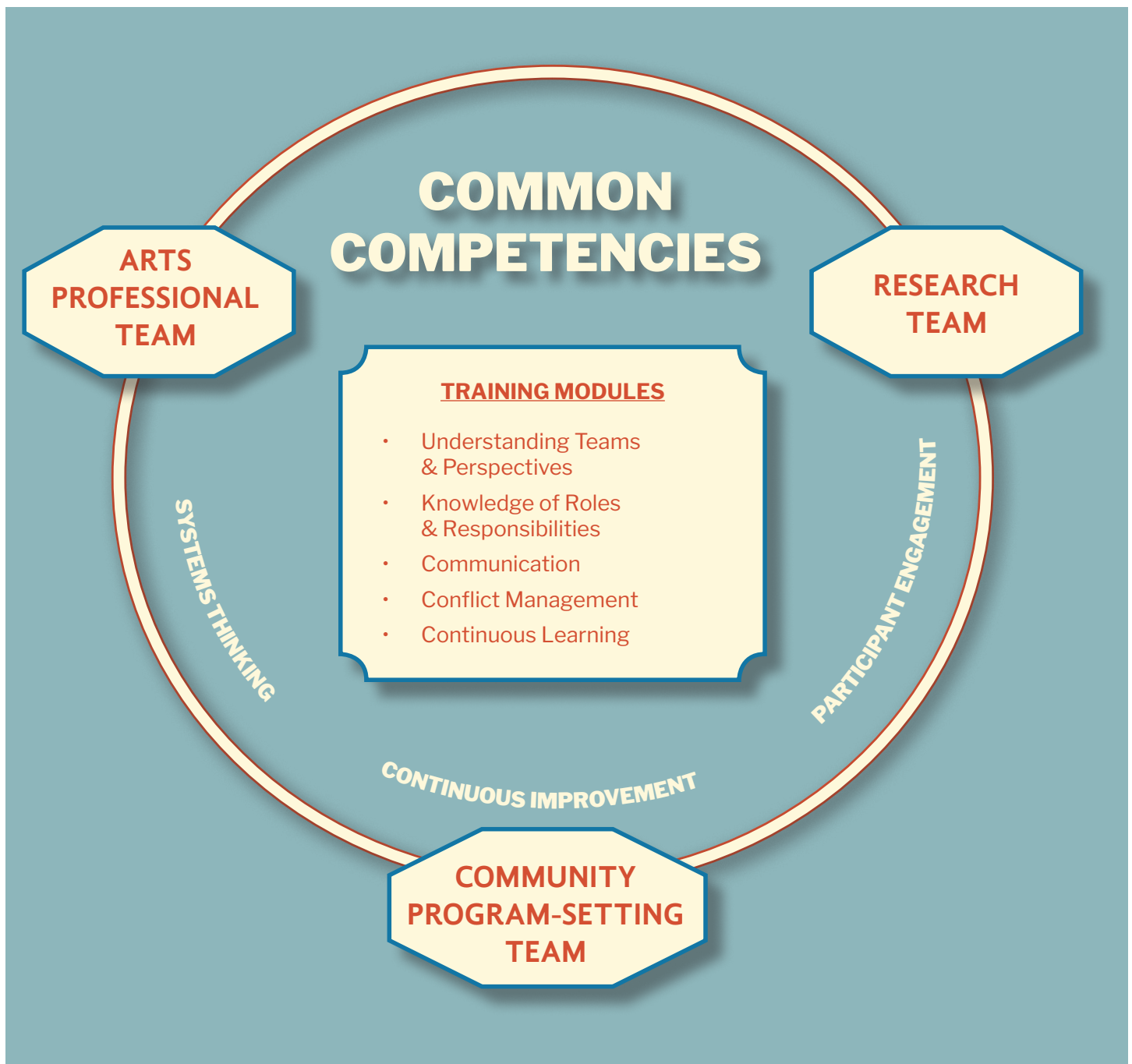


Figure 1: Example of interprofessional education training modules

Illustration adapted from The Regents of the University of California (2014) Program for Interprofessional Practice and Education, <https://interprofessional.ucsf.edu/framework-competencies>.

IPE themes can be adapted for use with arts/research partnerships; they can be used to establish rules for working together. The following are examples of interprofessional training themes as recommended by Interprofessional Education Collaborative Expert Panel (2011).¹ They can be adapted to address specific types of partnerships and study designs, responding to the needs of different kinds of arts/research partnership.

Interprofessional training themes

1. Values/Ethics for Interprofessional Practice

Work with individuals of other professions to maintain a climate of mutual respect and shared values.

2. Roles/Responsibilities

Use the knowledge of one's own role and the roles of other professions to appropriately assess and address the needs of the populations served, and the goals of the partnership.

3. Interprofessional Communication

Communicate with all interprofessional partners in a responsive and responsible manner that supports a team approach in meeting project challenges and in addressing the goals of the partnership.

4. Teams and Teamwork

Apply relationship-building values and the principles of team dynamics to perform effectively in different team roles (where necessary) to plan and deliver on the goals of the partnership in a safe, timely, efficient, effective, and equitable manner.

