



July 31, 2012

Under the Freedom of Information Act, agencies are required to proactively disclose frequently requested records. Often the National Endowment for the Arts receives requests for examples of funded proposals, particularly those submitted to the *Research: Art Works* grant program. In response, the NEA is providing examples of the “Details of the Project Narrative” for six research projects that received NEA funding.

The following narratives have been selected as examples because they represent a diversity of project types and are well written. Although each project was funded by the NEA, please note that nothing should be inferred about the ranking of each application within its respective applicant pool.

1. Fordham University

To support a study of the impact of arts programming on the social skills and mental health outcomes of at-risk youth. Data will be examined from two Florida programs that served youth who either had been arrested or had received multiple suspensions from school. By comparing outcomes in youth who participated in arts programs with outcomes in youth who did not, this project will help to fulfill a critical knowledge gap that may have consequences for youth intervention programs and greater public policy concerning at-risk populations. (*Funded FY 2012*)

2. Georgia Tech Research Corporation

To support a two-phase study investigating: (1) the value of time spent by Americans on arts-related activities, and (2) an analysis of the impacts of arts districts on neighborhood characteristics. The first phase of the study will examine activities such as the costs of traveling to and from arts events, based on data from the U.S. Department of Labor’s American Time Use Survey (ATUS) and the U.S. Census Bureau’s Current Population Survey (CPS). A second phase of the study will use a proprietary data set to analyze the relationship between arts district clustering and the economic value and socioeconomic characteristics of U.S. neighborhoods. (*Funded FY 2012*)

3. National Dance Education Organization

To support a project to identify, analyze, and summarize data that demonstrate the value and impact of dance education across multiple domains. The researchers will mine the Dance Education Literature and Research descriptive index (DELrdi), a database including 5,000 citations of dance education research from 1926 to the present. This meta-analysis will result in



three separate research reports and will serve as a blueprint for demonstrating the value of dance education as a learning modality for creative and critical thinking skills and social and emotional development. (*Funded FY 2012*)

4. University of Illinois at Chicago

To support a study to examine the impact of arts exposure and artistic expression on U.S. civil society, including civic engagement and social tolerance. Using behavioral data collected from the General Social Survey – a nationally representative sample of U.S. households – the study will use multivariate analysis to test hypotheses about the impact of arts exposure on civil society and the impact of artistic expression on individual manifestations of civil society. The study could result in greater public awareness of the arts on individual-level contributions to society. (*Funded FY 2012*)

5. University of Maryland at College Park

To support analysis of the cognitive, behavioral, and social outcomes of adolescents who study the arts in comparison with teenagers who do not. Analysis will be conducted with data from the National Longitudinal Study of Adolescent Health, a multi-year study of American adolescents that tracked participants through adolescence to early adulthood. The arts and non-arts students will be compared in terms of their school engagement, psychological adjustment, delinquency, involvement in risky behaviors, and substance use during adolescence. This study aims to determine whether arts instruction can, as has been previously suggested, help adolescents to navigate the challenges of daily life and to achieve more positive near-term and long-term developmental outcomes. (*Funded FY 2012*)

6. University of Texas at Arlington

To support a cross-sectional analysis of thirty U.S. cities over three decades to identify neighborhood attributes driving location preferences for artists and artistic businesses. The use of multivariate time-series data and geospatial mapping will enable statistical methods to test a causal relationship between the presence of arts and neighborhood development. The results could contribute to the development and refinement of social and economic policies that promote positive neighborhood change. (*Funded FY 2012*)

We hope that you will find these records useful as examples of well written narratives. However, please keep in mind that because each project is unique, these narratives should be used as references, rather than templates. If you are preparing your own application and have any questions, please contact the appropriate program office.

Attachment 2: Details of the Project Narrative

a) Research Questions

The dominant means to ‘inoculate’ youth against poor life outcomes include recreational activities, sports, and afterschool academics. These activities only occasionally integrate artistic content into their programming. However, there has been a growing awareness of the potential value of culturally relevant art as a means to effectively serve youth by building skills that research has shown to be associated with positive outcomes.

The promise of art intervention has appeared in the research literature for over a decade now. A series of studies by RAND in the late 1990’s showed positive changes in pro-social behaviors of youth who participated in arts programs (MacArthur & Law, 1996; Stone, Bikson, Moini, & McArthur, 1998; Stone, McArthur, Law, & Moini, 1997). The Youth Arts Project, a project jointly funded by the Americans for the Arts and local arts councils, added to the findings with hints of positive outcomes for participating youth (Clawson & Coolbaugh, 2001).

Concurrent with program evaluations were research projects that looked at more specific relationships between involvement in the arts and youth development. This included cognitive abilities in general (Melnick, Witner, & Strickland, 2011) and emotional responses (Choi, Lee, & Lim, 2008) specifically. A compendium funded by the National Endowment of the Arts and the U.S. Department of Education, Critical Links, reviewed the research and concluded that promising findings have been demonstrated, but stronger research designs are required in order to ascertain the impact of arts programming on individuals (Deasy, 2002; Catterall, 2002).

One of the more rigorous set of studies was conducted through McGill University. Five sites in Canada were established to operate the programming, while research was conducted that utilized a propensity matching scheme to compare outcomes of the participating youth with non-participants. Those findings also showed promising and positive relationships between arts involvement and pro-social outcomes (Wright, Lindsay, Ellenbogoen, Offord, Duki, & Rowe, 2005; Wright, Lindsay, Allaggia, & Sheel, 2006; Lindsay, Wright, Rowe, & Duku, 2009).

One of the more recent program evaluations was of the Prodigy program that utilized arts programming as both an intervention program for arrested youth and a prevention program for families and friends for the arrested youth. A series of articles showed positive changes in mental health (Rapp-Paglicci, Stewart, & Rowe, 2009; Rapp-Paglicci, Stewart, & Rowe, 2011) as well as in skills associated with positive youth outcomes, such as problem solving skills. This was across ethnicities (Rapp-Paglicci, Stewart, Rowe, & Miller, 2011) and rural locations (Stewart, Rapp-Paglicci, & Rowe, 2009) and neighborhood factors (Stewart, Rapp-Paglicci, & Rowe, 2011).

Despite these studies there are limits to the research and any conclusions that can be drawn, and Catterall’s conclusion (2002) about the need for stronger research designs still stands. The research design of most of these studies did not use comparison groups that did not receive the intervention. The pre-post design of these studies demonstrated improvements but has not demonstrated whether those improvements may have occurred without the programming. The gains could be due to a number of external factors, especially as it regards youth. This could include maturation and/or school activities.

It is only with analyses based on stronger research designs that the research can move forward. This proposal is to advance the knowledge base, both empirical and theoretical, about the near term and longer term impact of art programming relative to no programming. It addresses the question of what students learn while participating in the art program and examines the relationship of cultural art-based programming to near-term outcomes in mental health, social, and self-regulation skills.

The data sets to be utilized were collected through multiple waves of research of the Prodigy Youth Arts Program (Prodigy) and its school-based version, called the Positive Alternative to School Suspension (PASS). Funded by the Florida Department of Juvenile Justice, the programs served youth who had either been arrested or were considered at-risk youth due to school suspensions or living in a high crime, low-income community.

The program has shown great promise. The Florida State Department of Juvenile Justice independently identified the program as having among the lowest recidivism rate in the state (Florida Department of Juvenile Justice, no date). Calculated from the tables provided in the report, the Prodigy recidivism rate (8%) was significantly lower

than the state average of 15%. Internal reviews by members of the Prodigy research and management team show that the rate appears to be one of the lowest in the country also.

In addition, internal reviews by the Prodigy research and management staff, indicates Prodigy costs substantially less than do other diversion programs. Savings averaged minimally 20% over other programming targeted to a similar population.

These findings have generated significant enthusiasm for the program and calls for more in-depth analyses. However, due to funder restrictions on the program, Prodigy could not be structured in a manner to allow for a comparison group, as those referred to the program had to receive services immediately. The PASS program was created in a manner that did allow for a comparison group through a wait-list design. Preliminary analysis showed the PASS programming participants, at the group level, were similar to one another. Relative to the Prodigy participants, they skewed more female and African American. However, these differences can be managed through the matching as described in the data analysis section. Unfortunately, funding for this research ended in the current fiscal year putting a halt to more in-depth analysis of these data sets.

One of the primary research questions to be addressed by this proposal, identified as Hypothesis 1, concerns the effectiveness of art programming at the programmatic level.

Hypothesis 1: Youth who have participated in the art intervention programming will show significant positive changes in mental health and social skills relative to youth who have not participated in art intervention programming.

The first hypothesis addressing the question of art programming, generally, when data are collapsed across teachers and settings. This is a question that has limited research and one that is required to be considered for listing as an evidence-based program (OJJDP, 2009). If positive, it makes the utilization of art programming as a means to impact youth development more viable and acceptable to government agencies and funders. It has potential impact at both the scientific levels and the policy making levels.

In order to more fully understand who may benefit most from art programming, additional analyses will be conducted that will analyze differences in outcomes based on individual characteristics of the participants. The research questions on these analyses ask whether individual characteristics are related to any improvement in mental health symptoms and social skills. These characteristics include demographic variables, such as age, gender, race, and ethnicity.

In addition, additional analyses will seek to identify, in the context of youth intervention programming, mental health variables and social skills that may be more susceptible to improvement and those mental health variables and social skills that are more impervious to change through the art programming. Empathy and communications, for instance, may be social skills more likely to see positive improvement, while engagement and responsibility may be less so. In the mental health domain, anxiety and depression may be more likely to show positive changes while suicide ideation or hallucinations may be more resistant.

These specific research questions for these analyses are:

2. Do demographic characteristics influence the outcomes produced in the Prodigy/PASS art programming?
3. What mental health variables and social skills are more likely to be positively influenced by the art programming and which ones are less likely?

b) Research Design

The Prodigy and the PASS program had similar designs in the data collection. For both programs, a trained data collector met with the participants and the parent(s) to discuss the project and answer any questions about participation. At that stage, informed consents were collected and both parent and child were administered separate assessments. At the conclusion of the program, eight weeks later, parent and child were administered the same assessments in order to gather the post data.

For the Prodigy program, no comparison group was allowed due to funder restrictions requiring the provision of services to all who were referred or enrolled. The PASS program was established to allow for a comparison group. A wait list was created with those who were referred to the PASS program after the treatment group had reached capacity or the program had begun. This created a comparison group. Pre-tests occurred at time of registration and post-tests occurred prior to the start of the participation in the treatment group. In order to assure the waiting time was about eight weeks from entering the waitlist, enrollment for the subsequent cohort was stopped after a designated time. There was also a planned lag of 1-3 weeks between the start of the subsequent treatment groups. The assessments were conducted using self-created *Scantron* forms (with permissions), which allowed for minimization of data entry errors.

c) Data Sources

The sample for the PASS program was middle school students who have previously been suspended two times or more in the prior and/or current school year. The n of the treatment group was 45 with 64% male and 62% African-American. The comparison group of 37 was 65% male and 84% African American. The mean age in both groups was 13 years.

There were several waves of data collection for the Prodigy program. One dataset on the Prodigy program has an n of 140 adolescents. Gender was fairly evenly distributed in the sample with 53% boys and 47% girls. Ages ranged from 8 to 18 years old with a mean of 16 years of age. This sample was skewed towards late adolescence with 67% of the sample between 13 and 17 years old. The ethnicity was largely African American (38%) and Caucasian (32%), with Hispanic (14%) reported as the next largest category. The sample was mostly comprised of youths adjudicated by the State Juvenile System with 77% in that category. The assessments utilized included assessments commonly utilized for youth prevention and intervention research.

A second dataset has an n of 306 with the demographics being similar to the dataset described above, with 54% male; 41% African American, 16% Latino, and 34% Caucasian.

Standardized measures were used that assessed intervention and comparison groups, pre and post, on mental health, risk behavior, social skills, and self-regulation skills. These include the following measures:

Child Behavior Checklist (CBCL) and Youth Self-Report (YSR): The CBCL/6-18 has 118 items that describe specific behavioral and emotional problems in youth, plus two open-ended items for reporting additional problems. For quality control, parents rate children's responses on the accuracy of multiple items regarding current and recent behaviors and activities. The YSR is completed by youth (i.e., self-report) and the CBCL, known for strong reliability and validity, is used to detect and assess mental health difficulties (Achenbach, 1991).

Academic Performance: Prodigy participant specific data, cleansed of identifiers, were obtained from relevant school districts and included: grade level, number of days of in-school suspension, number of days in out-of-school suspension, reduced lunch participation, yearly grade point average (GPA), grades in math, science and reading courses by quarter, number of reported incidents (drugs/alcohol, disruptive behavior, crimes), total number of days enrolled by quarter, excused absences by quarter, and unexcused absences by quarter.

Family Functioning: The Family Assessment Device (FAD), based on the McMaster Model of family functioning, assesses familial structural, organizational properties, and the patterns of transactions among family members (Epstein, Baldwin, & Bishop, 1983). The scale measures six dimensions of family functioning: Problem Solving (PS), Communication (C), Roles (R), Affective Responsiveness (AR), Affective Involvement (AI), Behavior Control (BC).

Behavior Dysregulation Scale (BDS): The BDS is a 92-item measure that measures Dysregulation on three dimensions: Affective Dysregulation (28 items), Behavior Dysregulation (36 items), and Cognitive Dysregulation (28 items). Psychometric analyses, including Confirmatory Factor Analysis and Item Response Theory were conducted to demonstrate both reliability and validity of the measure. Results indicate psychometric soundness through examination of four samples (Mezzich, Tarter, Giancola, & Kirisci, 1991).

The Social Skills Improvement System (SSIS) (Gresham & Elliott, 2008) is a revision of the widely used Social Skills Rating System. This assessment was used to measure the pre-intervention – post-intervention changes in social skills. Subscales include communication, cooperation, assertion, responsibility, empathy, engagement, and self-control. Internal reliability ranges for .72 for the Assertion subscale to .94 for the Communication subscale. Validity has been demonstrated in normal and special needs populations.

Aggression Questionnaire is a revised version of the Buss-Durkee Hostility Inventory (Buss & Warren 2000) and measures aggression and anger. It has an overall score and five scales: physical aggression, verbal aggression, anger, hostility, and indirect aggression. The scales have an alpha of .70 or higher and the overall scale has an alpha of .90. It has been in wide use as a measure for youth.

Social Problem Solving Inventory (Frauenknecht, M & Black, D., 2005) is a widely used scale measure that assesses automatic process, problem orientation and problem solving skills. Orientation has three subscales: cognitive, emotional, and behavioral. Problem solving skills have subscales for Problem Identification, Alternative Generation, Consequence Prediction, and Implementation/Evaluation/Reorganization. The reliability is over .93 for the entire scale.

The independent variable was an arts program that utilized instruction in either the performing or visual arts. This former included dance, music, Capoeira, or theater. The latter included painting, drawing, collaging, or clay modeling.

The program was an eight week program conducted after school either at a community agency or at a middle school campus. The youth who participated had received two or more suspensions within the prior and/or current school year; and/or been arrested; and/or lived in a neighborhood with high incidence of arrests and crime.

d) Data Analyses

The analyses plan entails the use of a Repeated Measures MANOVA (RM MANOVA), where time (pre/post) and condition (experimental/control) are compared for differences in the dependent measures. This approach produces a general main effect for time (pre versus post scores) independent of experimental condition. The experimental condition effect is similar to an interaction effect in the univariate ANOVA model where we can evaluate if differences between times were influenced by membership in either condition (experimental or control).

RM MANOVA, as opposed to a series of RM ANOVAs, is used to avoid having to implement the Bonferroni adjustment, which would require the alpha ($p < .05$) to be divided by the number of analyses. In this case, $.05 / 5$ different measures = alpha level of .01. Multivariate analyses are used to reduce our risk of committing a Type II error.

Groups will be matched on the dependent measures and any other key demographic variables, including, gender, race, and school level (middle or high school), to be certain the two groups start as equivalent as possible. Matching will reduce the internal threat of regression towards the mean as well reduce the risk of a selection bias. That is, the experimental and the comparison groups are more likely to be equivalent.

Prior to running the RM MANOVA the data will be analyzed using Box's Test of Equality of Covariance Matrices. This will determine if the covariance matrices of the dependent variables are significantly different, a violation of one of the assumptions of the MANOVA model. A non-significant Box's statistic reflects the covariances are not significantly different. Wilks' lambda will be the test for multivariate significance.

If Box's test is significant, following the guidance of Tabachnick and Fidell (2001) cell sample sizes and variance/covariance sizes will be examined. If groups with larger sample sizes are responsible for the larger variances/covariances then the analysis can continue as planned. If this is not the case several methods can be used to address the possibility of a Type I error, including increasing, randomly deletion of cases to equalize sample sizes and/or use Pillai's criterion for testing multivariate significance or shift to a series of RM ANOVAs and utilize $p < .01$ as the alpha-level (see above).