¹ The following associations convened the Interprofessional Education Collaborative Expert Panel to produce a report on core competencies for interprofessional collaborative practice: the American Association of Colleges of Nursing, the American Association of Colleges of Osteopathic Medicine, the American Association of Colleges of Pharmacy, the American Dental Education Association, the Association of American Medical Colleges, and the Association of Schools of Public Health.

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Interprofessional Education Collaborative (2016) <https://ipecollaborative.org/About/IPEC.html>

CHAPTER 4

FOR ARTS PROFESSIONALS: ARE YOU RESEARCH-READY? (A PRIMER)

Despite generally encouraging signs from research into the plausible health benefits of arts participation, more studies are needed to illumine the arts' effects on a range of individual and public health outcomes.

Through additional research, we can bring a better understanding to arts practitioners and cultural policy-makers, explore the underlying mechanisms of positive effects, and perhaps design programs and interventions that are not only effective but cost-effective.

Arts-related research thus can make a useful contribution to a broad array of contemporary health challenges. Such issues may include understanding the social determinants of health for vulnerable and traditionally underserved communities; or studying the arts' effects on people within the U.S. correctional system. Other examples are: to investigate the arts' role in addressing depression, socialization, or loneliness in older adults; or to explore how the arts might improve recovery times and reduce hospital stays. Further, research might be able to track the arts' efforts in addressing health disparities through arts-based community educational programs that foster healthcare literacy.

All of these study topics are merely examples and need greater deliberation and refinement according to the specific arts programs or interventions under review. Still, by pursuing inroads into community-based research about the arts and health, arts organizations can broaden the base of potential public and private support that arts programs and services ultimately may receive. Closer attention to this type of evidence will open new avenues of collaboration with other stakeholders whose primary interest is with health, and not necessarily with arts and culture.

ASSESSING YOUR PROGRAM AND PREPARING FOR A PARTNERSHIP

Viewing your arts program as a potential health intervention

The goal of this guide is to help facilitate community-engaged research into arts and health. A growing body of evidence will enable the arts and research community to gain more insight into how and why the arts may affect health.

With the exception of arts therapists who already may be familiar with research, arts professionals will need to assess their program models for “research-readiness” by looking at them through a slightly different and perhaps unfamiliar lens. Beyond looking at their program as solely an arts service, arts professionals need to consider their program and delivery models as potential health interventions. This cognitive shift need not require a diversion away from the arts professional's ultimate program- or project-related goals, but it does require a new way of observing how the arts program might affect health and well-being.



Figure 2: Is your art program a health intervention?

Documenting your arts program

An arts program might begin as a creative concept that an artist wishes to pursue with a like-minded group of arts professionals, or it can be a series of organized, skill-building classes or arts therapy sessions held at a community art center, medical clinic, or hospital. An arts program can focus on a specific target population or a perceived problem—e.g., mural painting with at-risk youth for community enhancement, or poetry writing with older adults to reduce social isolation and depression. Regardless of the origins of an art program, its execution involves individual processes and components that must be carefully crafted for the program to work as planned. Additionally, the program design will differ depending on the artistic medium, the type and training of arts professionals delivering the program, the setting in which it takes place, and the characteristics of the targeted population.

Many arts programs already have a documentation process in place to help monitor program effectiveness and keep information about who is involved. If not, it is important to begin the process of documentation by developing training manuals and procedure guides. This measure will help to ensure consistent quality (treatment fidelity) and to avoid “program creep”. Such documentation is a prerequisite to designing and implementing research studies.

While there are many ways to document an arts program, we provide one example here that may be useful when partnering with researchers to execute arts-and-health research. The following example will introduce you to some of the fundamentals of how to build a conceptual framework based on what you and others observe.

The first step in documenting an arts program is to think broadly about whom the arts program serves and the parameters in which the program is delivered. Identify the most important benefits you would like to assess. A dance program might be offered to at-risk youth in an after-school program twice a week for 30 minutes. A 30-minute visual art program twice a week may also be available at the same after-school program. Both programs might be led by arts professionals.

Here, it is important to document basic demographic information about the participants who are being served (e.g., age, sex, race/ethnicity, socioeconomic background), information about the frequency and length of the arts program (e.g., twice a week for 30 minutes), and also note the type of arts professional that is leading the program (e.g., a dance therapist). This information helps document community best practices for the delivery of the arts program.



Figure 3: Comparing youth visual art and dance programs

Next, think broadly about the arts program and try to deconstruct it into the key component parts and processes that may have an effect on health and well-being. (See Johnson and colleagues, 2015, for another example.)

Consulting the example of the dance and visual arts programs for at-risk youth, you might notice that both of the arts programs involve cognitively challenging tasks. For the visual art class, this would involve viewing a still life on a table and replicating it on a piece of paper. For the dance class, this would include learning new, complex dance choreography. Both arts programs also involve movement, but the dance class involves synchronization of multiple parts of the body, while the visual art program focuses on fine motor skills used in drawing. Both programs take place in a group setting, but the social demands are different.