Pre-post analyses will compare various measures of mental health and social skills to evaluate if participation in the arts programming resulted in positive outcomes (i.e., decreased anxiety or increased responsibility). For this level of analyses, a larger data set will be utilized. A within-group analysis will be conducted, which is relatively resilient to any individual differences effects – a common confounding issue facing between-groups analysis. As this second analyses is exploratory in nature, it will serve as the foundation for future model building involving more sophisticated multivariate analyses (i.e., structural equation modeling). As the variables had been selected for the pre-post assessments based on prior research, any that are found in this analyses to produce a positive change in outcomes will be considered for inclusion in the model.

e) Personnel capability

PI, Dr. Tina Maschi, is a social work researcher, practitioner, and professional musician. She is an Assistant Professor at the Fordham University Graduate School of Social Service. Her extensive research and publication record includes the use of creative arts intervention for mental and social well-being. Dr. Maschi has coordinated intramural and extramural grant-funded research projects and fellowships from government and private foundation sources. She is the 2010 recipient of the competitive Hartford Geriatric Social Work Faculty Scholars Program Award, which is funded by the Hartford Foundation and the Gerontological Society of America (GSA). This research project examined the role of coping resources (e.g., such as the use of the arts activities and social coping) among state prisoners. She is well published, including in the use of arts as an intervention strategy for mental and social well-being. For the proposed NEA project, Dr. Maschi will provide 10% of her time for project management, overseeing contract compliance, and contributing to and coordinating the team effort for report writing and dissemination of the project findings.

Co-PI, Dr. Jerry Miller, is an Industrial-Organizational Psychologist, based at the Community Research Center, Inc., with extensive expertise in managing grant projects from government and private foundations. He has managed large complex multi-year projects including field-based research projects. He has a strong background in working with school systems and in youth programming. He directed the Prodigy program for the University of South Florida, on which the PASS program was based. He has also conducted several analyses on the program. Dr. Miller has published in both professional and peer review journals and has been invited to present his work internationally. He will be on the project 10% time overseeing the work plan, assisting the PI will project management and, due to his experience with arts based programming, he will have responsibility for the management of the datasets, data analyses, and writing of reports and publications as needed.

Co-PI, Dr. William Rowe, is a Professor in the School of Social Work at the University of South Florida. He holds appointments in the College of Public Health, the Aids Education and Training Center, and the Moffitt Cancer Center. He is formerly Director and Professor of the Schools of Social Work at the University of South Florida, McGill University and Memorial University and was originally tenured at the University of Western Ontario. Dr. Rowe has served on numerous national and international boards and committees in both the academic and practice arenas. Dr. Rowe has been instrumental in the development of social work education programs in Mexico, the Middle East, the Persian Gulf, and Indonesia. He remains an active researcher.

Dr. Rowe was Principal Investigator on two large scale arts intervention programs. During his 30 years as a social work educator Dr. Rowe has edited and authored more than 150 scholarly and professional books, articles, monographs, and research papers on a variety of topics. He serves on the editorial board of a number of academic and professional journals, including the Journal of Evidence-Based Social Work, and is co-editor of Best Practices in Mental Health: an International Journal.

Dr. Rowe will provide the datasets to be analyzed and be available, as needed, for consultation throughout the project period. He will receive no remuneration for his contribution to the project.

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Consultant, Keith Morgen, Ph.D., LPC, NCC, is an Assistant Professor of Psychology at Centenary College and teaches in the undergraduate Psychology and graduate Counseling Psychology programs. Dr. Morgen is a Licensed Professional Counselor (LPC) in New Jersey and a National Certified Counselor (NCC). He received his Ph.D. in Counseling Psychology from Lehigh University. He was a Pre-doctoral and Post-doctoral Fellow in the Behavioral Sciences Training in Drug Abuse Research Program, which was funded by the National Institute on Drug Abuse (NIDA) and jointly sponsored by the Medical and Health Research Association of New York City, Inc. (MHRA), and the National Development and Research Institutes, Inc. (NDRI). Dr. Morgen has served as a research methodologist and statistician on two NIDA grants and has offered consultative research services to numerous other social science projects. Dr. Morgen has over 25 publications on addiction and trauma issues. In addition, Dr. Morgen has presented at numerous major conferences, such as the American Counseling Association, American Public Health Association, Eastern Psychological Association, and the College on Problems of Drug Dependence. Dr. Morgen has been awarded a Psi Chi Faculty Advisor Research Grant for his work on addiction and trauma within New Jersey parolees. Dr. Morgen will utilize his expertise as the main data analyst for this project and will devote up to four days of his time.

f) Organizational capacity

Founded in 1841, Fordham is the Jesuit University of New York, offering exceptional education distinguished by the Jesuit tradition to more than 15,100 students in its four undergraduate colleges and its six graduate and professional schools. It has residential campuses in the Bronx and Manhattan, a campus in West Harrison, N.Y., the Louis Calder Center Biological Field Station in Armonk, N.Y., and the London Centre at Heythrop College in the United Kingdom.

A research university, Fordham received \$43 million of multi-year external funding (both new and continuing awards) in fiscal year 2011; this is an 8.5% increase from the previous fiscal year. The University's Office of Sponsored Programs and the Controller's Office oversee the contractual and financial aspects of all grants and contracts throughout the University. Fordham University will oversee all fiscal matters and general grantor conditions related to this project. The financial analyst will monitor grant expenditures and prepare financial reports and budget modifications.

The Fordham University Graduate School of Social Service (GSSS) is one of the nation's oldest schools of social work and has been a fully accredited professional school since 1929. GSSS is ranked among the top twenty graduate schools of social work in the nation and it currently is the nation's largest. All faculty and staff at GSSS have offices equipped with up-to-date computers, printers and furniture, and all necessary supplies and software and computer support for conducting research. Support staff is available, including a dedicated Grants Officer who will assist in the management of this grant.

Fordham University's division of Information Technology (IT) is committed to creating an environment with easy access to the information technology resources and information needed, and to provide an information technology infrastructure that supports Fordham's institutional goals. Wireless technology, a state-of-the-art Electronic Information Center, quality and integrity of information security, Faculty Resource Centers, Smart Classrooms, video conferencing throughout the university and technological expertise are all hallmarks of Fordham University's Information Technology division.

Fordham's virtual network, available 24 hours a day via the Internet, provides multiple redundant access paths to the Internet and a host of other electronic resources. In addition, Enterprise Technology Services (ETS) within IT is committed to the application of "best practices" in the establishment of highly responsive and available computing platforms as well as a stable and reliable network infrastructure for Fordham University.

Partners

The University of South Florida will provide access to the data sets collected during the PASS program. They will provide research guidance through the Co-PI, Dr. William Rowe.

The Community Research Center, Inc. (CRCI) is an independent organization that will be responsible for managing the datasets, conducting some of the data analyses, jointly overseeing the project with Fordham University, and participating in the analysis and write up of reports and potential peer-reviewed articles. CRCI will provide space, a computer and software for writing, website support for communicating any findings, and SPSS for analysis.

g) Outline for Research Report

As required, there will be a 30-50 page report following the format that is currently outlined. However, if a different format is approved by NEA, we will modify the format to accommodate that guidance.

The report will provide the following information:

- An executive summary that will provide a summary of the findings of the research conducted. This will clearly report on the most relevant analyses.
- A summary of the analysis conducted, and related findings. This section provides greater detail about the research, including some of the background, the data collected, the reliability and validity of the assessments, the methods, and the results.
- A conclusions section, including research and/or policy recommendations, based on the findings. Included in the section will be recommendations for the next research steps.
- A technical note or summary of the methodology used will provide specific information, as needed, so the analyses can be replicated.
- If applicable, web links to research that resulted from this project. This section will also report on any presentations on the research.

h) Outcome(s) and Measurements

As one of the few studies that have utilized a comparison group, the analyses will provide one of the most robust studies to date on the impact of art programming. It will identify the impact on the individual's social skills and clinical characteristics. Assuming the hypothesized relationships are found, this creates a more substantive body of evidence than currently exists. The value of this is to both the scientific and the policy making community.

From the research perspective, a broad fundamental question concerning the potential of art programming would have been directly addressed. If the hypothesis holds up, it could be stated that art programming as implemented in the Prodigy/PASS programs is significantly better than no programming.

This will have near-term practical value that may have a significant impact practices in youth intervention programming. Support for the hypothesis will likely provide the final research piece that will allow designation as an evidence-based program once it is documented. Coupled with the prior published research, there will be sufficient documentation to support the program being listed in the evidence-based catalogue created by organizations such as OJJDP. As evidence based is now a requirement for many agencies, once that designation is achieved, there would be greater willingness among agencies and other funders, to provide programming and fiscal support for such programming. This would result in expanding the reach of the arts to youth.

The analyses also will identify the mental health variables and social skills that are more likely to be influenced by the programming. This will form an empirical scaffold that may guide the development of theory about the relationships between various types of art programming and differential impacts. It can be utilized to guide further research directing systematic exploration of this field. This is an important component in creating a guide in the use of arts as a youth development process.

Together, these analyses will significantly increase the understanding of the value of art as a practical means to develop art intervention programming. Coupled with the information we have gathered about the relatively low costs of this program compared to more traditional programs, the interest that has been expressed at conferences by agencies about the program, can be turned to real support for such programming.

The findings will be submitted to a peer review publication as well as disseminated through conference presentations. In addition, articles will be submitted to professional (non-academic) journals in order to more widely disseminate the findings.

i) Schedule of Key Project Dates

Month 1 -2 Setup of data files, onboarding of personnel, meetings to coordinate writing and analysis

Month 2-8 Data analysis and article writing

Month 9-12 Prepare presentations, final report and begin dissemination

j) Plans for Reporting and Dissemination

Along with the final report the PI and Co-PI's will produce at least two articles on the data and the analyses for peer-reviewed publications. In addition, at least one article each will be prepared for a trade or professional magazine that is distributed to those in the art community and the juvenile justice communities.

The PI and Co-PIs regularly present their work at conferences, both scientific and professional. These findings will be incorporated into some of these presentations. Potential conferences include the OJJDP Conference (if held), Society for Prevention Research, or the Academy of Criminal Justice Sciences Conference.

The final report will include both a 30-50 page complete version, as well as a separate Executive Summary to allow for distribution of the findings for those interested. A web page will be created by the Community Research Center with the Executive Summary posted.

k) Plans for Making the Report and Data Accessible

As stated, the findings will be reported in various formats and journals. The report will be posted on a website for downloading. As additional analysis beyond those described in this proposal may be conducted, the data will be available through Dr. Rowe on a case by case basis. Researchers will contact him to request access to the data.

l) References

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Measuring the Value of Arts in America over Time: Travel Cost, Time Use, and Neighborhood Dynamics

a. Research question(s).

The arts sector in the United States occupies a vital – yet difficult to measure – role in the broader economy and society. This project will use new datasets to provide multiple, complementary estimates of the economic value and impact of arts-related activities in the U.S.. This project will address three primary questions about the impact of the arts sector: (1) who spends how much time on arts-related activities? (2) what does time spent on the arts reveal about the economic value of the arts in society? and (3) how do local arts and cultural districts affect neighborhood dynamics? The first question concerns updated descriptions of the determinants of arts participation, whereas the latter two questions involve economic analysis of market and nonmarket values associated with arts participation.

The investigation of time spent with arts and cultural activities will bring updated answers to several specific research questions. These questions include:

- How do demographic and socioeconomic characteristics of individuals explain the variation in participation in arts-related activities?
- What geographic/environmental factors make participation more likely and more intense?
- What categories of time use substitute for arts activities, and which complement them?
- How do these answers differ for those who vocationally participate in the arts?

Answers to these questions will advance the literature on the impact of the arts-sector on Americans' daily time use. Analyzing time use in the arts sector is nothing novel – although time diary datasets have not been exploited as thoroughly as they might and most attention has been drawn to the Survey of Public Participation in the Arts (SPPA) and other surveys (see, e.g., Robinson 1989, Peterson and Kern 1996, Robinson and Godbey 1997, Owens and Hofferth 2001, DiMaggio and Mukhtar 2004). Survey data like the SPPA, however detailed they may be about types of arts activities, rely on respondents' long-term recall and lack the granularity to measure amount of time spent in arts activities. They typically capture only frequency, not duration. The American Time Use Survey (ATUS) delivers details on duration for various arts-related activities. Arts researchers have not studied the ATUS much (e.g., Vandewater et al. 2006). Time-use surveys in other countries have been studied in the context of arts participation and determinants of cultural capital, although many of them are quite dated (e.g., Sturgis and Jackson 2003, Sullivan and Katz-Gerro 2007, Robson 2009).

The analysis of time use will be extended to capture the value of that time spent on the arts. A better understanding of the value of time in the arts is arguably crucial when considering the arts as experiential goods, high arts as often drawing on high-wage participants, and the often lengthy process cultivating taste or “learning by consuming.” This approach leverages the very large literature on value-of-time estimates so vital to transportation planning and other areas. In short, I will answer the specific questions:

- What is the value of the time spent on the arts by Americans?
- How does that value vary by socioeconomics, geography, and arts activity categories?
- What does this reveal about the “surplus” value received by arts participants?

These answers will offer a “lower-bound” of the economic value of these arts activities in the U.S. This analysis builds on the travel cost method (TCM) estimating economic values. TCM is a very well established, “revealed preference” method for estimating economic values for goods like attending high school theatre performances (Champ et al. 2003, Navrud and Ready 2002). It

is part of a broader toolkit that includes complementary valuation techniques such as contingent valuation (CV) and hedonic pricing (HP). CV studies are fairly common and increasingly used in the arts context (Noonan 2003, 2004), and HP is also increasingly used to value architectural and cultural resources (e.g., Asabere et al. 1989, Noonan 2007). Yet, TCM has been applied only sparingly in the arts and cultural realm to estimate economic values (Navrud and Ready 2002). A handful of TCM studies of cultural sites have been published, nearly all of them outside of the U.S. (e.g., Martin 1994, Forrest et al. 2000, Bedate et al. 2004, Poor and Smith 2004, Boter et al. 2005, Alberini and Longo 2006). Travel costs are vital to robust studies of the demand for the arts (Seaman 2006).

Yet TCM applications to the arts are still rare (see, e.g., Vicente and de Frutos 2011), despite Navrud and Ready's (2002) call for more of these. This project will answer research questions related to the value of time spent on the arts more generally, rather than estimating the value of particular arts venues, exhibitions, or resources. Data limitations prevent the estimation of a proper TCM model. Ideally, we would also have rich data on all of the attendant costs of travel, ticket price, destinations and activity details, etc. Even lacking that information, the value of time invested in traveling to and participating in the arts activity still constitute a portion – perhaps even a large portion – of the full price of arts activities. Theory underlying TCM holds that participation decisions reveal the total value of arts experiences, which must be at least as great as those travel costs. Thus, while the approach taken here will only get a partial value for time spent on the arts, it is certainly a “lower bound” of that value. We will be able to confidently report that the value of the arts *is at least as great as the value estimated*. A few assumptions, relying on measures of price elasticities from other studies (e.g., Ekelund and Ritenour 1999, Seaman 2006), will also allow us to offer a ballpark estimate of the total surplus economic value derived from these arts activities.

The second component of this research addresses the impact of arts districts on local economic development and neighborhood dynamics. It enters into a literature dominated by case studies and advocacy (Markusen and Gadwa 2010). Case studies of impacts of arts districts and cultural clusters abound (e.g., Stern and Seifert 2010, Cinti 2008, Sacco et al. 2009). Yet conventional research methods do not permit generalizable estimates of impacts (and limit their ability to identify causal effects) because their data are drawn from such limited samples or from a single case. The specific research questions I seek to answer with this analysis include:

- What kinds of neighborhoods tend to host arts districts? What kinds are adjacent?
- What are the trends in demographic and economic attributes in those neighborhoods?
- For arts districts established in the 1990s, what can we say about the *causal* impacts of those districts on demographic and economic trends in those neighborhoods?
- Have these arts districts impacted neighborhood stability during the recent recession?

This systematic analysis of neighborhoods at the national scale directly addresses a high-priority research agenda item of Markusen and Gadwa (2010): testing the causal links. I will move past comparative descriptions and case studies by employing “more sophisticated multivariate models” (p.388) with better data. My method (discussed below) identifies causal factors and pathways, albeit in a reduced-form model using aggregate data. One key impact of arts districts in this study is the impact on property values. Following the logic of hedonic price theory (Krupka and Noonan 2009), another staple of nonmarket valuation techniques, this research will enable the estimation of the economic benefits (in dollar terms) of these arts districts.

Answers to these questions will directly expand the evidence on arts' impact on time use, economic value, and local economic development. They will advance the scholarly literature with new and robust empirical relationships measured using relatively underutilized data. Moreover, the resulting estimates of the economic values at stake in the arts sector – measured at a national scale – are novel. The time-use study will help arts policy target underserved and more responsive populations and help advocates make more compelling arguments for arts support. The arts district analysis can directly inform policy decisions about locating districts, mitigating unintended consequences, and property tax base implications.

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b. Research design.

To address these questions, this project proceeds in two phases. **Phase 1** involves estimating behavioral models using detailed time-use survey data collected at the national scale. After assembling and cleaning the data, the initial analysis will estimate a series of models explaining arts participation in a multivariate regression framework. This approach allows for identification of the determinants of daily arts participation related to factors outside the individual's immediate control (e.g., day of week, certain demographics, geography) and a deeper investigation into individual-level traits that might be jointly determined with arts participation (e.g., time spent watching television). Statistical models with endogenous variables will be interpreted as identifying correlations with (rather than causes of) arts participation.

This research will use a long series of time diary data (ATUS) and rely on its several arts-related measures. The basic research design leverages this existing, large-scale, and high-quality survey's comprehensive measures of time use at a very refined scale and coupled with excellent measures of income, employment, household characteristics, and other demographics (as linked to another high-quality national survey, the Current Population Survey). Time use decisions (T_{ij} for individual i and activity j) will be explained by variation in individual characteristics (X_i) and attributes of the time and location of the survey (D_i and G_i , respectively). Multivariate statistical analyses will identify how X , D , and G predict T , and a rich description of correlations (and

conditional correlations) among variables will indicate how T_{ij} and T_{ik} (for $j \neq k$) relate. Models where T is measured as an indicator variable (1 for participation on the diary day, 0 otherwise) will be estimated separately than models where T is measured continuously (as minutes spent in that activity). A joint, two-stage model, where the participation decision is modeled in the first stage and the duration is modeled conditional upon choosing to participate, will also be appropriate for this analysis.

This work sets the stage for the second task in Phase 1, the calculation of a lower-bound on the economic value of arts participation. These estimates will not be attributable with precision to any particular arts activity, venue, or production. But what they will give is a quantified measure of the kind of value that Americans place on the arts as revealed through their behavior. The costly investment of their time in pursuing the arts indicates a revealed preference, enabling us to infer an economic value following the TCM. I will use standard techniques in TCM studies for using income, employment type, travel time, wait time, and time spent on-site (see, e.g., Champ et al. 2003). For all arts activities, even those that do not involve travel, simple value-of-time estimates for time spent in the activity will be estimated. Using sampling weights provided in the ATUS for different years, these (lower-bound) economic value estimates will be aggregated up to regional and national scales, and will be scaled up from daily values to weekly and annual values. I will also indicate how the average economic values vary across time and space (and across other demographic factors that do not directly enter the estimated time-cost formula – e.g., race, education).

Finally, for the arts activities like attending performing arts, museums, and movies (although the full price and site information will not be known), a rough estimate for the total economic benefits will be made. This will be done using previous estimates of price elasticities of demand for arts participation and a sensitivity analysis for alternative “full price” estimates. The most important, and most conservative, model will assume an admission price of zero and no other unobserved participation costs – yielding a lower-bound estimate of the total economic benefits from participation in this arts activity. Again, this estimate can be aggregated to the entire nation, albeit with some caveats.

Phase 2 of the project shifts attention to local arts clusters and identifies the impacts of cultural districts on economic values and socioeconomic characteristics of neighborhoods. This phase replicates a multi-equation multivariate statistical approach to identify the (causal) local effects of cultural districts on a host of neighborhood indicators (e.g., property values, income, racial composition) that has been effectively used for non-arts applications. This very data-intensive technique – leveraging a panel dataset of time-consistent Census geographies that stretches back several decades – relies on a dynamic panel data estimator to obtain consistent estimates of trends in neighborhoods in and around arts districts and how those trends differ from otherwise similar neighborhoods. This approach contrasts with the many case studies already available in the literature. It almost directly responds to Markusen and Gadwa (2010):

“To definitely detect results within a city or metro, longitudinal analysis must track waning as well as waxing cultural nodes... To guide city planners and decision-makers on cultural versus other public investments, and which appear to be superior cultural interventions, researchers should engage in comparative research across a large number of cities (or metros), not a small undertaking.” (p.387)

This phase promises to identify the average impacts of cultural districts (specifically, those established in 1999 or earlier). New major cultural institutions may also be included in the

model. Among the impacts measured is, following hedonic price theory, a measure of economic value attributed to these localized amenities. Because neighborhood dynamics are complex and multidimensional, this proposal employs a research design that follows the established approach of Krupka and Noonan (2009) and Noonan et al. (2007). They modeled place-based efforts to substantially improve local amenities and bring economic development to targeted neighborhoods. The model is on a national scale and spans several decades, because the extra data are needed to identify existing trends and robust counterfactuals about neighborhood dynamics, and because the policies in question were implemented at numerous locations around the country. The development of arts districts in cities around the country also fits this model.

Research in Phase 2 looks at the effects of arts districts in a simultaneous equations setting that allows for their multidimensional effects and interactions among the various neighborhood indicators. Indicators for price (P), housing stock characteristics (S), and neighborhood demographics (N) are available for neighborhoods at each decade from 1970-2000. Each indicator is modeled to be a function of its lagged value (i.e., from the previous decade), the other indicators, and an array of exogenous geographic control variables (G). Also in each equation is the presence of an arts district (D) in the neighborhood or in an adjacent neighborhood, two different “treatment” variables. The model allows for both treatment variables to also be endogenous, instrumented for by the twice-lagged levels of each neighborhood indicator (P , S , N) and the exogenous factors (G). Each of these equations (I anticipate 19 endogenous indicators initially) operate simultaneously. Unobserved time-invariant neighborhood characteristics and metropolitan-scale trends may pose serious omitted variable problems. Thus, the equations are all considered as first-differences (i.e., variables are measured as changes from the previous Census) and everything is differenced from metropolitan-level means. The difference-in-difference approach helps identify the causal effects of districts. Allowing for the simultaneity in various neighborhood characteristics further enhances the model’s robustness to endogeneity, likely avoiding seriously biased impact estimates. The specification also allows for estimating districts’ effects on neighborhood indicators *other than property values*. See Krupka and Noonan (2009) for more details on the model specification, as space prevents a more detailed discussion here.

References:

Krupka, D. J., and Noonan, D. S. (2009) “Empowerment Zones, Neighborhood Change and Owner-Occupied Housing.” *Regional Science and Urban Economics* 39(4): 386-396.

Noonan, D.S., Krupka, D. J., and Baden, B. M. (2007) “Neighborhood Dynamics and Price Effects of Superfund Site Clean-up.” *Journal of Regional Science* 47(4): 665-692.

c. Data source(s).

Three main data sources rarely applied to scholarly arts research will be applied. First, the American Time Use Survey (2003 – 2010) will be used extensively in Phase 1. The nationally representative ATUS sample includes roughly 26,000 households per year, from 2003-2010. This dataset is linked to a second dataset, the Current Population Survey, to obtain more precise information about geographic locations. These datasets are already linked in an ATUS-CPS dataset from the Bureau of Labor Statistics. The details about activities and location (down to the metropolitan or city level) are critical to being able to richly map the arts behavior landscape, and are available in the CPS. Other variables of drawn from the ATUS-CPS of particular interest here include: occupation categories (e.g., codes for artists, designers, actors,

producers and directors, dancers and choreographers, musicians, writers and authors, and other related occupations), industry categories (artists, cultural institutions), and income and employment status variables. Detailed time-diary data, including the time of day and duration of various activities, will also be obtained and analyzed. These variables include work time (for artists) and arts activities, like the “arts and entertainment” category (and sub-categories: arts and crafts with children, arts and crafts as a hobby, attending performing arts, attending museums, attending movies, waiting associated with arts and entertainment, and travel related to arts and entertainment), and other activities that might complement or substitute.

The third data source, used extensively in Phase 2, is U.S. Census data from 1980, 1990, and 2000, as processed by [Geolytics, Inc.](#) This proprietary dataset projects historical decennial Census data onto time-invariant geographic boundaries (circa 2000), which is essential for any analysis of local trends that spans more than 10 years, because Census boundaries frequently change. The analysis will use block-group level socioeconomic indicators back to 1980, plus tract-level indicators for 1970 as needed. The data will include the entire U.S. as covered by the Census “long form” sampling and its 1000+ Census long-form variables, including variables of interest (e.g., median housing price, population density, median household income, percent in poverty, percent white, percent graduating college, percent of households with children, median year home built, percent renters, percent of buildings with one unit, average commute time). See Noonan et al. (2007) for a full list to be used in this analysis.

Spatial data on local arts districts will be gathered manually, building off of lists published elsewhere. For example, Frost-Kumpf (1998) points to arts districts for over 90 U.S. cities, and Strom (2002) indicates 71 major cultural facilities getting built or renovated between 1985-2005, most of which pre-2000. A sample of major U.S. arts districts along with their implementation date will be mapped in ArcGIS. Additional data will be merged into these datasets as needed, all from public sources. This includes merging “distance to city center” (as used in Noonan et al. 2007) with the Geolytics data.

References:

- Frost-Kumpf, H. A. (1998) *Cultural Districts: The Arts As a Strategy for Revitalizing Our Cities* Washington, DC: Americans for the Arts.
- Strom, E. (2002) “Converting Pork in to Porcelain: Cultural Institutions and Downtown Development.” *Urban Affairs Review* 38(1): 3-21.

d. Data analyses.

At the core, one model underpins each phase of this project. For the arts behavior model, the basic model takes the form:

$$(1) \quad T_{ij} = \alpha + \beta_1 X_i + \beta_2 D_i + \beta_3 G_i + \varepsilon_{ij} .$$

Variables represent time-use decisions (T), individual characteristics (X), attributes of the survey time (D), and attributes of the respondents’ location (G), all for individual i and activity j . Equation (1) will be adjusted as appropriate for the data and, in particular, for the dependent variable. When T is a binary indicator of participation, logit models will be estimated, and when T is continuous then a tobit estimator will be employed. A two-stage model that incorporates both decisions will also be fit. To deal with the large number of zeros in the participation decision, a Box-Cox double hurdle specification will likely be employed. Control variables for the time-use models include time variables (day of week, holiday dummy, year-month dummies) and county indicators (G). They also include personal characteristics to capture preferences

(e.g., age, sex, number of children, income, employment status, occupation class, race, education, cohabitating status). This approach resembles Zivin and Neidell’s (2010). The estimates for the parameters (β) will provide answers to the specific research questions posed about time use. When equation (1) is modified to allow for other time uses ($T_{ik} k \neq j$) to be included as regressors, the interpretation will shift to be strictly descriptive or correlative (not causal) and hypotheses about substitute and complementary activities can be tested. Finally, adding an interaction term with an indicator for “status as arts worker” will allow identification of any different effects for artists. All of these regressions will be estimated using sample weights provided from ATUS-CPS to allow the results to represent the national population.

For the value-of-time analysis, the time-use estimates available directly from the ATUS-CPS data will be converted via a formula to arrive at the value of time spent. That standard TCM formula will draw on factors like income, employment conditions, and time spent waiting, traveling, and in the activity, all also variables in the data. These values will be aggregated, using the sample weights, to the whole population and to various subsets (e.g., by region, by year, by type of activity). The imputation of a consumer surplus using assumed elasticity measures will also be computed in the usual fashion. These value-of-time estimates follow a deterministic approach, so no inferential statistics appear here. Nonetheless, to assess how these values vary across socioeconomic groups (in particular, by age, race, and education), some auxiliary regressions will be run to predict the individual value-of-time spent on the arts using these exogenous demographic variables.

For the neighborhood dynamics model, the data analysis closely follows Noonan et al. (2007). Given neighborhood-level measures for price (P), housing stock (S), and demographics (N), arts district presence (D), and geographic control variables (G), a system of equations for these endogenous variables is:

$$\begin{aligned}
 P_{it} &= \beta_{0t} + \beta_D D_{it} + \beta_S S_{it} + \beta_N N_{it} + \beta_G G_i + \varepsilon_{1it} \\
 (2) \quad S_{it} &= \gamma_S S_{it-1} + \gamma_{0t} + \gamma_D D_{it} + \gamma_N N_{it} + \gamma_G G_i + \varepsilon_{2it} \\
 N_{it} &= \delta_N N_{it-1} + \delta_{0t} + \delta_D D_{it} + \delta_S S_{it} + \delta_G G_i + \varepsilon_{3it}
 \end{aligned}$$

This system is estimated in first-differences, with one exception: the time-invariant geographic factors G re-enter to allow for time-varying parameters. The result is a rich depiction of the effects of districts (being inside a district or just ‘near’ to a district) on many socioeconomic indicators for Census block-groups.

To identify the parameters in equation (2), I use Census data from 1980, 1990, and 2000 from Geolytics. This database holds block-group boundaries fixed over time, enabling a panel data estimator for the system of equations with numerous endogenous variables. To eliminate any time-invariant unobservables and reduce the risk of endogeneity in D , I estimate everything in first-difference form, de-measured at the metropolitan level (i.e., MSA-level fixed effects), in three-stage least squares (3SLS). This allows for the twice-lagged levels (i.e., 1980 levels) to instrument for each variable. (The exceptions to this are G , which instruments for itself, and D , which lacks a 1980 measure and relies on a set of other metropolitan-level measures from 1980 as instruments.) Sargan tests for overidentification and Durbin-Wu-Hausman tests for endogeneity will be performed on an equation-by-equation basis as diagnostic checks.

References:

Zivin, G. J. and Neidell, M. (2010) “Temperature and the Allocation of Time: Implications for Climate Change.” National Bureau of Economic Research working paper #15717.

e. Personnel capability.

My CV shows numerous publications in peer-reviewed journals, spanning 10 years, that directly relate to nonmarket valuation techniques and arts policy. Serving on the *Journal of Cultural Economics* editorial board for the past 4 years, I am acutely aware of the need for this kind of research and the impact it will make in the literature. Moreover, my past publications demonstrate my facility with large datasets and the relevant statistical estimators. I will commit 100% of my time for 1.5 months in the summer, plus more of my time (uncharged) as an instructor of at least one independent study course. This summer 2012 course will attract undergraduate and graduate students at Georgia Tech to contribute to the project for course credit. I expect to recruit several skilled students for this effort, which would be a substantial in-kind contribution to the project. Plus, as I will work diligently to draft and publish the papers during the 2012-13 school year, I expect to run a second independent study during the fall of 2012 or coordinate with colleague (Prof. Jennifer Clark) to integrate my data and research questions into empirical student projects for her economic development courses.

I also plan to hire and supervise an undergraduate research assistant in the summer of 2012 for 80 hours to help create the GIS maps for the arts districts.

f. Organizational capacity.

Through Georgia Tech's computing resources, I have access to all the statistical and GIS software that I will need for this study. Moreover, I have access to a large pool of interested and skilled undergraduate and graduate students in public policy and regional planning. Based on my experience, recruiting several of these students to assist in this project for course credit (as well as the one paid position) will be easy. I also plan to leverage an undergraduate research fellowship program that I run, so another student will spend the 2012-13 year researching for this project (funded by other sponsors).

I already have all of the data necessary to complete this project. The ATUS-CPS is already running on several of my machines. I also already have the Geolytics data and have published with it regularly. Specifically, for the Phase 2 analysis, I have performed and published two very similar analyses, looking at Superfund cleanups (Noonan et al. 2007) and Empowerment Zones (Krupka and Noonan 2009) instead of arts districts. These papers are here:

- <http://www.prism.gatech.edu/~dn56/NPL.JRS.pdf>
- <http://www.prism.gatech.edu/~dn56/EZ.RSUE.pdf>

g. Outline for research report.

- I. Executive summary
- II. Introduction
- III. Overview of methods used
- IV. Findings
 - a. Who participates, spends time on the arts? Where are they?
 - b. Estimates of the time value of arts attendance, time spent on arts more generally
 - c. Estimates of economic and neighborhood impacts of arts districts
- V. Conclusions and recommendations for policy based on findings
- VI. References
- VII. Appendix
 - a. Summary of methodology used for building datasets
 - b. Summary of methodology used for time-use model, value-of-time estimates

- c. Summary of methodology used for neighborhood-dynamics model
- d. Web links to cultural districts shapefile, all working papers

h. Outcome(s) and Measurements.

The anticipated outcomes include (a) demonstrating the utility of several datasets rarely (or not yet) applied to arts policy research, (b) providing new and more comprehensive evidence of the economic value of arts attendance, of time spent in the arts, and of proximity to local arts amenities, and (c) engaging and energizing the arts research community to tackle arts policy questions with rigorously and quantitatively. The first outcome will be achieved with the publication of peer-reviewed articles based on this project. Likewise, the third outcome will be achieved by the publications, conference presentations (I plan to present at the next meeting of the Association of Cultural Economics International), working papers, other dissemination of the results. Moreover, publishing quantitative and policy relevant work, especially to economists, will promote arts research to an audience that often overlooks it. Economic value estimates for the arts often find controversy, and I anticipate some of these results will inspire responses and further research. The economic value estimates – themselves direct evidence of the value and impacts of the arts – will be generated and published in arts and cultural policy journals.