After a list of components and processes related to a specific arts program are compiled, think about how each might fall into larger categories, such as social, emotional, physical, or cognitive. Other categories can be added.

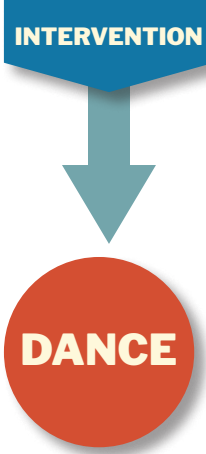
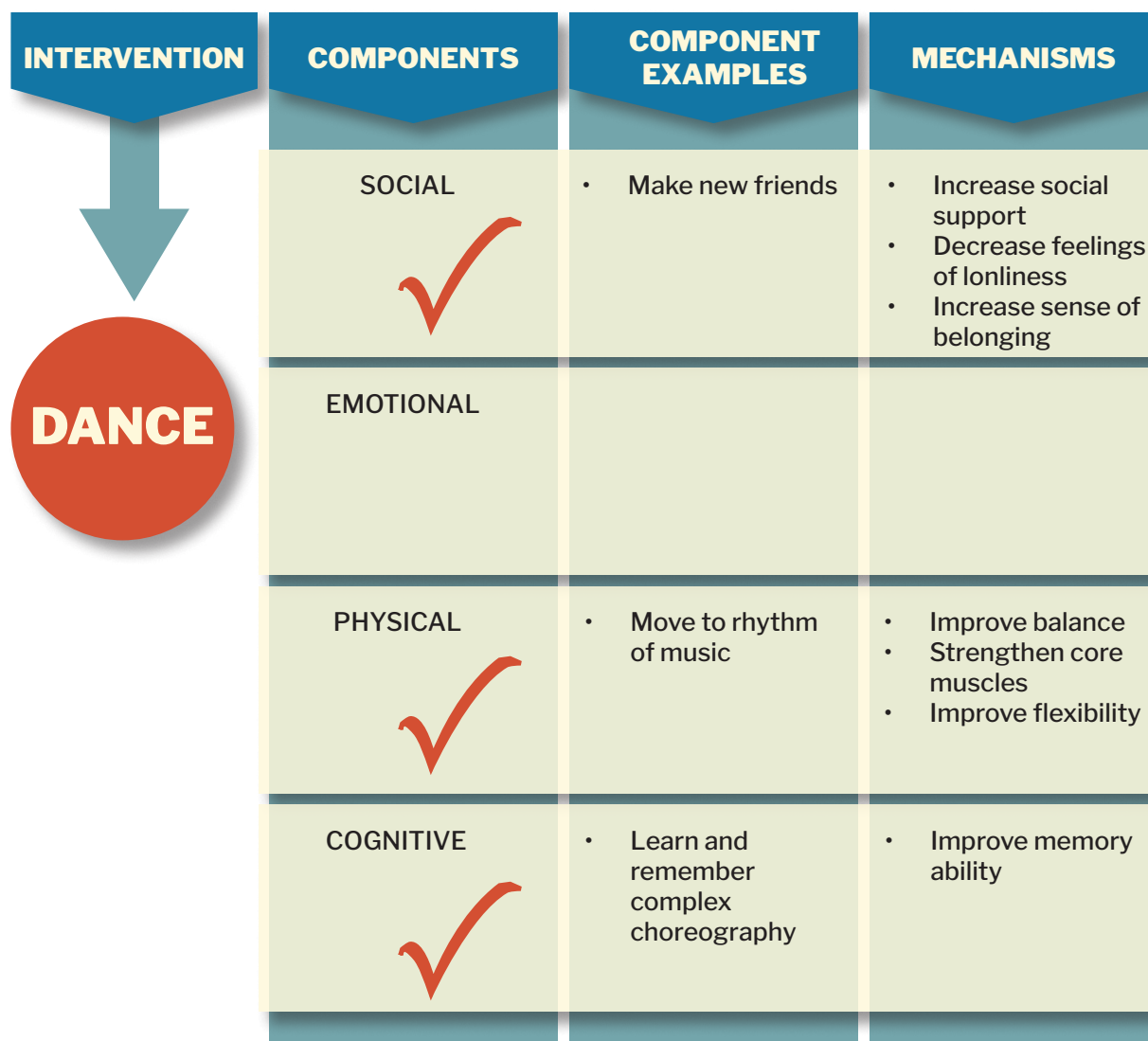
INTERVENTION	COMPONENTS	COMPONENT EXAMPLES
	SOCIAL	<ul style="list-style-type: none"> Make new friends
	EMOTIONAL	
	PHYSICAL	<ul style="list-style-type: none"> Move to rhythm of music
	COGNITIVE	<ul style="list-style-type: none"> Learn and remember complex choreography

Figure 4: Example of identifying components in a dance program



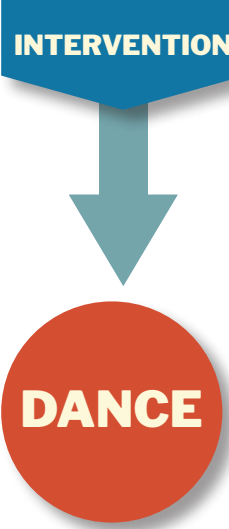
The diagram illustrates the process of identifying components and mechanisms for a dance program. A blue arrow points from the 'INTERVENTION' header to a red circle labeled 'DANCE'. To the right, a table lists components, examples, and mechanisms for each.

INTERVENTION	COMPONENTS	COMPONENT EXAMPLES	MECHANISMS
DANCE	SOCIAL ✓	• Make new friends	<ul style="list-style-type: none"> • Increase social support • Decrease feelings of loneliness • Increase sense of belonging
	EMOTIONAL		
	PHYSICAL ✓	• Move to rhythm of music	<ul style="list-style-type: none"> • Improve balance • Strengthen core muscles • Improve flexibility
	COGNITIVE ✓	• Learn and remember complex choreography	• Improve memory ability

Figure 5: Example of identifying components and mechanisms in a dance program

After identifying the primary components of the arts program, add more details about the mechanisms by which the specific arts program might have an effect on health. For instance, a dance program for at-risk youth might involve a strong physical component that includes improving balance, strengthening the lower body, and learning complex choreography to music. These are all possible mechanisms. The social component may involve meeting new people, working together toward a common goal, and belonging to a group. These, too, are possible

mechanisms. The emotional components may involve improving self-esteem, mastery, and confidence.






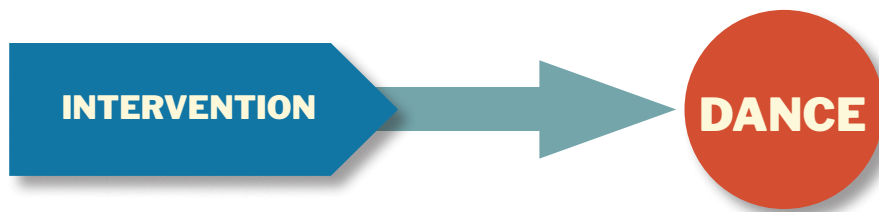
INTERVENTION	COMPONENTS	COMPONENT EXAMPLES	MECHANISMS	OUTCOMES
DANCE	SOCIAL 	<ul style="list-style-type: none"> • Make new friends 	<ul style="list-style-type: none"> • Increase social support • Decrease feelings of loneliness • Increase sense of belonging 	<ul style="list-style-type: none"> • Social support • Loneliness
	EMOTIONAL			
	PHYSICAL 	<ul style="list-style-type: none"> • Move to rhythm of music 	<ul style="list-style-type: none"> • Improve balance • Strengthen core muscles • Improve flexibility 	<ul style="list-style-type: none"> • Balance • Lower body strength
	COGNITIVE 	<ul style="list-style-type: none"> • Learn and remember complex choreography 	<ul style="list-style-type: none"> • Improve memory ability 	<ul style="list-style-type: none"> • Memory

Figure 6: Example of identifying possible outcomes for a dance intervention

Viewing arts programs through a health intervention lens, in addition to a community art program or delivery lens, enables you to easily collect data and to be prepared for research opportunities. If you assess your program regularly, collect some demographic information, and document details of the program's components and processes, then you may be an attractive potential partner for a research initiative. The information you collect during or in advance of a partnership will help your research colleagues to work closely with you and your program team in

determining which components, mechanisms, and outcomes to examine in greater detail, in order to frame the appropriate research questions for a study.

Your research partner can then help to identify specific outcome measures that best align with the research questions. Examples may be seen in Figure 7; more details are found in [Chapter 5 of this guide](#). Additional information about how to document your program is also available in Chapter 5.





COMPONENTS	COMPONENT EXAMPLES	MECHANISMS	OUTCOMES	OUTCOME MEASURES
PHYSICAL 	<ul style="list-style-type: none"> Move to rhythm of music 	<ul style="list-style-type: none"> Improve balance Strengthen core muscles Improve flexibility 	<ul style="list-style-type: none"> Balance Lower body strength 	<ul style="list-style-type: none"> Short Physical Performance Battery
COGNITIVE 	<ul style="list-style-type: none"> Learn and remember complex choreography 	<ul style="list-style-type: none"> Improve memory ability 	<ul style="list-style-type: none"> Memory 	<ul style="list-style-type: none"> NIH Toolbox Picture Sequence Memory Test

Figure 7: Example of identifying possible outcome measures for a dance intervention