Performance will be measured in a similarly straightforward way: by the publication of the research findings in peer-reviewed journals. The publications – vetted through the scholarly peer-review process – will provide the most definite evidence possible of this project providing quality new evidence of arts’ economic impact. I expect 2 new publications in the *Journal of Cultural Economics* and 1-2 more publications in other arts policy journals.

i. Schedule.

Start:	May 7, 2012
Independent study course begins	May 14, 2012
Phase 1 preliminary analysis complete:	July 7, 2012
Phase 2 preliminary analysis complete:	July 28, 2012
Independent study course ends	August 4, 2012
Writing report, papers	April 1, 2013
End:	May 6, 2013

j. Plans for reporting and disseminating the study results.

The results from this project will be three to four separate papers, two for Phase 1 and one or two for Phase 2, submitted to academic journals for publication. Working papers that precede each of the manuscripts for peer-review publication will also be made available to the public for free download.

k. Plans for making the report and data accessible

The summary research report delivered to the NEA will be made available publicly online as a working paper in the School of Public Policy. The new data – the arts district maps – will be made available on my School website for free download. The public datasets (ATUS, CPS) will already be available and the Geolytics data are proprietary and available from Geolytics.

NDEO: Details of the Project Narrative:

EVIDENCE (Evidence in the Value of Dance Education for Our Nation's Children)

A. Research Questions:

HYPOTHESIS: Significant data exist that, when analyzed fully, provide a blueprint for demonstrating the value of dance education as a learning modality for creative and critical thinking skills and social and emotional development.

1. What evidence exists in available databases (see list) that attests to the value and impact dance of dance arts education in the following categories: **Creative Process, Neuroscience/Brain Research, Student Achievement, Affective Domain, Student Performance, Equity, Cultural and World Dance, and Children-at-Risk.**
2. What does that evidence show? How can we unpack the evidence? What is the significance?
3. Does dance arts education study impact education variables including: graduation rates, grades, GPAs, school absence rates, etc.?
4. What are the implications of the research studies on our ability to compete in a global economy within fast changing social/cultural environments?
5. How does the evidence impact teaching and learning in and through dance for a variety of constituencies including pre-service teachers, professional development programs, future audience members, and underserved communities?

Current literature is emerging that contains promising data on all of the above questions, including: creative thinking through movement (Minton 2003), how the brain creates and processes movement (Lloyd et al 2004), ways proficiency in dance is assessed, (Chatfield 2009), how dance fosters social and emotional development (Naik 2010), how student performance in dance fosters critical thinking (Schupp 2006), access and equity in dance education (Bonbright 2011; Morris et al 2007), ways in which dance study connects people across the world (Matos 2010), and how dance is a therapeutic and developmental modality for children at risk. (Bucek 2004).

The above citations were drawn from the Dance Education Literature and Research descriptive index, a database that was created as a result of a three-year United States Department of Education granted project (2001-2004), in which teams of researchers uncovered dance education research from 1926 to the present day. The team members analyzed the documents and categorized them by content, issues addressed, methodologies used, and populations served. The database has been added to continually, and now boasts 5,000-plus full citations.

The DELRdi database is a unique resource, but it is one that has not been systematically mined for evidence of the effectiveness of dance on learning and creating. Along with the data from the FRSS (Fast Response Survey System) and the NAEP (National Assessment of Educational Progress), meta-analyses and systematic reviews can be used to triangulate and draw conclusions about the ways in which dance education is of value to young learners.

B. Research Design

Descriptive research methodology will involve both quantitative and qualitative processes. Statistical data and empirical results will be analyzed and compared where appropriate, and emergent patterns will be explored through pattern analysis.

Step One: Develop a Procedures Manual so all investigators follow the same process to gather the research data, analyze and complete the salient information; and understand standardized forms, documentation, and descriptors used throughout the grant.

Step Two: Develop a standardized form (Data Report) that must be completed by researchers to document each database accessed and examined, include links to data sources, and provide information about the content of the data. The information will be categorized and placed in a grid (Domains of Knowledge and Populations Studied) that includes the categories described in A.1. Both forms will be piloted, and an EVIDENCE master db will be set up in Access.

Step Three: Develop a wiki where documents can live for constant access by researchers and grant personnel.

Step Four: Conduct at least one face-to-face training session (in Washington DC). The remainder of the training sessions will be conducted virtually by web-based interactive software. Face-to-face training session will cover: the Procedures Manual, training in online database searches, review of descriptors in the research project, training in the use of the wiki, data entry into the master db, and signing of confidentiality agreements.

Step Five: Assign databases to researchers to mine the data. Mentor researchers throughout the process to ensure data are complete, standardized, entered into the master db, and accessible. [See Section 10 with descriptions of databases and specific content to be assigned among 10 researchers.]

Step Six: Collect the data using the Domains of Knowledge and Populations form, Data Report form, wiki, and master Access relational db.

Step Seven: Analyze the data (through descriptive research processes). Data analyses will be driven by the research mined (see D. Data Analyses below).

Step Eight: Write three reports: (a) EVIDENCE Report for the Arts; (b) EVIDENCE report for the American public (tri-fold brochure citing specific research, results, and findings; and (c) NEA final report. As with the *DELRdi*, the continuous process of data analysis will inform the report, and the report will inform the analysis of data. Data and reports culminate into coherent reports that reach three targeted audiences (the field, the nation, and the NEA).

Step Nine: Finalize and publish the report; upload to the web, and disseminate among state and national arts and education networks and media.

Step Ten: See all research mined from the various data bases is entered into the *DELRdi* into the appropriate categories (U.S. Education Issues, Populations Served, and Areas of Service). [See: www.ndeo.org/DELRdi]

C. Data Sources (see attachment #10 for details)

Dance Education Literature and Research descriptive index: NDEO's database of literature
Fast Response Survey System
National Assessment of Educational Progress
ERIC
Project Muse

D. Data Analyses

The type of meta-analysis we will conduct is called a systematic review, and it is essentially an emergent analysis of patterns within a collection of outcomes.

Interpretation of results will come from identification of emergent patterns in relationship to the hypothesis: Significant data exists that, when analyzed fully, provides a blueprint for demonstrating the value of dance education as a learning modality for creative and critical thinking skills and social and emotional development.

The interpretive process will be based in frequency of pattern, proximity of outcomes, applicability to the integrative process, and degree of efficacy to learning in and through dance.

In the case of the proposed project, EVIDENCE, the data will be collected by the researchers on a form:

INSERT Data Report form [See Appendix A: Details of the Project Narrative p. 8 & 9]

The information from the form will be aggregated on the grid below: EVIDENCE: Evidence in the Value of Dance Education for Our Nation’s Children.

EVIDENCE: Evidence in the Value of Dance Education for Our Nation’s Children

	Creative Process*	Neuroscience & Brain Research*	Student Achievement*	Affective Domain*	Student Performance*	Equity*	Cultural & World Dance*	Children At Risk*
Populations Served								
Early Childhood								
K-4								
5-8								
9-12								
Artists								
Studios & Private Schools of Dance								
Performing Arts Organizations								
Different Abilities								
Senior Citizens								

- Descriptors and Search Words

[INSERT Descriptors for Domains of Knowledge [See Appendix B: Details of the Project Narrative p. 10]

After the grid areas have been populated with results from statistical and researched data, including sample size and population, content of variables, and robustness of results, the analyses will be conducted by analyzing patterns of recurrence in outcomes for areas of creative and critical thinking and social and emotional development. Interpretation of results will come from identification of emergent patterns in relationship to the hypothesis: Significant data exists that, when analyzed fully, provides a blueprint for demonstrating the value of dance education as a learning modality for creative and critical thinking skills and social and emotional development.

E. Personnel Capacity (Qualifications, Roles, Responsibilities, % Time on Project)

James Catterall, PhD (See bio and vitae Attachment 5)

Role: Senior Advisor to the Project.

Qualifications: James Catterall is a foremost researcher in arts education. For the past twenty years his research has focused on measurement of children’s cognitive development and motivation in the context of learning in the arts. His most important studies have centered on assessing learning; enhancing self- and interpersonal understanding; learning music in grades K-2 and its effects on visual and spatial intelligence; and learning in the visual arts and the development of creativity, originality, and self-efficacy.

Responsibilities: The Senior Advisor to the Project will: (1) provide guidance and suggest needed revisions to research design, methodology, and data analyses to ensure research goals are met through the proper use of tools, design, and methodology; (2) review training procedures and research forms before implementation; (3) review data collection and analysis and suggest revisions to design, process, methodology; (4) help formulate conclusions; (5) oversee accuracy of final document (EVIDENCE: Evidence in the Value in Dance Education for our Nation's Children); and (6) offer suggestions for future field-initiated research and new research.

Time Commitment: 15 hrs x \$150/hr = \$2,250.

Jane Bonbright, Ed.D. and Rima Faber, PhD (See bios and vita Attachment 5)

Roles: Co-Senior Researchers; Field Researchers

Qualifications: Drs. Bonbright and Faber have worked on the NAEP assessments and FRSS surveys since inception. They know the databases and survey questions well, have contributed as assessment writers, administrators of assessments, trainers for scorers on reliability measurers, and served as expert reviewers for NCES in the development of final reports. They have each served FRSS as reviewers of questionnaires to principals and arts specialists, and in the review of data reported over the past 15 years. Drs. Bonbright and Faber administered the *Research in Dance Education* project (2001-2004) as Project Director and Grants Administrator, and Director of Research, respectively. The *RDE* project identified, reviewed, analyzed, and reported on 80 years of literature and research in dance education. Bonbright and Faber developed the research forms, networks, and oversaw the work of 54 field researchers in data gathering, reviewing, and analyses. They co-authored *Research Priorities in Dance Education: A Report to the Nation* (2004) and oversaw the development of the *Dance Education Literature and Research descriptive index* (2009) which now contains more than 5,000 works of literature and research in dance.

Responsibilities: Drs. Bonbright and Faber will, in cooperation with the Project Director: (1) develop the research tools (Domains of Knowledge matrix and Access db, Research Data form, and glossary of research terms) used to standardize the synthesis of identifying, organizing, and reporting data from field research; (2) provide training for ten researchers; and (3) develop the Procedures Manual. In cooperation with the Grant Administrator, they will: (4) finalize the published report EVIDENCE (Evidence of the Value in Dance Education for Our Nation's Children project); (5) finalize the tri-fold glossy brochure to communicate the value of arts to the American public; and (6) ensure dissemination of reports through NDEO networks. They will work closely with both the Project Director and Grant Administrator to ensure strict adherence to the project goals, budget, training and reporting procedures, and timeline; and, finally, ensure the incorporation of EVIDENCE data into the DELRdi.

Time Commitment: 20 hrs/mo x 12 mo = 240 hrs (research) + 30 hrs (research tools, training and management) = 270 hrs x \$30 = \$8,100.

Bonbright's honorarium: \$3,000; and Faber's honorarium: \$3,000. The remainder will be returned to the project as in-kind services.

Karen Bradley, MA (See bio and vitae Attachment 5)

Role: Project Director; Field Researcher

Qualifications: For twenty years, Bradley has been researching cognitive, kinesthetic, and learning styles in movement studies, dance and theatre, and differently-abled populations. She wrote the dance section in *Critical Links: Learning in the Arts and Student Achievement and Social Development* (2002); served as co-Chair of the Published Literature in the *Research in Dance Education* (RDE) project (2001-2004) and authored *Research Priorities in Dance Education* (2005), is Director of Research of the Certification Program of the Laban Institute of Movement Studies; and is tenured Associate Professor of Dance at the University of Maryland, College Park and Director of Graduate Studies in Dance.

Responsibilities: The Project Director will: (1) oversee the daily work of ten researchers to include, but not limited to, the use of standardized forms, research process, retrieval of data, application of National Dance Education Organization

descriptors to categorizations of data, and completeness of data entry, review, and analysis; (2) assist the Co-Senior Researchers in training sessions of the ten field researchers; (3) establish communication networks with the ten researchers and assign the databases to be researched (NAEP, FRSS, DELRdi, Muse, and ERIC); (4) call web-based meetings for training, streamlining, and reporting; (5) ensure all data are entered correctly into the Domains of Knowledge matrix and EVIDENCE db; (6) ensure the project is meeting the research goals; (7) work with the Grant Administrator to ensure the project is on time and within budget; (8) work with the Co-Senior Researchers, to develop the Procedures Manual, research tools (Domains of Knowledge matrix and EVIDENCE db, and glossary of research terms) to ensure standardization in data identification, documentation, analysis, and reporting; and (9) work in cooperation with the Co-Senior Researchers, be responsible for synthesizing, analyzing, and reporting EVIDENCE data; and writing final reports due the NEA and commissioned for the field.

Time Commitment: 20 hrs/mo x 12 mos = 240 (research) + 10 hrs (research tools and management) = 250 hrs x \$30 = \$7,500.

Bradley's honorarium: \$3,000. The remainder will be returned to the project as in-kind services.

Susan McGreevy-Nichols (See bio Attachment 5)

Role: Grant Administrator

Qualifications: For thirty years, McGreevy-Nichols has lead research in learning styles and theories in dance education. From this research, she has developed national, state, and local level standards in dance, multi-dimensional assessments for student learning and achievement, curriculum, teacher preparing and pre-service training sessions, and worked with states on strategic planning to build infrastructure to support the learning and teaching of dance as a core academic discipline.

Responsibilities: As Grant Administrator of the NDEO, McGreevy-Nichols will: (1) oversee the budget, timeline, technology capabilities; (2) ensure the readiness of tools for data collection, analysis, and reporting; (3) serve as a contributing author to the analyses of data, conclusions and recommendations; (4) prepare final report to the NEA and assist in all dissemination of reports to the field, EVIDENCE master database, and the tri-fold glossy brochure designed to market the NEA's message regarding the value the arts make to the American public and human experience; and (5) ensure the integration of EVIDENCE data into the NDEO *DELRdi*.

Time Commitment: 12 hrs/mo x 12 mos = 144 hrs/yr; or 5% of administrative salary ~ \$3,750.

F. Organizational Capacity (www.ndeo.org and www.ndeo.org/DELRdi)

The EVIDENCE Project will be conducted by 10 field researchers who will be using their respective university library facilities to access the public (NAEP and FRSS databases), proprietary databases (ERIC and Muse), and the DELRdi (NDEO owned). Each researcher has access to the DELRdi through NDEO membership. No fees are involved with accessing these public, proprietary, or private databases.

Each researcher will be provided with research tools: Procedures Manual, a matrix of the Domains of Knowledge with descriptors, Research Report form with descriptors to track research finds, an assignment of databases specific to the domains of knowledge to be researched, access to the DELRdi, and access to the wiki and master database into which field data are entered.

Organizational Capacity in Research: From 2001 through 2011, NDEO continues to support and expand a grant originally awarded in 2001 by the U.S. Department of Education-Office of Educational Research and Improvement (OERI) for \$673,000. Since monies ended in 2004, NDEO has tripled the contents of the *Research in Dance Education db* (RDEdb) from 1,500 entries (dissertations, theses, articles, conference proceeding, technical manuals, etc.) to more than 5,000. In addition, NDEO has rebuilt the web platform, re-titled it the *Dance Education Literature and Research descriptive index* (DELRdi), and made it more user-friendly and accessible. NDEO has established two Centers for Research in Dance Education (Temple University and New York University); offers library subscriptions to postsecondary institutions to stimulate knowledge and research in dance; and sponsors a permanent NDEO Research Committee, a research special interest group, and research forums; and has established National Dance Education Organization

In the course of the original *RDE* project, NDEO conducted similar research design and methodology as is required in this project. Our goals then were to identify, review, analyze, and gather literature and research written from 1926 to the present that informs teaching, learning, and future directions of research in the field of dance education. We had 53 researchers mining 147 university libraries for dissertations and theses and more than 200 periodicals covering published and unpublished articles, conference proceedings, and technical manuals. In addition to providing basic citation information, the DELRdi provided extensive descriptive information on the methodology, techniques, and characteristics of the research documented in the index using report-back forms (A & B). We developed a Procedures Manual, descriptors and glossary of research terms, a matrix of 820 cells in which to organize data, performed research analyses for patterns, trends, and gaps in over 8 decades of research, and wrote a 130 page final report: Research Priorities for Dance Education: A Report to the Nation (2004). To this day, it remains a living document and provides needed direction to field research.