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CHAPTER 5

DEVELOPING AN ARTS-AND-HEALTH RESEARCH STUDY

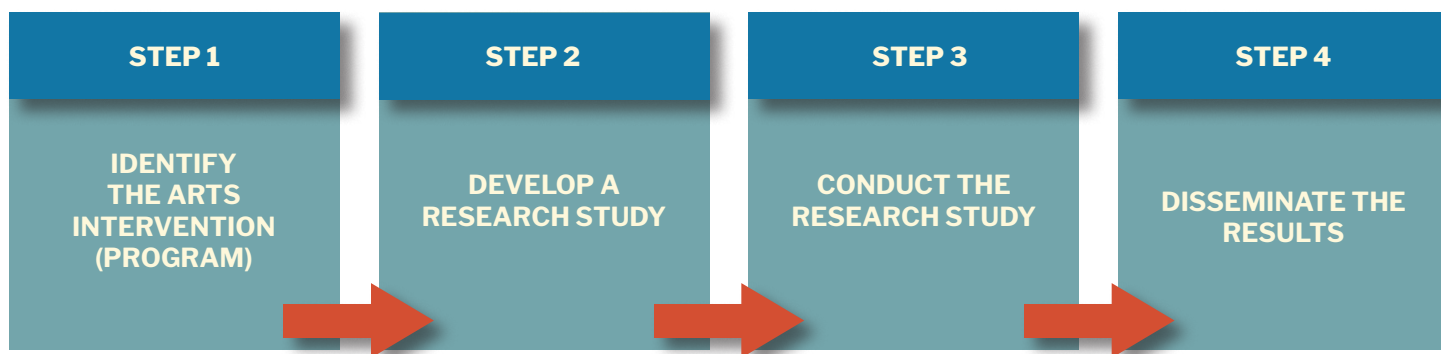


Figure 8: Flow for developing a research study

This chapter is intended to provide more details about the steps that typically take place in developing a research study, with a particular focus on arts-and-health research. The information below is meant to offer general guidance, as the process will differ based on the needs of the researchers and arts professionals, and also on the scientific questions asked.

DEVELOPING RESEARCH QUESTIONS

Research questions are a fundamental component of any study. The first step in generating a research question is to identify a health issue, concern, or problem of interest. Background information helps to focus the topic. Flagging a health issue, concern, or problem can be used to develop a statement of the problem.

More than one-third of children and adolescents were overweight or obese in the United States in 2012 (Ogden, 2014). The Centers for Disease Control and Prevention notes that childhood obesity has both immediate and long-term effects on health and well-being of young people. Therefore, innovative approaches to reduce obesity are needed.

When applied to the arts, it is also useful to consider whether or not an arts program might be appropriate to help address a specific health issue. Because physical activity can help reduce obesity and dancing involves physical activity, can a dance program for adolescents help increase physical activity and reduce obesity?

Thus, the broad research question develops directly from the link between the health issue or problem and the mechanism and approach of the arts intervention.

Completing a literature review and identifying knowledge gaps

The next step is discovering if any research on the topic of interest has already been done. This can be accomplished through a literature review. The goal of the literature review is to identify all existing research and related information (e.g., white papers, reports) on a specific topic and understand the current evidence base, if it exists. Literature reviews are often completed by using electronic databases of scientific research literature, such as PubMed or PsycInfo, to search for published, peer-reviewed research articles.

A challenge in using these databases is that not all of the listed research articles are freely available. Although there are recent and ongoing efforts to distribute scientific articles free-of-charge to the public, access is often restricted to organizations that have subscriptions to the scientific journals (e.g., academia, public libraries). Partnering with academic researchers or arts therapists with access to professional arts therapy journals may help with the literature review. Note that literature reviews often omit important information about the programs (e.g., training manuals, fidelity checks). You may want to contact the researchers for additional information.

When reviewing the existing research literature and evidence, it is important to identify any gaps in knowledge and evidence, which will help to further refine the research question. It is also important to consider what types of research approaches and outcomes have or have not proved useful in solving the health issue. Researchers are particularly interested in programs with high potential for demonstrating better outcomes than do existing programs.

Another goal of the literature review is to determine whether or not any theoretical frameworks exist and if any underlying biological, psychological, or other types of mechanisms may have been identified. Several studies have found

that art therapy can reduce the perception of pain, which may be one possible psychological mechanism.

It is also helpful to review best practices for what is already being done with the arts intervention or program of interest. A best practice is a method or technique that has been proven effective in producing successful outcomes. Best practices are evidence-based and proven effective through rigorous research and evaluation studies. For example, the practice of playing prerecorded music to patients in hospital settings has been reported to reduce stress and enhance well-being (Stuckey & Nobel, 2010), and can be considered a best practice. Best-practice models can be integrated with findings in the research literature (identified in the literature review) to create a more sophisticated intervention or program approach. While there are relatively few evidence-based best practices for arts programs, there are other types of community programs that are evidence-based and thus may be used as models.

After the literature review has been completed and best practices have been reviewed, it may be possible to develop specific research hypotheses and a theoretical framework or model. A research hypothesis is the most specific and precise statement of the problem. It predicts the relationship between variables that will be studied and the expected outcomes. For example, a theoretical model could help link the expected outcomes from the study with the hypothesized biological, psychological, or other mechanisms of action related to outcomes that will be measured in the study.

SELECTING THE APPROPRIATE RESEARCH DESIGN AND METHODS

High-quality research studies require the use of specific types of approaches (research design and methods) to answer identified questions and hypotheses. [Chapter 2](#) discusses different research designs, including quantitative, qualitative, and mixed methods. The choice of an appropriate research design hinges on many aspects, such as the types of questions asked, the

populations studied, and the settings in which the study will take place, among other factors.

An important early step in the process is to identify people who might enroll in the study. One study might focus on older adults who live in the community and the effects of a dance program on reducing falls.

It is necessary to ask how the study population will be defined so that the results of the study can be generalized to the appropriate subgroup in the real world. A list of inclusion and exclusion criteria is used to help define a study population.

For example, some possible study inclusion criteria might be: 1) adults over age 55, 2) currently living independently in the community, and 3) ability to ambulate independently. Some exclusion criteria might be: 1) diagnosis of dementia, and 2) diagnosis of a movement disorder (e.g., Parkinson's disease), and 3) history of a head injury with loss of consciousness.

Another step in the design of research studies is to estimate how many people are needed to enroll in a study (that is, to determine the sample size) and to decide how the study participants will be recruited. In quantitative research, the size of the study sample is directly related to the magnitude of the effects being measured. If the anticipated effect size is small, then the study will need more participants than if the anticipated effect size is large.

Statistical power is the likelihood that a study will detect an effect where one is to be detected. Power is important to consider because effect sizes in the behavioral sciences can be small, and many studies lack sufficient power to detect small effects. Studies with insufficient statistical power are generally difficult to interpret, as the findings may be inconclusive. Estimates of the sample size needed for a particular study are calculated through a power analysis (see Ellis, 2010, for more information).

Two relevant considerations here include recruitment attrition and the difference between “significant” and “meaningful” improvements.

Let's start with attrition of study subjects.

Given that a major objective in community-based programs is to engage large numbers of individuals, it is necessary to identify characteristics of people who did not enroll into your program. For instance, even with thoughtful inclusion and exclusion criteria, you may not be reaching those who would benefit most by participating in the program. Or you might be reaching the same individuals participating repeatedly.

The difference between a significant finding and meaningful outcomes is also critical. While researchers typically focus on significant improvements on specific outcome measures, the outcome itself may seem minimal to the participant. The reverse is also possible. Some participants who did not show significant improvements on objective measures of program outcomes may self-report, nevertheless, benefiting significantly from the program.

A further consideration is the use of control groups. Control groups are important for determining whether the experimental condition or intervention is related to the effect. One group of participants (i.e., the “treatment” group) may get the new program, while the other group does not. Control groups are sometimes assigned to an alternate program (i.e., the comparison group); alternatively, they might resume their usual activities in the absence of an intervention (i.e., the control group).

It is also important to consider how research participants are assigned to the study groups (whether a treatment, a comparison, or a control group). Studies using random assignment allocate participants to a specific group based on chance (e.g., flip of a coin). This practice eliminates bias in terms of who participates in which group. If given a choice, more active individuals might sign up for a theater class, while more sedentary persons might sign up to be in a no-contact control group.

It is not always possible or practical to randomly assign participants to a group, and several study designs do not use random assignment as a research method. However, it is important to collect enough information about the study sample (e.g., age, sex, clinical diagnosis) to be able to understand how the study findings will apply

to specific groups of individuals. Is the research study answering questions for young or older adults or for a particular patient population?

Selecting outcome measures

Outcomes are the intended changes that are predicted to result from the program or intervention. In descriptive research studies, measures (also called instruments) are used to describe the characteristics of a study population, rather than measure change as a result of a program. See [Figure 7](#) in [Chapter 4](#).

One study could use specific measures to compare empathy in high school students who participate in band compared to those who do not. Another type of study could use specific measures to evaluate a possible improvement in empathy after taking a band class.

The first step in selecting outcome measures is to define what one wants to measure. If the goal is to study depression, then measures that have been developed to query depressive symptoms can be identified. Because there may be several possible measures, it is critical to have a rationale for selecting a specific measure, as well as a description of the rationale. For instance, some measures have been designed for use in clinical settings, while others have been designed for healthy participants. Some measures have been validated with people from low socioeconomic backgrounds, while others may have been validated in different languages. The validity and reliability of the measure for the study population of interest should be reviewed. Validity refers to the extent to which an outcome measure actually measures what it is intended to measure. Reliability refers to the extent to which an outcome measure is consistent each time it is used.

In studies that measure the effect of the arts on health, several different types of outcomes could be measured, including health variables (e.g., overall health), well-being (e.g., quality of life), social (e.g., social network), and cost-effectiveness. If new measures are developed, it is important to assess their validity and reliability.

Selection of specific outcome measures should be done in consultation with a researcher who is familiar with the types of outcome measures of interest.

Examples of biomedical and behavioral outcome measures can be found in the following National Institutes of Health (NIH) resources:

NIH Toolbox
(<http://www.nihtoolbox.org>)

Patient Reported Outcomes Measurement Information System (PROMIS)
(<http://www.nihpromis.com>)

Study procedures, data collection, and data analysis plans

The procedures for a study describe all the steps required to carry out a study over time. The procedures also outline when, where, and how the data will be collected. They also will specify how the data will be stored in a secure manner and under which circumstances, if any, the data might be shared.

A plan for how to analyze the data is also essential to the research study. Ideally, to help reduce researcher bias, the data analysis plan should be documented before the study begins. The research hypotheses document the direction of the expected effects (e.g., faster walking speed, reduction in anxiety symptoms). A plan to describe the sample and perform statistical analyses also should be included.