G. Outline for Research Report.

ABSTRACT

Introduction:

Hypothesis and Methodologies Used:

Literature Review:

Findings:

Analysis and Interpretations:

Conclusion and Impact:

Future Considerations:

H. Outcome(s) and Measurements. Discuss how your project directly addresses the NEA outcome for **Enhancing knowledge and understanding**: *Evidence of the value and impact of the arts is expanded and promoted.*

The hypothesis for the proposed project directly addresses concerns about how little we know about the impact of arts-based learning on children. In the case of dance education, the knowledge gap does not have to be as wide as it is, because we have access to a wide range of databases and regularly track and compile each study that looks at dance or uses dance experiences as variables in NDEO's own *DELRdi* database. By accessing, triangulating, and noting patterns within all of the statistics and studies that we can, a picture will emerge of best practices and effective approaches. The details of those best practices and effective approaches will be the substance of the report and the other products that will be developed as a result of this project.

One additional outcome we would work to see realized is that resources for assuring that the results are robust, valid and replicable for all or defined populations would be forthcoming, as such studies would demonstrate the value and impact of standards-based dance education.

I. Schedule of Key Project Dates:

At submission of Grant

- Develop matrix of Domains of Knowledge and Populations to be researched, identified, reviewed, and documented.
- Develop the Research Report form (to track evidence of research data). This form standardizes data found by researchers and must be completed (in report form) to document each database accessed and examined, accessible links to data sources, and provide a comprehensive review of the content. The information will be categorized and placed in the Domains of Knowledge and Populations grid (above), technologically realized as a relational Access db.
- Upon notification of grant award: (a) contact researchers to prepare for project to begin on May 1, 2012; and (b) Key Personnel begin work on developing the Procedures Manual, planning training sessions (face-to-face and web-based), and review/revise previously prepared forms provided at submission of grant.

May 2012

- Pilot forms (Domains of Knowledge and Populations and Research Report).
- Develop, pilot, finalize, and disseminate the Procedures Manual to all investigators so each follows the same process for gathering the studies and data, analyzing and completing the salient information; and understanding descriptors and glossary used in the grant.
- Develop a wiki where documents can live for constant access by researchers and grant personnel; and pilot.
- Hold at least one face-to-face training session (in Washington DC). The remainder of the training sessions to be conducted virtually by web-based interactive software.
- Assign databases to researchers to mine the data.

June 2012 – March 2013

- Researchers mine databases assigned and continue to gather data for next 10 months.
- Researchers collect data, record on Research Data Documentation form, the developing data in the Domains of Knowledge grid, and data entry into the EVIDENCE db.
- Key Personnel work as mentors and collaborators with researchers.
- Key Personnel track all data on standardized form (Research Report and the Domains of Knowledge and Populations matrix which transforms into the EVIDENCE db).

December 2012 – March 2013

- Key Personnel begin data analyses (using descriptive research processes)
- Key Personnel continue data analyses through initial drafts of writing reports (NEA, EVIDENCE report, and tri-fold glossy brochure).

March – April 2013

- Finalize data analyses and written reports (NEA, EVIDENCE report, and tri-fold glossy brochure narrative).

April 2013

- Get reports to publishers for hard copy production; upload onto webs of NDEO, state affiliates, and as many as possible of 100 liaison organizations; and do media blitz.
- Have 5,000 tri-fold glossy brochures ready for press release.
- Upload three reports to web.
- Enter EVIDENCE data into the *Dance Education Literature and Research descriptive index*.

J. Plans for Reporting and Disseminating the Study Results (see above timeline).

NDEO will publicize the EVIDENCE project and reports to member and non-member individuals and institutions that include: 3,000 members, 150 liaison organizations, 50 State Arts Agency Directors of Arts Education (SEADAE), NDEO state affiliates, 3,000 K-12 schools, 640 colleges and universities with dance programs, and 1,000 studios. NDEO has major access to dance educators across the nation.

NDEO will build web pages on its home page and encourage state affiliates to disseminate EVIDENCE information gleaned from the research with the goals of stimulating interest in, and realization of, the value of dance in the arts and expanding public knowledge, understanding, and perception of the arts.

NDEO has strong connections with the media and will provide dance magazines and journals timely reports, data, and syntheses of reports targeting respective populations beyond those cited herein.

K. Plans for making the reports and data accessible to the public.

Reports will be public and housed on the NDEO website, state affiliate websites, and the websites of liaison organization with whom we partner in dance arts education.

In addition, EVIDENCE data will be incorporated into the Dance Education Literature and Research descriptive index (DELRLdi) so the collection of data for US arts education is even more relevant and important to the NEA, arts education, institutions supporting arts programming, and the public.

Appendix A: Data Report

To be completed for all research that fits the Domains of Knowledge grid:
 [Use additional paper, if needed to submit complete information]

Field Researcher: _____

Date of Field Research: _____

Matrix:

Does the research fit into the "Domains of Knowledge" grid? Yes No

(If it does not fit, do not fill out this form unless you can make a strong case for expanding the Grid to include this document.)

From matrix: cite Domains of Knowledge: _____
 cite Population(s) served: _____

Citation:

Author(s): _____ Type of Document: _____ Year: _____

Title: _____

Journal: _____ Vo/#!: _____ Month/Season: _____ Pages: _____

Institution (Diss/Thesis): _____ Book: Publisher: _____ City&St: _____

Location: _____

On-Line Search Path/Key Words (for all documents located through databases): _____

<p>Research Method: (Check best descriptor(s). See instructions for descriptors on back)</p> <p><input type="checkbox"/> Descriptive</p> <ul style="list-style-type: none"> <input type="checkbox"/> Correlation/Comparison <input type="checkbox"/> Ethnographic/Anthropological <input type="checkbox"/> Evaluation <ul style="list-style-type: none"> <input type="checkbox"/> Individual <input type="checkbox"/> Program <input type="checkbox"/> Curriculum <p><input type="checkbox"/> Historical/Biographical</p> <ul style="list-style-type: none"> <input type="checkbox"/> Primary Sources <input type="checkbox"/> Secondary Sources <input type="checkbox"/> Philosophical <ul style="list-style-type: none"> <input type="checkbox"/> Experimental <input type="checkbox"/> Quasi-Experimental <p>Sample Size _____ Length of Treatment _____</p>	<p>Research Technique: (If applicable, check all that apply)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Anecdotal <input type="checkbox"/> Action Research <input type="checkbox"/> Case Study <input type="checkbox"/> Computer Simulation <input type="checkbox"/> Content Analysis <input type="checkbox"/> Focus Groups/Interview <input type="checkbox"/> Meta-analysis <input type="checkbox"/> Observation <input type="checkbox"/> Survey/Questionnaire <input type="checkbox"/> "Thinking Aloud"
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Essential Research Characteristics

- | | | |
|-------------------------------------------------------------------------------------|------------------------------|-----------------------------|
| 1. Poses question(s), problem(s), or effect(s). | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 2. Includes research methodology addressing question(s), problem(s), and effect(s). | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 3. Provides a review of related literature. | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 4. Discusses methods for collecting and storing data.. | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 5. Discusses analysis of data and conclusions. | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 6. Includes references and bibliographic citations. | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

Meets research criteria: *(meets #1, #2, #5 and at least 1 other of the above criteria)* Yes No

Research Question(s)/Problem(s):

Methodology:

Dependent Variables:

Results/Conclusions:

Importance of research/Contributions to the field:

Advocacy Pedagogy Policy Other

Comments: (Describe quality of related literature, research design, and interpretation of data; questions provoked; and omitted information or data.)

Appendix A: Data Report (back of form)

DIRECTIONS: Before you begin, study descriptors on the "Domains of Knowledge and Populations" form. If the document does not fit the matrix, do not complete this form unless you can make a strong case for its inclusion. The following serve as descriptors.

- 1. Research Method:** A methodology is a system of principles, practices and procedures that are specific to branches of knowledge. For example, in quantitative research, methodologies usually involve the measurement of definable quantities, e.g. how much a muscle can contract. Quantitative research seeks predictability and exact replication will result in the same conclusion. Qualitative research uses methods that reveal underlying trends and meanings, e.g. analysis of a particular culture or ritual within a culture, a curriculum, etc. Check the research methodologies that have been associated with the work you have been reviewing. The author of the document should articulate the means by which he/she investigates a phenomenon or problem. The following are common methodologies used in research:
Descriptive methodologies often use surveys, questionnaires, case studies, document analysis and other similar means of gathering data to make sense of a problem or phenomenon. There are several sub-categories of descriptive research:
Correlation: Research that explores relationships among two or more variables, such as a study in which Johnny takes regular dance classes and the study seeks to discover the correlation between his dance study and ability to solve problems creatively.
Ethnographic/Anthropological: Often referred to as field research; involves a reasoned and logically organized study of human phenomena; uses informants to study shared beliefs, practices, and behaviors of some group of people or culture. Often involves triangulation of data collection; observation, document analysis, artifact analysis, and interview.
Evaluation: Research that seeks to analyze the competency of one or more groups. Evaluation can be focused on an individual (or individuals), or a program (or programs), e.g. may involve the evaluation of two different dance programs at two different schools.
Curriculum: Research in curriculum is not a simple description of the course of study, but must involve analysis and be contextualized within a framework.
Historical/Biographical: Describes, analyzes, or traces ideas, events, individuals, institutions or movements during a particular time period (including contemporary) to support theories or explain social/cultural institutions. Sources can be "Primary" (firsthand accounts and original news reports and articles, and documents contemporaneous with the period) or "Secondary" (historical accounts later reported in books, articles, media) or oral. Oral histories may be primary or secondary depending upon the storytellers personal history. Autobiographies are primary sources. Of the two, primary and secondary, primary sources are always preferred.
Philosophical: Involves a reasoned analysis to explain human behavior and its associated meanings, concepts, and theories. Philosophical methodologies may also be used to analyze quantitative or predictable phenomena. In either case, the researcher establishes a hypothesis, examines and analyzes existing facts, contextualizes unexplained phenomena, and synthesizes evidence into a workable, theoretical model.
Experimental: Experimental methods often involve analysis to determine cause and effect. Methods are as varied as the disciplines they serve. For the purposes of research in dance education, four requirements are met: 1) two or more research groups or individuals must be randomly selected for treatment; 2) treatment must involve controlled variables; 3) groups must receive quantitative assessment; and 4) time frame must be specified. In addition, experimental research must involve appropriate tools of data collection and must seek unbiased results.
Quasi-Experimental: Quantitative research that is impacted by unplanned variables and events. The more variables that must be controlled within research, the more opportunity there is for some slippage. Because dance involves the consideration of so many variables, purely experimental research is rare.
- 2. Research Technique:** are means by which the researcher manages and contextualizes data collection, review, and subsequent analysis. The following techniques are provided to give you an idea of the range of techniques used in dance education:
Anecdotal Research : Primarily based on the unsubstantiated comments, claims, and conclusions of individuals directly involved in the activity analyzed.
Action Research: Research in which the teacher is also the reflector of practice. In Action Research, the teacher is researcher, participant, and reporter.
Case Study: An analysis of an event, a program, or other human phenomena that looks solely at that program, event, or phenomena. Multiple case studies would involve separately reported analyses of multiple events.
Computer Simulation: Involves taking human behavior from real life and projecting, playing out, and analyzing the results of human activity.
Content Analysis: In quantitative or qualitative research, content analysis techniques involve a detailed analysis of sequence and/or frequency of a procedure, process, event or activity regardless of potential results. Content analysis seeks to understand and reveal the component parts of a procedure, process, event or activity. Interpretation of data follows data gathering. Usually, the context for analysis is clearly defined
Focus Groups/Interview: The focus group/interview technique involves the framing of specific questions that are then asked of identified individuals or groups.
Meta-analysis: Reviewing the results of a number of related studies by seeking to connect the results of the studies via the use of a specified statistical formula.
Observation: A technique of traditional field research; observation involves the unobstructed observation of individuals or groups over a given period of time.
Survey/Questionnaire: Similar to focus groups/interviews, asks questions to a group more broadly representative of the general population
"Thinking Aloud": Involves a research subject talking through their own cognitive and behavioral processes as they seek to solve a problem or derive meaning. The researcher records the subjects' processes.
- 3. Essential Research Characteristics:** These characteristics address QUALITY of descriptive, experimental, quasi-experimental, historical/biographical, or philosophical research. Check "yes" for each of the essential research characteristics met satisfactorily; and check "no" for each of the essential research characteristics NOT met to satisfaction.
- 4. Research Question/Problems:** Provide a statement of question(s) of problems(s) addressed by the research.
- 5. Methodology:** Elaborate on methodology cited above. List the tools used. If the study is quasi-experimental check that the study is correlational (comparing two or more populations or processes); or if experimental, check whether the study is correlational or causal (defining cause and effect).
- 6. Dependent Variables:** The effect of the treatment (the independent variable is the cause; the dependent variable is the effect).
- 7. Results/Conclusions:** Provide a summary statement of the results and/or conclusions found. Check off the most appropriate box designating the importance of research or contribution of research to the field (advocacy, pedagogy, policy or other; and elaborate, if other).
- 8. Comment:** Describe the quality of related literature used in the study (review of lit, references and bib, or if historical, original or secondhand sources, etc); comment on the research design, analysis and sophistication of the data, omissions, strengths and weaknesses of the study, etc.

Appendix B: Domains of Knowledge and Populations (Descriptors)

Creative Process ~ the process of teaching and learning using experience, information, stimuli, data, and ideas in new and different combinations to invent new and different, ideas, products or combinations.

Key search words include: teaching and learning to find solutions to problems or questions; intuitive sensing-feeling-thinking; and scientific process, innovation, imagination, HOTS, Bloom's taxonomy, metacognition, dance-making, improvisation, choreography, problem-solving, problem-finding, inquiry, divergent thinking

Neuroscience/Brain Research ~ studies that examine changes in structure, function or development of the brain in relation to, or stimulated by, bodily movement or dance.

Key search words include: cognition, kinesthetic learning, Brain Dance, mental coordination, synchronization of dance and music, mental skills in dance, representation of space, dance aesthetics & the brain, perception, sensory, cognitive and emotional brain processes

Student Achievement ~ looking at student progress and learning over time as defined through set standards/curriculum using samples of student work (portfolio, performance, journal entries, self-review, documentation of process, etc.); quantitative analyses (GPAs, grades, any test score, state testing, developed rubrics, checklists); and/or observation, peer review, anecdotal, etc.

Key search words include: transfer of learning, student reflection, inquiry, increased test scores, SAT scores, assessment, student portfolios, 21st century skills

Affective Domain ~ changes in preferences, attitudes, and values.

Key search words include: intrinsic motivation, personal values, building school culture, group dynamics, socialization, emotional value of dance, habits of mind, self image

Student Performance ~ broader concept of measuring student progress through indicators beyond student achievement – i.e., socio-economic indicators such as drop out rate, college entrance rate, vocational choices, employment rate, sick days, etc.

Key search words include: career pathways in dance, school attendance, student tardiness, students entering higher education dance programs, dropout prevention

Equity ~ equal access and opportunity for students to study dance regardless of gender, age, size, shape, interest, ability, race, ethnic origin, or religious belief.

Key search words include: access to dance classes, delivery of dance classes, after school programs, interventions, Opportunity to Learn (OTL), gender issues, biases and dance, arts integration, extended day programs, culturally responsive pedagogy

Cultural and World Dance ~ teaching and learning that embraces more than one cultural perspective or view; understanding same or different viewpoints or perspectives from two or more cultures; learning from a variety of cultures.

Key search words include: Historical & Cultural Contexts, dance of anthropological/ethnographic, world dance, folk dance, cultural dance, historical dance, subcultures and dance, dance genre

Children-at-Risk~ students who are identified as children most likely not to complete K-12 education. Shared characteristics among at-risk students: single parent homes, homeless, drug use, high pregnancy rate, qualify for free lunch programs, and students for whom English is a second language (ESL).

Key search words include: free and reduced lunch, dropout prevention, teen pregnancy, social/emotional development, Title I, homeless, drug prevention, eating disorders, anti- gang strategies, academic interventions, literacy/ESL, student retention

Project Narrative

Impact of the Arts on Individual-Level Contributions to Civil Society

A. Research Questions

Civil society is the overarching collection of laws, norms, and customs that citizens abide by, as well as the nongovernmental organizations and associations they create, that make society a better place to live. While there is no single measure of civil society, definitions of civil society often include participation in nonprofit organizations and associations, and other forms of civic engagement (Anheir, 2005; Jones, 2006). While civic engagement is certainly one expression of civil society (Putnam, 1995; Newton, 2001; Foley and Edwards, 1996; Kwak, Shah and Holbert, 2004), the term civil society derives from the notion of civility, which is defined as courtesy, politeness, or polite actions or expressions; the act of showing regard for others (Merriam Webster Dictionary, 2011). Thus, civil society also encompasses the expression of social norms and customs of ‘other-regarding’ behavior.

The proposed study seeks to test a simple proposition, which is that arts exposure and artistic expression promote and enhance U.S. civil society. We view civil society as encompassing various forms of civic engagement, high levels of tolerance for social differences, and the expression of acts that more often place the interests of others over the interests of self.

The following research questions will be investigated in this study:

1. Does greater arts exposure and artistic expression increase civic engagement of individuals?
2. Does greater arts exposure and artistic expression increase social tolerance of individuals?
3. Does greater arts exposure and artistic expression increase acts of ‘other-regarding’ behavior?

The importance of this research is that it contributes to NEA’s strategic goal of promoting public knowledge and understanding about the contribution of the arts and its importance to the health of civil society. Specifically, this study seeks to provide quantitative evidence in support of the argument that arts have the capacity “to advance pluralism, promote voluntary action, accommodate diversity, and champion individual visions of the public good” (Sievers, 2009). In practical terms, if our hypotheses prove positive, the findings will allow strengthening the case for continuous government support for the arts and suggest a need to include arts as a possible solution in political debate about declining social capital.

Hypotheses

The following hypotheses will be tested in this study:

- H1: Individuals with greater arts exposure and who have engaged in artistic expression will demonstrate higher rates of participation in civic organizations and associations

- H2: Individuals with greater arts exposure and who have engaged in artistic expression will demonstrate higher rates of volunteering for nonprofit organizations and civic causes
- H3: Individuals with greater arts exposure and who have engaged in artistic expression will demonstrate higher rates of giving monetary contributions to civic and charitable organizations and causes.
- H4: Individuals with greater arts exposure and who have engaged in artistic expression will have a greater likelihood of voting.
- H5: Individuals with greater arts exposure and who have engaged in artistic expression will demonstrate greater social tolerance as evidenced by a greater willingness to allow persons of politically marginalized groups and non-mainstream views to give a speech in their community.
- H6: Individuals with greater arts exposure and who have engaged in artistic expression will demonstrate greater social tolerance as evidenced by a greater willingness to allow persons of politically marginalized groups and non-mainstream views to teach in public schools.
- H7: Individuals with greater arts exposure and who have engaged in artistic expression are more inclined to espouse “other-regarding” attitudes.
- H8: Individuals with greater arts exposure and who have engaged in artistic expression are more likely to display “other-regarding” behaviors.

B. Research Design

A cross-sectional analysis will be used to test the hypotheses described above, relying on data from the 2002 General Social Survey (GSS). This study will employ quantitative data analysis (multivariate regression) to answer the research questions. Individual adults living in the United States are the units of analysis to be investigated in this study.

C. Data Source

The GSS is a full probability sample of adults living in households in the United States, and had a response rate of 70.1% in 2002, yielding a total number of 2,765 individual respondents to be examined in this study. The General Social Survey (GSS) is a publicly available dataset that is collected every other year, beginning in 1972, by the National Opinion Research Center (NORC) at the University of Chicago. According NORC, “altogether the GSS is the single best source for sociological and attitudinal trend data covering the United States.” (NORC, 2011). Despite the richness of the GSS data for demonstrating the impact of arts

exposure and artistic expression on civil society, these data have not been previously used to test the hypotheses we have proposed for this study.

The GSS is an appropriate source of data for examining how arts exposure and arts participation impact individuals' contributions to civil society, because it contains a variety of measurable indicators about respondents' exposure to and participation in arts activities, as well as measures of attitudes and behaviors that make up civil society, including social tolerance, altruism, and various measures of civic engagement. The dataset also contains a variety of demographic data for each respondent, allowing us to control for individual, person-level attributes in our analysis. The GSS contains a standard core of demographic, behavioral, and attitudinal questions, plus topics of special interest. Arts exposure and arts participation questions, as well as some of the civic engagement questions are classified as 'topics of special interest' and thus have not been collected every year. Our analysis employs the 2002 dataset because this is the most recent year in which the arts exposure, arts participation, civic engagement, social tolerance, and altruism were collected.

D. Data Analyses

The impact of arts exposure and artistic expression on civil society (civic engagement, social tolerance, and other-regarding behavior) will be estimated using Ordinary Least Squares (OLS) regression. OLS is the appropriate method of estimation since each of our dependent variables will be measured as a scale. All models in this study will be estimated using robust standard errors to correct for heteroskedasticity that is common in cross-sectional analyses. In many of the variables, recodes are necessary in order to make the responses scale-consistent.

Dependent Variables

Three manifestations of civil society make up the dependent variables in our analysis. The first is civic engagement, and four dependent variables will be used to measure individuals' level of civic engagement. Memberships in civic organizations and associations are a classic indicator of civic engagement (Putnam, 1995). The first dependent variable will measure individuals' participation in civic organizations and associations through a survey questions that asks respondents to indicate whether or not they belong to any of the following types of organizations or groups: fraternal groups, service clubs, veterans groups, political clubs, labor unions, sports clubs, youth groups, school service groups, hobby club, nationality groups, farm organization, professional society, church affiliate groups, and informal or other group. This variable can range from 0 to 14, with 0=respondent does not belong to any of these groups, to 14=respondent belongs to all of these types of organizations or groups.

Civic engagement also encompasses volunteer service to nonprofit and civic organizations and causes (excluding arts and cultural organizations). Level of volunteering is measured as the number of organizations the individual reports volunteering for in the last year, including organizations and causes of the following ten types: health care, education, religious organization, human services, environmental, public social benefit organization, political organization, youth development, private or community foundation, and international relief and

development organization. This variable can range from 0 to 10, with 0=respondent has not volunteered for any of these kinds of organizations or causes, to 10=volunteered for all these organizations and causes in the last year.

Another form of civic engagement involves giving to charitable organizations and financially supporting causes in which a person believes. Giving is measured as the number of nonprofit and civic organizations the respondent contributed money to in the past year, including health care, education, religious organization, human services, environmental, public social benefit organization, political organization, youth development, private or community foundation, and international relief and development organization. This variable can range from 0 to 10, with 0=respondent has not contributed money for any of these kinds of organizations or causes in the last year, to 10=contributed money to all these organizations and causes in the last year.

Finally, voting is an important measure of civic engagement. Voting is measured through a survey question asking whether or not the respondent voted in the past presidential election, 0=respondent did not vote, 1= respondent voted. Since this variable departs from the scalar nature of the other variables and is measured dichotomously, logistic regression will be used as the method of analysis for this particular model.

The second set of dependent variables measure respondents' level of social tolerance. Two variables will be used to measure tolerance. The first is created from a question that asks respondents whether or not they would be opposed to the following persons giving a speech in their community: a socialist, anti-religionist, Muslim, homosexual, communist, militarist. This variable will be measured on a scale from 0-6, with higher scores indicating higher social tolerance, and lower scores revealing lower social tolerance. The second measure of tolerance is created from a question that asks whether each of these same persons should be allowed to teach in the public schools, and will be measured on the same scale.

The third set of dependent variables measures 'other-regarding' attitudes and behaviors. The first variable is a scale constructed from seven questions, each of which are measured on a five-point Likert scale ranging from 'strongly agree' to 'strongly disagree.' These questions capturing "other-regarding" attitudes are as follows: people should help others who are less fortunate, those in need have to take care of themselves, assisting people in trouble is very important, people need not overly worry about others, people should take care of one's self and one's family first, should better-off people help those who are less well-off, and it's alright to have friends just because they are of use to respondent. This variable will range from 5-35 with higher values indicating greater attitudes towards others.

Another variable will measure behavior that is other-regarding. This variable is constructed from eight survey questions asking how often the respondent engaged in the following activities in the last year: allowed a stranger to go ahead of them in line, carried a stranger's belongings, donated blood, gave directions to a stranger, loaned someone an item of value, looked after a neighbor's plants, mail, or pets, returned money to a cashier who'd given too much change. Each of these items are measured on a six-point scale ranging from 0=not at all

in the past year, to 5=more than once per week, so the summed measure used in the analysis will range from 0 to 40.

Independent Variables

Our two key independent variables of interest are arts exposure and artistic expression. Arts exposure is measured through a series of survey questions that asked respondents whether they had done any of the following activities in the past year: visited an arts museum, attended a dance performance, or attended an opera, symphony, or classical music performance. Responses to the variables will be summed to create a measure of arts exposure that ranges from 0=have not attended any of these in the past year, to 3=attended all of these in the past year. As our hypotheses above suggest, we believe that higher levels of arts exposure will be positively linked to higher levels of civic engagement, greater social tolerance, and greater attitudes and behaviors that are other-regarding.

The second key independent variable is artistic expression and will be constructed from three questions asking respondents whether they had engaged in any of the following in the past year: made an object of art, performed music, dance, or theater, and played a musical instrument. Responses to these survey items will be summed to create a measure of artistic expression that ranges from 0=have not engaged any of these in the past year, to 3=engaged in all of these in the past year. As our hypotheses above suggest, we believe that higher levels of artistic expression will be positively linked to higher levels of civic engagement, greater social tolerance, and greater attitudes and behaviors that are other-regarding.

Other independent variables included in each the models include standard demographic controls of age, race, sex, income, education, region of country, and marital status.

E. Personnel Capability

The Principal Investigator for the proposed project is Dr. Kelly LeRoux, Assistant Professor in the Department of Public Administration at the University of Illinois at Chicago. Dr. LeRoux has authored 20 peer-reviewed journal articles in top journals within the fields of nonprofit and voluntary studies, public administration, and urban policy. She has also authored several book chapters and edited book. She conducts research on the topics of nonprofit organizations and civic engagement, and has extensive experience with quantitative methods, including several projects that have been externally funded. Anna Bernadska will be the Co-Principal Investigator for this project. Anna is a doctoral student in Public Administration at the University of Illinois at Chicago, and holds a Master's Degree in Arts Management. She has served as an adjunct instructor for courses at Columbia College, a prestigious Arts and Design College in the city of Chicago, and has extensive professional experience working in development for organizations with arts-related missions. Please see attached curriculum vitas for more detailed information about the Principal Investigator and Co-Principal Investigator.

The total funding requested from the NEA for this project is \$21,745, which will be used almost exclusively to support personnel costs. One month full-time summer salary (plus fringe)

is requested for the PI (Kelly LeRoux), who will use this time to clean and pare down the dataset, re-code variables, and to conduct the data analysis. Funds are also requested for a part-time appointment for Anna Bernadska (10 hours per week) as a Graduate Research Assistant in fall semester 2012 (September 1, 2010 through December 31, 2010). This time will be spent creating data tables and illustrations for the paper, drafting the final report for NEA, preparing the ARNOVA presentation, helping to prepare the paper for journal submission, and otherwise helping to disseminate the results. In addition, an in-kind contribution of 80 hours of the PI's time will be contributed to this project in fall 2012 to aid Bernadska in writing the final report to be submitted to NEA and to prepare the paper for submission to an academic journal. There is a grants manager/administrator housed within our own department (Public Administration) at UIC, and a nominal amount of indirect cost recovery funds are requested to help support administrative costs associated with the grant such as completing appointment paperwork, tracking funds, and grant reporting requirements. Please see attached budget for a detailed breakdown of funds requested.

F. Organizational Capability

The Department of Public Administration at UIC serves as a focal point for interaction among faculty, graduate students, scientists, and practitioners on public policy and management issues. Housed in the College of Urban Planning and Public Affairs, the PA Department supports a Ph.D. program in Public Administration and provides both faculty and graduate students with workspace and all necessary equipment for conducting social science research. Additionally, the Department of Public Administration offers workspace for hourly undergraduate students and graduate assistants, and offers private office space for postdoctoral researchers and affiliated faculty working on research projects.

The department benefits from the support and resources of the College of Urban Planning & Public Affairs, including IT support and access to equipment and expertise from researchers at the Science, Technology and Environment Policy Research Laboratory, Data Visualization Laboratory and the Survey Research Laboratory, which are housed in the same building. Examples of the recent projects undertaken by the PA faculty include *Women in Science and Engineering: Network Access, Participation and Outcomes* - A multi-year NSF-funded study to examine the structure of social networks in six fields of science to understand the way in which women enter, participate, and benefit from those social networks, *Patenting Behavior of Academic Scientists and Engineers: A Micro-level Analysis of the Factors that Determine the Production of University Patents*— NSF, and *Nonprofits and Voter Mobilization in the U.S.*, funded by the Center on Philanthropy at Indiana University with sponsorship from the Kresge Foundation.

G. Outline for Research Report

In accordance with the description in the Request for Proposals, the final research report highlighting the results of this study will be 30-50 pages and will contain the following elements:

- An executive summary
- A summary of the analysis conducted, and related findings including data tables
- A conclusions section, including research and/or policy recommendations, based on the findings
- A summary of the methodology used

H. Outcomes and Measurements

The project's outputs will include 1) a research report highlighting the results of this study, 2) a paper submitted to a peer-reviewed journal and 3) a presentation of study results at ARNOVA conference. The project's main outcome will be increased awareness of the impact of the arts on individual-level contributions to civil society. The success of the project will be determined using both formative and summative evaluation measures. Formative evaluation will include progress reports prepared by co-investigators. The external summative evaluation will be conducted by public administration scholars and arts policy researchers. The main indicator of success will be positive peer reviews and the publication of study results in at least one peer-reviewed journal.

I. Schedule of Key Project Dates

If awarded a grant, the work on this project will begin on July 1, 2012. July and August will be spent cleaning up dataset and conducting data analysis. Cleaning the dataset requires paring down the existing data file from the current 2,000 + variables into a manageable number of relevant variable, and doing the necessary variable recodes to make measures scale consistent. Data analysis includes running the various regression models in Stata. It is anticipated that data analysis will be completed by August 31, 2012.

The period of time from September 1, 2012 to December 31, 2012 will be spent writing the final report. This will entail typing up the data tables and interpreting the results to produce a final report of the study's findings in accordance with the format specified. It is anticipated that the final report of 30-50 pages will be completed by December 31, 2012.

J. Plans for Reporting and Disseminating Study Results

We anticipate disseminating our study results through the following venues and timelines:

- Submit final report to NEA no later than December 31, 2012.
- Presentation of study results at Association for Research on Nonprofit Organizations and Voluntary Action (ARNOVA) annual conference in November 2012 in Indianapolis.

- Submit paper to peer-reviewed journal by January 21, 2013. Targeted outlets include the *Journal of Civil Society*, *Nonprofit and Voluntary Sector Quarterly* or *International Journal of Arts Management*.
- Share findings locally with Illinois Arts Council, which is a membership organization that conducts advocacy and provides technical assistance to arts organizations in Chicago and throughout the state of Illinois. The Principal Investigator has close relationships with two staff in the Research Division of the Arts Council, who will be enthusiastic about disseminating our research findings on the impact of arts on civil society to their membership as well as the public.
- Share findings nationally and internationally through professionals associations such as the Association of Arts Administration Educators (AAAE).
- Share with UIC's Center for Policy and Civic Engagement who will publicize through their Civic Web Portal.
- Provide a link to the report on the Principal Investigator's faculty webpage.

K. Plans for Making Report and Data Publicly Accessible

While the data used in our study are already available to the public via NORC's website, we will certainly make available the cleaned up, re-coded, and pared down version of the dataset that we used to conduct that analyses. We believe the best way to communicate to readers that these data are available is to provide an endnote in the final report with the authors' contact information, encouraging readers to contact the PI for the dataset.

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Attachment: Project Budget Form

Attachment: Biographies of Key Personnel

Attachment: Availability of Data in the Public Domain

Arts Education and Positive Youth Development: Cognitive, Behavioral, and Social Outcomes of Adolescents who Study the Arts

a. Research Questions

The purpose of this study is to examine the value and positive impact of the arts by analyzing the cognitive, behavioral, and social outcomes of adolescents who study the arts in comparison with their non-arts peers using data from the National Longitudinal Study of Adolescent Health (“Add Health”). Study of the arts in schools is likely to be a venue for positive youth development, and I hypothesize that when statistical control for preexisting, observable differences between arts and non-arts students is applied by matching arts students to non-arts students who most closely resemble them on a series of observable covariates using propensity scores, arts students will have outcomes that are significantly more positive than their non-arts peers.

The study seeks to answer the following research questions:

1. What are the demographic characteristics of students who choose to formally study the arts in U.S. high schools?
2. How do adolescents who formally study the arts in schools differ from their non-arts peers on key indicators of positive youth development during adolescence?
 - a. School engagement/School attachment
 - b. Psychological adjustment
 - c. Delinquency
 - d. Involvement in risky behaviors
 - e. Substance Use (drugs/tobacco/alcohol)
 - f. Relative riskiness of closest peers
3. How do adolescents who formally study the arts in schools differ from their non-arts peers on developmental outcomes in young adulthood and beyond?
 - a. High school graduation
 - b. College attendance and completion
 - c. Total years of educational attainment
 - d. Occupational/Career status at age 25-26
 - e. Civic engagement
 - f. Psychological adjustment
 - g. Involvement with Drugs/tobacco/alcohol

The value and positive impact of arts study on children and adolescents is often self-evident to artists, musicians, and arts educators. Yet, the arts community is frequently called upon to justify the expenses of arts education by providing evidence that engaging in arts education and arts experiences make a meaningful, positive difference in the lives of secondary students. Often, this research has focused on the associations between arts study and traditional measures of academic achievement (e.g., Catterall, 1997, 2009; Deasy, 2002; Gouzouasis, Guhn, & Kishor, 2007; Helmrich, 2010; Miksza, 2007, 2010; Morrison, 1994; Schellenberg, 2005; Southgate & Roscigno, 2009). Research of this type has not yet been able to establish a causal link between arts study and increased academic performance. The observed association between arts study and academic performance has recently been called into question by research suggesting that the types of students who elect arts study are *initially* more likely to have higher academic achievement than their peers who do not elect the arts (Elpus, 2011; Elpus & Abril, 2011; Fitzpatrick, 2006; Kinney, 2008; Winner & Cooper, 2000).