Human subjects approval, ethics, and vulnerable populations

All studies that include human participants must be approved by an Institutional Review Board (IRB), which is a part of all academic institutions that engage in research. Researchers must submit detailed plans about each research study to the IRBs at their institution. In some cases, the IRB at a collaborating site (e.g., a hospital) will require approval from their organization. The goal of the IRB review is to follow regulations that require reviewing the proposed study's

scientific basis, the study's methods, the risks and benefits of participation in the study, the procedures for obtaining informed consent, and the researchers' plans for monitoring the safety and confidentiality of all study participants.

Informed consent is one of the most vital aspects of a research study. Consent forms are used to explain to each participant the goals of the study, study procedures, risks and benefits, plans for protecting the confidentiality, and alternatives to not participating. Informed consent means that potential research participants are informed about what it will take to participate in the research study; consent forms use language that is understandable and clear and without coercion to participate. This is especially key when the study procedures are complex, or when enrolling non-English speakers or people with low literacy levels. Only study personnel who have completed training in human research can obtain consent from research participants. Researchers are also required to report to the IRB any adverse events (e.g., physical injury) that may occur during the research study.

Researchers are required to maintain high ethical standards when carrying out research studies. They must complete regular training in order to understand the principles of safe conduct of research. Researchers need to follow rules and regulations from their own institution, their funders, and from state and federal regulators.

Additional safeguards have to be considered for research involving vulnerable populations. Such people include: 1) children and minors; 2) pregnant women; 3) prisoners; 4) individuals who are legally blind, illiterate, or unable to talk or write; 5) individuals with cognitive impairment; and 6) non-English speakers. Researchers must address specific concerns related to consent forms and possible regulatory approvals needed to enroll participants from vulnerable populations. For instance, there are specific procedures for obtaining consent from minors; university Institutional Review Boards offer guidance on topics such as this one.

Additional information about human-subjects research can be found at the U.S. Department

of Health and Human Services' Office of Human Research Protections. (<http://www.hhs.gov/ohrp/regulations-and-policy/regulations/45-cfr-46/>)

Budgets and other agreements

Financial support for research studies can come from a number of sources (e.g., grants, internal funds, foundations). A budget should be drafted that includes details about staff effort on the study, the supplies needed, and other costs associated with conducting the research (e.g., the program or intervention costs).

It is important to have a clear understanding of the roles and scope of work when working in interprofessional relationships. In the case of arts-and-health research, it is possible that the investigators will be working with arts professionals who are not part of academia. A memorandum of understanding (MoU) and detailed descriptions of the scope of work may be helpful. Subcontracts may also be necessary.

Dissemination of study findings

After a study has ended and the data have been analyzed, the research findings are usually disseminated in a number of ways. The most common way for academic researchers to share the findings from a study is by publishing in journals and presenting at scientific meetings. Authorship on scientific papers has strict rules and should be discussed ahead of time.

With community-engaged research models, the findings are also shared with the community and participants in the study. This sharing can take the form of community presentations or newsletters. The community partners may also want to distribute the study findings to their own stakeholders.

It is important for all persons sharing the study findings to maintain integrity and not exaggerate or over-generalize the results. This aspect is sometimes difficult to control when communicating with media outlets about the research. Creating a dissemination plan that takes all of these issues into consideration is often helpful.

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<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2804629/#bib41>

DEVELOPING AN ARTS-AND-HEALTH RESEARCH STUDY CHECKLIST 	
<input type="checkbox"/>	Develop the research question(s)
<input type="checkbox"/>	Complete a literature review and identify gaps in knowledge
<input type="checkbox"/>	Review community best practices
<input type="checkbox"/>	Develop a research hypothesis and theoretical model
<input type="checkbox"/>	Select appropriate research design and methods
<input type="checkbox"/>	Identify a study population
<input type="checkbox"/>	Conduct a power analysis if necessary
<input type="checkbox"/>	Select appropriate outcome measures (tools/instruments)
<input type="checkbox"/>	Establish study procedures, data collection, and data analysis plans
<input type="checkbox"/>	Apply for human subjects approval from the appropriate Institutional Review Board (IRB)
<input type="checkbox"/>	Considers safeguards for vulnerable populations
<input type="checkbox"/>	Develop a detailed budget and partnership agreements
<input type="checkbox"/>	Design a dissemination strategy

Figure 9: Developing an arts-and-health research study checklist

CHAPTER 6

FUNDING

Funding for arts-and-health research can come from a variety of sources, including federal private, local, and national sources. Grants are a common mechanism for supporting arts-and-health research.

HOW TO EFFECTIVELY PARTNER TO OBTAIN SUPPORT FOR ARTS-AND-HEALTH RESEARCH

Although the researcher may lead the grant submission process due to the technical requirements of grant submissions, it is important that the arts professionals equally contribute and collaborate with finding grant support. It is important that both partners understand the grant proposal and are clear on their individual roles and responsibilities. For arts professionals, it is important to have clear documentation of the arts program.

HOW TO IDENTIFY POTENTIAL FUNDING SOURCES

Funding opportunities for arts-and-health research primarily exist throughout federal agencies concerned with human development (e.g., health and educational issues spanning from early childhood through youth and adolescence to older adulthood) and also in philanthropic foundations. Below is a brief list of possible funding sources for arts-and-health research. Since finding federal funding arts-and-health opportunities can be difficult, as agencies rarely include the word “arts” in solicitation titles or descriptions, the NEA has produced an online guide to federal funding resources for research on the arts and human development (<https://www.arts.gov/artistic-fields/research-analysis/federal-funding-resources-for-research-on-the-arts-and-human-development>).

Federal funding examples

- National Endowment for the Arts (NEA)
- National Institutes of Health (NIH)
- National Science Foundation (NSF)
- United States Department of Education (ED)

Private and nonprofit funding examples

- Grammy Foundation
- Dana Foundation
- National Association of Music Merchants (NAMM) Foundation
- MacArthur Foundation
- Robert Wood Johnson Foundation
- Graham Foundation
- Robert Rauschenberg Foundation
- Nathan Cummings Foundation
- Kresge Foundation
- Patient-Centered Outcomes Research Institute (PCORI)
- Organization for Autism Research
- The Nancy Lurie Marks Family Foundation

National network of private, public, and corporate funders

- Committee Encouraging Corporate Philanthropy
- Council on Foundations
- Foundation Center
- Grantmakers in the Arts
- Grantmakers in Health
- Grantmakers in Aging

Although there have been few RFA (requests for applications), there are standing parent Program Announcements (PAs) at NIH that provide an opportunity to support good research on the arts and health.

NIA Clinical Research Project Planning Grant Program (R34)

Funding Number: PAR-16-085

Funding Type: PAR

Release Date: January 15, 2016

Expiration Date: March 17, 2019

Website: <http://grants.nih.gov/grants/guide/pa-files/PAR-16-085.html>

Pilot Clinical Trials for the Spectrum of Alzheimer's Disease and Age-related Cognitive Decline (R01)

Funding Number: PAR-16-365

Funding Type: PAR

Release Date: October 6, 2015

Expiration Date: September 8, 2018

Website: <http://grants.nih.gov/grants/guide/pa-files/PAR-16-365.html>

Research on Informal and Formal Caregiving for Alzheimer's Disease (R21)

Funding Number: PAR-15-351

Funding Type: PAR

Release Date: September 17, 2015

Expiration Date: September 8, 2018

Website: <http://grants.nih.gov/grants/guide/pa-files/PAR-15-351.html>

Research on Informal and Formal Caregiving for Alzheimer's Disease (R01)

Funding Number: PAR-15-348

Funding Type: PAR

Release Date: September 17, 2015

Expiration Date: September 8, 2018

Website: <http://grants.nih.gov/grants/guide/pa-files/PAR-15-348.html>

T1 Translational Research: Novel Interventions for Prevention and Treatment of Age-related Conditions (R21)

Funding Number: PAR-15-190

Funding Type: PAR

Release Date: April 28, 2015

Expiration Date: September 8, 2018

Website: <http://grants.nih.gov/grants/guide/pa-files/PAR-15-190.html>

T2 Translational Research: Research Leading to New Health Care Practices, Community Programs and Policies Affecting Older Persons (R21)

Funding Number: PAR-15-191

Funding Type: PAR

Release Date: April 28, 2015

Expiration Date: September 8, 2018

Website: <http://grants.nih.gov/grants/guide/pa-files/PAR-15-191.html>

AUTHOR BIOGRAPHIES

Jeffrey Chapline, MFA, is the founder of New Art Horizons, a Bay Area consultancy advising organizations that serve special communities. He has over 25 years of experience in program development establishing meaningful partnerships in the arts, aging services and education. Chapline pioneered the first year-round, multigenerational visual and performing arts program in San Francisco, the Center for Elders and Youth in the Arts (CEYA). CEYA employed project-based learning methods for youth and older adults in multiple art forms partnering with over 33 geriatric service providers and 20 youth organizations in six Bay Area counties. Mr. Chapline has received multiple awards for program excellence and innovation.
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Julene K. Johnson, PhD, BM, is a professor and associate director at the University of California, San Francisco's (UCSF) Institute for Health & Aging. She also is faculty in the UCSF Center for Aging in Diverse Communities. As an academic researcher with a doctorate in cognitive neuroscience and a bachelor's degree in music, she has conducted research into the arts and aging for approximately 20 years. Johnson has a long-standing interest in studying music in both healthy aging and persons with dementia and currently works on developing cost-effective models for using the arts to promote health and wellbeing of older adults.
Additional information: <http://profiles.ucsf.edu/julene.johnson>



▲ COSACOSA's mosaic, *A Bridge Between Night and Day* (30' x 5', ceramic tile and glass beads on wood panels), is at the center of The Children's Hospital of Philadelphia Neonatal Intensive Care Unit. Photo by COSACOSA art at large, Inc.

Front cover: Dancers perform with Infinity Dance Theater. Photo by Sofia Negron



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