Even though research on the academic benefits of arts study has yet to be fully settled, adolescent arts students frequently report to researchers that they highly value their artistic pursuits and that their arts study becomes an important context to help them navigate the challenges of adolescence (Adderley, Kennedy, & Berz, 2003; Barber, Stone, & Eccles, 2005; Fredricks et al., 2002; Graham, 2003). Adolescent developmental psychologists confirm that involvement in organized activities—broadly defined, and nearly always including arts education activities among those studied—is a generally positive context for youth development that promotes prosocial behaviors and successful developmental outcomes for all students, including those considered at-risk (Barber, Stone, & Eccles, 2005; Barber, Stone, Hunt, & Eccles, 2005; Bartko & Eccles, 2003; Mahoney, Larson, Eccles, & Lord, 2005; Nurmi, 2004).

The existing large-scale research on the value and positive impact of adolescent involvement in organized activities tends either to focus on those activities broadly defined (considering school-based clubs and service organizations alongside arts and athletics) or focuses exclusively on sports participation (Feldman & Matjasko, 2005). The proposed study will be the first use of the National Longitudinal Study of Adolescent Health (“Add Health”) to specifically examine the developmental outcomes and trajectories of adolescents who formally study the arts as compared to their non-arts peers, including those who are and are not involved in other non-arts activities at school. The proposed study complements the existing qualitative research literature on the developmental outcomes of arts students (e.g., Adderley et al., 2003; Fredricks et al., 2002; Halverson, 2010) in its attempt to determine whether the benefits of arts study demonstrated in small samples “scale up” to a large, nationally representative, longitudinal sample of adolescents.

Empirically linking arts study to positive youth development on a national scale, using the large sample size afforded by the Add Health dataset and with control for potential selection biases through propensity score matching and stratification, is an important first step to understand the causal impact of arts study on human development. A deeper understanding of both cognitive, behavioral, and social benefits of arts study to individual students can serve to better inform educational policymakers as they consider their support for arts education in schools. By linking arts study to outcomes broader than the standardized test scores traditionally used in this type of research, policymakers will be provided with a more ecologically valid understanding of the value and positive impact of arts study to adolescents. Broadening the evidence base upon which educational policymakers rely to determine the worth of public investments in arts education can serve to further solidify the place of the arts as core subjects in American education.

b. Research Design

The proposed study will be carried out in two distinct phases. The first phase, designed to answer the first Research Question, will be a descriptive study that seeks to determine what the demographic characteristics of students who elect formal arts education coursework in U.S. secondary schools. These characteristics will be analyzed cross-sectionally at Wave I, the first data collection point for Add Health, to serve as a baseline for future comparisons with data collected at later points. The examined characteristics will include: race/ethnicity, sex, socioeconomic status, family composition, native language, prior academic achievement, relative riskiness of peers, use of unstructured time, and depression scores based on Add Health’s implementation of the Center for Epidemiological Studies–Depression Scale (CES-D).

The second phase of the study will be designed as matched quasi-experimental study using propensity score stratification on observables to adjust for selection bias. Since selection into arts study cannot be manipulated in observational studies such as this one, I will use propensity score stratification to reduce selection bias in the estimates for the effects of arts study on the outcomes of interest. Results from the descriptive analysis in phase one will be used to create a propensity score model (Rosenbaum & Rubin,

1983) for selection into arts study. Using the propensity score model, I will estimate a propensity score for selection into arts study for each sample member in the Add Health dataset. The total Add Health sample will then be stratified into at least five propensity score strata, because prior research has shown that five strata are enough to reduce nearly all of the selection bias present in observational studies (Steiner, Cook, Shadish, & Clark, 2010). Research questions (2) and (3) will be answered using regression analysis comparing arts and non-arts students within propensity score strata. The treatment effects for arts study found within each propensity score stratum will be averaged to estimate the overall effect of arts study on the outcomes and indicators of interest (Murnane & Willett, 2011).

c. Data Sources

This study will analyze data from the National Longitudinal Study of Adolescent Health (“Add Health”) as well as the dataset of complete high school transcripts and related education data of Add Health participants known as the Adolescent Health and Academic Achievement (AHAA) study. Add Health was a project of the Carolina Population Center at the University of North Carolina and supported by three federal grants. The education data comprising AHAA was collected by the Population Research Center of the University of Texas at Austin.

Sample Characteristics of Add Health

Add Health is a major longitudinal study of a nationally representative sample ($N = 20,745$) of adolescents enrolled in grades 7 through 12 during the 1994-1995 academic year. Adolescents were re-surveyed in 1996 ($N = 14,738$) at Wave II, as young adults in 2001-02 ($N = 15,197$) at Wave III, and as adults in 2007-08 ($N = 15,701$) at Wave IV. Ancillary data were collected from parents of sample members ($N = 17,670$) at Wave I and from romantic partners of sample members ($N = 1,507$) at Wave III.

The initial nationally representative sample of students was drawn using multistage survey sampling techniques. The first stage drew a sample of 80 high schools with unequal probability of selection; 52 “feeder” middle schools of the 80 selected high schools were also selected. Prior to the selection of the sample of schools, the sampling frame was stratified by region of the country, urbanicity, school size, school type, and ethnic makeup. The stratification, when properly accounted for in the analyses, ensures that the sample is representative of schools in the United States with respect to those characteristics.

Sample Characteristics of the Adolescent Health and Academic Achievement Study

At the time of Wave III data collection, when all Add Health sample members had graduated from high school, Add Health sample members were provided with a release form allowing the Population Research Center at the University of Texas, Austin to receive a copy of their complete high school transcript for coding and inclusion in a supplementary Add Health dataset called the Adolescent Health and Academic Achievement Study (AHAA). Roughly 91% of Wave III respondents signed the release form ($N = 14,070$), and complete high school transcripts were obtained for most respondents ($N =$ approximately 12,250). Ancillary data regarding school policies, grading practices, and special programs offered were collected from the schools providing the transcript.

Transcripts were coded using the same procedures followed by the U.S. Department of Education National Center for Education Statistics (NCES) for the National Education Longitudinal Study of 1988 (NELS) and the National Assessment of Educational Progress (NAEP) High School Transcript Studies.

Variables to be Employed in the Study

Demographic variables, quality of peer context, prior academic achievement, and indicators of positive youth development and young adult outcomes will be taken from variables available in the main Add Health dataset. These include (with Add Health variable names indicated in parentheses):

Demographics and Other Covariates for Research Question 1 and Propensity Score Models

Sex (S1), Race/ethnicity (S4, S5, S6A-E, S7, S8, H1GI4, H1GI5, H1GI6, H1GI7, H1GI8), Native language (H1GI10), Prior academic achievement based on self-reported academic subject grades (S10A-D), Family composition (S11, S17, S26, S27), Socioeconomic status (S12, S14, S15, S18, S20, S21), Involvement in non-arts clubs/activities/sports (S44, S44A1-S44A33), Use of unstructured time (S47, H1DA1-11), Risky behaviors reported prior to arts study (S59A-G), School attachment at pretest (S62B, S62E, S62I, S62L, S62R)

Indicators of Positive Youth Development During Adolescence

School attachment at Wave II (H2ED15-20), Psychological adjustment during adolescence (H2FS1-19, H2PF12-35, H2SU1-9), Delinquency (H2ED2, H2ED3, H2ED5, H3ED33, H2DS1-14), Involvement in risky behaviors (H2MO1-16), Substance Use (H2TO1-68), Relative riskiness of closest peers (H2TO10, H2TO41, H2TO48, H2SU4), Positive Influences (H2PR1-8)

Young Adult Outcomes

High school graduation (H4ED1), College attendance and completion (H4ED2), Total years of educational attainment (H4ED2), Highest educational expectation (H4ED9), Occupational/Career status at age 25-26 (H4LM1, H4LM11, H4LM14, H4LM18, H4LM23, H4LM26, H4LM27, H4EC2), Psychological adjustment (H4MH1-29, H4SE1-3, H4PE1-41), Substance Use (H4TO1-120)

Indicators of Formal Arts Study

Students who have earned at least one credit of arts coursework as indicated on their high school transcript as collected by the Adolescent Health and Academic Achievement study will be considered “arts students” for analyses in which arts study is conceptualized dichotomously. The total number of credits of arts coursework appearing on the transcripts will be used in analyses where arts study is conceptualized as a continuous measure or “dosage.”

d. Data Analyses

The first phase of data analysis will involve the identification of Add Health sample members who earned credit for formal arts study in their high schools. These students will be identified using the high school transcript data collected as part of AHAA, the ancillary education data complement to Add Health. The procedure will essentially follow the same one used by Elpus (2011), as diagrammed below in Figure 1. Transcripts in the AHAA data are coded using the U.S. Department of Education’s “Classification for Secondary School Courses” (CSSC) system. Elpus (2011) used the CSSC codes to “flag” students who had pursued music courses in high school; that method can be easily expanded to include the codes for other visual and performing arts courses to “flag” students in Add Health who should be considered “arts students” for the purposes of this study. These “flags” determine group membership, arts student or non-arts student.

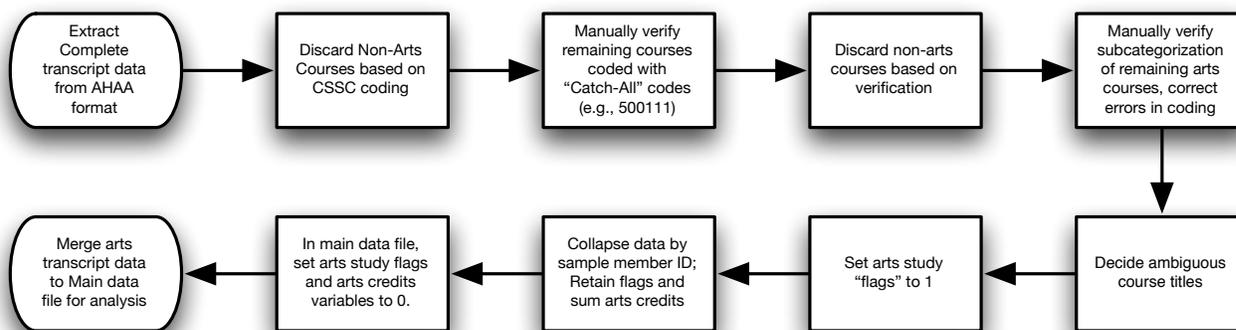


Figure 1. Elpus (2011) method of identifying Arts Students from transcript data as it will be used in this study

Once the arts students and non-arts students have been identified in the data, descriptive analyses to answer Research Question (1) will be carried out. Demographic data will be reported using proportions for sex, race/ethnicity, native language, and family composition. Means and standard deviations will be reported for measures of prior academic achievement, socioeconomic status, involvement in other clubs/sports, use of unstructured time, risky behaviors, and school attachment at Wave I. Comparisons between arts and non-arts students in this phase of the study will be carried out with caution, as selection bias may influence the results of comparative analyses between the groups at this stage. However, those variables where significant *a priori* differences between arts and non-arts students exist will be used to develop the propensity score model for the second phase of the analysis.

In the second phase, to answer Research Questions (2) and (3), a propensity score will be estimated for each Add Health sample member. Sample members will be divided into at least five strata based on their propensity score such that arts and non-arts students in each strata will be as similar to each other on the observed covariates that make up the propensity score as possible. This matching by propensity score helps eliminate the bias that would otherwise be present due to unobservable selection into arts study. Fixed effects regression, which accounts for the nesting of sample members within initial schools, will be employed to determine what significant differences in the outcomes of interest exist between arts students and non-arts students. The effect of arts study found in each stratum will be averaged to determine an overall average treatment effect for the impact of arts study on the social, cognitive, and behavioral outcomes in the Research Questions. Standard errors for the regression estimates will be adjusted to properly account for the complex sampling structure in Add Health. The regression estimates will be based on the theoretical model presented in Equation (1):

$$Outcome_{ij} = \alpha_j + \beta ArtsStudy_{ij} + \varepsilon \quad (1)$$

Here, $Outcome_{ij}$ represents the cognitive, behavioral, or social outcome of interest for the i th student in the j th school, α_j represents the school-level fixed effect for school j , $ArtsStudy_{ij}$ represents a dichotomous indicator of student i in school j being an arts or non-arts student, and ε represents the error in the model. The estimate of interest is β , which represents the effect of arts study on the outcome. This equation will be estimated for propensity-score matched Add Health sample members in at least five propensity score strata. This matching will help reduce the selection bias in the estimate of β on the observable covariates included in the propensity score. The five estimates of β from each stratum will be averaged to obtain the study's estimate of the overall average treatment effect of Arts Study on the developmental outcomes and indicators of interest. During adolescence, the outcomes are: School engagement/School attachment, Psychological adjustment, Delinquency, Involvement in risky behaviors, Substance Use, and Relative riskiness of closest peers, all of which were measured in Wave II of Add Health. In young adulthood, the outcomes of interest are High school graduation, College attendance and completion, Total years of educational attainment, Occupational/Career status at age 25-26, Civic engagement, Psychological adjustment, and Substance use, all of which were measured in Waves III and IV of Add Health.

I hypothesize that, even when controlling for selection with propensity score stratification, that students of the arts will have developmental outcomes and indicators that are more positive than their non-arts peers. Thus, I reasonably expect the average treatment effects (the mean of all five strata β s) to be positive and statistically significant.

e. Personnel Capability

Kenneth Elpus, Ph.D., will serve as the principal investigator for this study and devote a 33.33% level of effort to the funded portion of the project, consisting primarily of three months of 100% summer effort during the data analysis phase of the project. An emerging researcher in the field of music education, he is experienced in the use of large datasets for arts education policy research. Dr. Elpus was lead author and

data analyst for a collaborative study that analyzed data from ELS:2002, which was published in the July 2011 issue of the *Journal of Research in Music Education* (Elpus & Abril, 2011). His dissertation, accepted by Northwestern University in June 2011, made extensive use of data from the Education Longitudinal Study of 2002 (ELS:2002) and the National Education Longitudinal Study of 1988 (NELS:88). He will present a portion of his dissertation based on both ELS and NELS data at the upcoming 2012 Annual Meeting of the American Educational Research Association (AERA). Based primarily on the recognized strength of Dr. Elpus's peer reviewed publications and presentations within the field of music education, he was tapped to serve as a proposal reviewer for AERA by the association's music education subgroup.

Dr. Elpus's research training at Northwestern University included coursework in research design with Thomas D. Cook, one of the most highly respected and often-cited research methodologists in all of social science. Dr. Elpus's training in the analysis of large datasets is most directly attributable to his work with economist of education David N. Figlio, a member of Dr. Elpus's dissertation committee with whom he pursued study in regression analysis. Dr. Elpus also has advanced statistics preparation with Larry Hedges and coursework in applying advanced quantitative research methodologies to the study of music and arts education was with Peter R. Webster. Especially relevant to this study, Dr. Elpus's primary training in the study of adolescent development was with developmental psychologist Barton Hirsch.

f. Organizational Capacity

The University of Maryland, College Park (UMD) is the flagship institution of the University System of Maryland. Classified by the Carnegie Foundation for the Advancement of Teaching as a "Research University/Very High Research Activity" (RU/VH), the University of Maryland is a member of institution of the American Association of Universities (AAU), which comprises the nation's top research universities. Researchers in the University of Maryland School of Music's Music Education division include senior scholars in the field such as Michael P. Hewitt, Ph.D. and Janet Montgomery, Ph.D., as well as emerging junior scholars such as Bruce Carter, Ph.D.

University-supplied office space, computing equipment, statistical software, and world-class library resources in both the University's main library and the specialized Michelle Smith Performing Arts Library support Dr. Elpus's research agenda at the University. Analyses for the proposed study will be conducted using StataCorp's Stata statistics software, version 12, running on latest generation Apple Macintosh hardware.

Recent research projects completed by UMD Music Education faculty:

Elpus & Abril (2011) – an analysis of the Education Longitudinal Study of 2002, examining the demographic profile of high school music ensemble students

<http://jrm.sagepub.com/content/59/2/128.short>

Elpus (2011) – an analysis of the Education Longitudinal Study of 2002 and the National Education Longitudinal Study of 1988 examining academic outcomes of music and non-music students and analyzing education policy issues in music education - <http://gradworks.umi.com/34/56/3456550.html>

Hewitt (2011)– study of the influence of self-evaluation instruction on music performance and evaluation accuracy - <http://jrm.sagepub.com/content/59/1/6.short>

Carter (2010) – study of the compositional identity of undergraduate music composition majors
<http://goo.gl/RtEHk>

g. Outline for Research Report

The research report that will be created as a result of the proposed study will be a multichapter monograph. It will roughly follow the draft outline below:

- I. Preface
- II. Executive Summary
- III. Introduction
- IV. Chapter 1. Casting Arts Education as a Context of Positive Youth Development: Past Research and Theory
- V. Chapter 2. Who Studies the Arts in U.S. Secondary Schools? Characteristics of the Arts Students in the National Longitudinal Study of Adolescent Health.
 - a. The Add Health Dataset
 - i. Description of the National Longitudinal Study of Adolescent Health
 - ii. Add Health school transcript data analysis procedures
 - iii. Criteria for designation as an “arts student”
 - b. Characteristics of Performing Arts Students
 - i. Music
 - ii. Theatre
 - iii. Dance
 - c. Characteristics of Visual Arts Students
 - i. Studio Art
 - ii. Photography
- VI. Chapter 3. The Development of Adolescent Arts Students: Indicators of Positive Youth Development Among Arts Students in the U.S and their Outcomes in Young Adulthood
 - a. Performing Arts Students
 - i. Music
 1. Cognitive Outcomes
 2. Social Outcomes
 3. Behavioral Outcomes
 - ii. Theatre
 1. Cognitive Outcomes
 2. Social Outcomes
 3. Behavioral Outcomes
 - iii. Dance

- 1. Cognitive Outcomes
- 2. Social Outcomes
- 3. Behavioral Outcomes
- b. Visual Arts Students
 - i. Studio Art
 - 1. Cognitive Outcomes
 - 2. Social Outcomes
 - 3. Behavioral Outcomes
 - ii. Photography
 - 1. Cognitive Outcomes
 - 2. Social Outcomes
 - 3. Behavioral Outcomes

VII. Chapter 4. Comparing Arts Students to the Non-Arts Peers on Indicators of Positive Youth Development

- a. Arts vs. Non-Arts Comparisons
 - i. Arts students compared to non-arts students uninvolved in other activities
 - ii. Arts students compared to non-arts athletes
 - iii. Arts students compared to non-arts students involved in nonathletic activities
- b. Comparisons with Multiply Involved Arts Students
 - i. Arts athletes vs. Non-arts athletes
 - ii. Arts students involved in nonathletic activities vs. non-arts students involved in nonathletic activities

VIII. Chapter 5. Conclusions and Next Steps

- a. Implications for Arts Education Policy
- b. Implications for Arts Educators
- c. Implications for Future Research

IX. Appendix: Detailed Methodology

h. Outcomes and Measurements

The proposed study directly addresses the National Endowment for the Art goal of Enhancing Knowledge and Understanding through expanding and promoting evidence of the value and impact of the arts. Anecdotally, artists and arts educators often report that their arts study was an important—if not salvific—part of their adolescent experience. And yet, there is no formalized research focusing specifically on the developmental outcomes and indicators of positive youth development for students who study the arts. The proposed study attempts to fill this gap in the research literature, and in doing so, directly addresses the NEA’s goal by increasing the evidence base upon which the value and positive influence of the arts to adolescents is understood. This goal can be measured both through the publicity the results of the proposed study garner and whether future research cites back to this study as a foundational element in the research literature.

i. Schedule of key project dates

The project will progress as follows:

May 1, 2012	Grant funds released to University of Maryland Contract to obtain Add Health data executed, data fee paid
June 1 – August 28, 2012	Grant support period for Data Analysis. 100% summer effort from P.I.
July 1, 2012	Submission of preliminary findings for possible presentation at the 2013 Annual Meeting of the American Educational Research Association
September 1, 2012	Drafting of Final Research Report Begins
December 1, 2012	Delivery of Final Research Report to National Endowment for the Arts
December 15, 2012	Submission of article-length research reports to appropriate journals for possible publication

j. Plans for reporting and disseminating the study results

In addition to the required 30-50 page Final Research Report submitted to the National Endowment for the Arts, the study will be submitted for presentation at appropriate national scientific meetings. The first choice for such presentation will be the 2013 Annual Meeting of the American Educational Research Association, the largest and most prominent national scientific organization dedicated toward advancing research on education, education policy, teaching, and learning. Research presented at AERA is highly visible and the presented papers are often indexed in the Educational Resources Information Center (ERIC) project of the U.S. Department of Education. ERIC's holdings are searchable via Google and Google Scholar and the research presented at AERA is often later published in major journals.

Article-length segments of the study will also be submitted for possible publication in relevant top tier journals. The target journals for this research study include the *Journal of Youth and Adolescence*, the *Journal of Adolescence*, the *Journal of Research in Music Education*, and *Arts Education Policy Review*.

k. Plans for making the report and data accessible to the public

While the version of the National Longitudinal Study of Adolescent Health data that will be analyzed in this study is restricted-use, there is a subset of Add Health data from a random selection of participants that is publicly available, so interested parties can get a sense of what other information is in the Add Health dataset. The "flags" indicating which Add Health sample members were arts students will be derived entirely from restricted-use data, however, and data security procedures in place due to the sensitive and personally identifiable information contained in Add Health prevent the release of those flags, as well as the remainder of the dataset to the public.

However, the University of Maryland maintains an open access digital archive, called the Digital Repository at the University of Maryland (or DRUM). DRUM is freely available to the public and indexed by Google Scholar. If the NEA allows, I intend to deposit a copy of the final research report into DRUM, which will provide another open access avenue for dissemination beyond the NEA's own publication of the report. Additionally, the UMD Communications office regularly informs the press of research advances that take place at the University, and these avenues will also be leveraged to increase awareness of the study.

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Project Narrative

Understanding Artistic Location Patterns and their Relationship to Neighborhood Development: A time series cross-sectional analysis of 30 US cities

Carl Grodach, Principal Investigator, University of Texas at Arlington

Elizabeth Currid-Halkett, Co-Principal Investigator, University of Southern California

a. Research questions

This research will examine the neighborhood attributes that attract artists and artistic businesses across a range of different types of cities. We will uncover if and how artistic location preferences have changed over time and identify variations by place and context. By conducting a time-series analysis, we will attempt to determine if correlations exist between artistic presence and key variables associated with neighborhood development (e.g. rents, household income, education levels). To date, there is virtually no literature that comparatively analyzes artistic location patterns across a range of different places and time periods, yet this knowledge is essential to fostering a deeper understanding of where artists choose to live and work and, ultimately, to identify where and under what conditions they make the greatest social and economic impact. Moreover, this research will enable policy-makers to provide more informed and targeted means of supporting the arts.

Recent research asserts that the arts and artists provide important social and economic benefits to struggling neighborhoods (Currid, 2009; Grodach, 2010, 2011; Markusen and Gadwa, 2010; Stern and Seifert, 2010). According to this work, artists stimulate neighborhood economic revitalization through the establishment of retail and creative businesses, the reuse of vacant residential and commercial buildings, and the retention of local dollars in the economy (Markusen and Schrock, 2006). In addition, “cultural clusters” are found to enhance community participation, cross-cultural engagement, and improve neighborhood quality of life (Stern and Seifert, 2010). While such work documents the important role of artists in positive neighborhood change, much less is known about the specific location preferences of artists and how these preferences have changed over time. Further, we possess very little comparative work that identifies how the presence of artistic industries influences neighborhood development. Addressing these research gaps is crucial to capture and demonstrate the value of the arts and artists in US life. Therefore, this research project will answer the following questions:

RQ1: How have the location preferences of artists and artistic businesses changed over time by neighborhood attributes and by city size?

RQ2: What types of neighborhood attributes are associated with the presence of artists and artistic businesses?

RQ3: How do the presence of artistic industries influence or relate to artist location choices and development processes?

Literature Review: The Location Preferences of Artists and Artistic Businesses

In considering the location preferences of artists, prior research has emphasized three broad features at the neighborhood level: affordable rents, neighborhood character, and characteristics of living and work space. In this regard, numerous case studies of gentrification demonstrate that artists are not simply attracted by cheap rents alone, but by places that appeal to the “artistic habitus” or a taste and lifestyle rooted in the aesthetic of older industrial neighborhoods that contain buildings with historic architecture and adaptable, open floor plans and which are typically found in central city locations (Ley, 2003; Lloyd, 2006; Zukin, 1982). Additionally, a fairly diverse literature points to the importance of city distinctiveness and physical and social diversity in attracting concentrations of artistic activity (Florida, 2002; Smit, 2011; Stern and Seifert, 2010). According to Richard Lloyd (2006), artists are particularly attracted by the “street level diversity” of neighborhoods with significant minority populations and that tend to possess above average levels of poverty and crime not simply because they are affordable, but because such places serve as a mark of social status and distinction. Moreover, artists are considered to draw inspiration from such neighborhoods because they provide material and symbolic resources for creative activity (Ley, 2003; Lloyd, 2006).

While this work is helpful in identifying neighborhood qualities that attract artists, it runs the risk of stereotyping artists as a homogenous group that primarily seeks out troubled neighborhoods for their aesthetic benefit, which inevitably leads to the gentrification of these areas. In contrast, other recent research points to the strong community benefits and social interactions that occur in places with sizeable concentrations of artists and arts activity, though this work is limited in that it is based on case studies of single cities (Grodach, 2011; Markusen and Johnson, 2006; Stern and Seifert, 2010).

Another significant factor employed to explain the location preferences of artists and arts-related businesses derives largely from the economic geography literature on industrial districts. According to this work, specialized and complementary firms cluster to take advantage of labor pools and other industry-specific resources and efficiencies (Scott, 2000; Storper, 1997). In relationship to the arts, this work has focused on demonstrating the importance of neighborhood-level features that enhance the ability of artists to tap into supportive social networks; to share supplies, information, and ideas; and engender community support (Currid, 2007, 2009; Grodach, 2011; Lloyd, 2006; Markusen and Schrock, 2006; Neff et al., 2005). Further, artists and artistic industries are found to locate near concentrations of artistic venues and specialized institutions (e.g. nightclubs, art galleries, art spaces, design schools) to gain access to their consumer base, industry gatekeepers, and potential employment and contract opportunities (Currid and Williams, 2010; Lloyd, 2006). Other research, such as Currid’s (2006) study of arts industries in New York, shows that artistic activity tends to co-locate with specific “non-artistic” industries. As such, another potential factor influencing artistic location patterns is attributed to aspects of the regional economic base. Finally, in their study of artistic location patterns at the regional level, Markusen and Schrock (2006) find that key cultural economy hubs (Los Angeles, New York and San Francisco) served as artistic magnets through the 1990’s while select mid-sized cities experienced growth in particular occupations. More recently, in a study of artistic and cultural occupations during recession, Grodach and Seman (2011) found that a handful of mid-

sized cities experienced pronounced growth while the leading centers saw their artistic advantage erode.

While both streams of research help direct us toward the attributes that influence the location preferences and clustering of artists and artistic businesses, each suffer from crucial shortcomings. First, while often in-depth, this research is predominately based on single case studies and, where multi-city studies have been conducted, these focus on data at the regional level alone. As a result, we lack a deep understanding of the fine-grained details that exist within and between places. Second, the existing work predominately focuses on large cities and cultural economy hubs (e.g. New York, Los Angeles, Chicago, San Francisco). We question the generalizability of such cases to the majority of the US where different processes and trends may be at work. Further, little to no research analyzes if and how artistic preferences change over time. Finally, we have yet to understand if there are larger patterns in how artists more generally locate and the relationship to neighborhood development.

In sum, we lack research that 1) attempts to build knowledge of artistic location decisions based on comparative data 2) across different periods of time and 3) across a range of different places at the neighborhood level, both within and outside the traditional hubs of cultural economy activity. This research project will fill these gaps in our understanding of artistic location patterns by utilizing data that enables us to provide a comparative analysis of artistic location decisions across a range of different sized cities and across multiple time periods. To do so, we create a systematic methodology to study the role of the arts in urban economies across a wide range of cities. We propose to study the arts not just as engines of growth in large urban centers, but also in the transformation of middle and smaller-sized cities from Detroit, Michigan to Austin, Texas. The ability to identify and analyze the location preferences of artists and how these preferences change over time in different places is critical to advance our understanding of their economic and social impacts at the neighborhood level and towards the implementation of targeted arts development policy.

b. Research Design

In order to study the location preferences of artists and artistic businesses across time and place, this project will rely on three publically available datasets: 1) time-series Census data on social and economic demographics at the zip code and Public Use Micro Area (PUMA) levels, 2) Bureau of Labor Statistics (BLS) zip code level firm-reported industry data, and 3) American Community Survey 2005-2009 estimates. We will extract data from 30 US metropolitan areas and categorize these cities based on four population sizes: 1) 100,000 to 250,000, 2) 250,000 to 500,000, 3) 500,000 to 1,000,000, and 4) over 1,000,000.¹ Using spatial (GIS) and statistical analysis, we will analyze the data in each metro area across four data points from 1980 to the present day (1980, 1990, 2000, and ACS 2005-2009 estimates) to study neighborhood transformation over time. We will primarily rely on data at the zip code level because it is the most consistent geographic boundary across the three datasets. These datasets will allow us to see where artists locate and how their location changes over time, how neighborhoods with artistic concentrations develop over time, and what neighborhood attributes are associated with

¹ These categories were established by Stolarick & Currid-Halkett (2011) and Currid-Halkett & Stolarick (2011a).

artistic activity (both artists and art industries). Finally, these data will allow us to tease out correlations between artistic concentration and neighborhood development over time. By looking at social, economic, occupational, and industrial data over time, we will be able to study how the presence of artists plays a role in neighborhood development.

The research design is appropriate for answering each of our research questions. Specifically, our use of time-series data allows us to see whether the presence of artists in 1980 is associated with neighborhood development in future years. We will study how neighborhoods with concentrations of artists in 1980 and 1990 correlate with other development variables in 1990, 2000 and the present day, using the ACS 2005-2009 estimates. This will enable us to determine how the location preferences of artists and artistic businesses have changed over time by neighborhood and by city size (RQ1). Similarly, our approach enables us to determine whether there is nuance to any of the more generalized patterns: are certain neighborhood attributes associated with an artistic presence (RQ2)? And, does the presence of artistic industries relate to other neighborhood attributes and development processes (RQ3)? We further discuss the specifics of this analysis in Section d. Research Analysis.

c. Data Sources

1. Census Data: Public Use Micro Sample and American Community Survey

The US Census 5 percent Public Use Microdata Sample (PUMS) offers a number of different analytical lenses. First, census data allows us to track artists' residential patterns over time and to study the neighborhood attributes associated with artistic concentration. Census social and demographic data is coded on the zip code level and by census tract and PUMA, which is a state-partitioned geographic area of 100,000 people. We will use the zip code level data to generate the social, economic and demographic variables by neighborhood. We intend to study the following variables: race, ethnicity, household income, education level, poverty rate, housing cost, age of housing stock, rent v. ownership rates, median age, and household and family size. Where zip code data is not available we will use census tracts and correspond each tract to its specified zip code.

Additionally, census data allows us to link particular occupations with industries on a metropolitan level (Currid-Halkett and Stolarick 2011a, 2011b). We can comparatively study the composition of arts industries and the industries in which artists are employed on a city by city basis to capture how artists are employed differently and similarly across metros. For example, are artists in Detroit employed in artistic industries (e.g. music or design) or are they employed in less artistically-oriented sectors such as food services, accommodations, or retail? This data allows us to see not just how and where artists concentrate, but also if particular cities offer more artistic opportunities than others. Do employment opportunities or particular types of neighborhoods drive artist location patterns? PUMS data is available on the PUMA level, thus in some denser cases (New York City, Los Angeles, San Francisco) the data will correspond to neighborhoods. However, for smaller metros the Census artist data will be more limited. Thus, for most of our analysis we will use BLS freelance artists (discussed below) as a proxy for the presence of artists.

2. County Business Patterns, North American Industrial Classification System (NAICS) Data

NAICS data is firm reported data by industry. This data provides employment figures, payroll, and establishment size within each industry. The data is provided on a broad level (e.g. Retail) and in much finer detail (e.g. Art Dealers). We will draw NAICS and Standard Industrial Codes (SIC) from 1980 onwards. NAICS codes were developed in 1997 but the BLS provides a crosswalk between SIC and NAICS. This data is provided at both the metropolitan statistical area (MSA) and zip code levels, and thus allows us to analyze the aggregate snapshot by city along with tracking the location of industries by zip code and matching industry data with the aforementioned social, economic and demographic data. This data will be parceled in two ways. First, we will extract arts-related industries (e.g. 71 arts industries including 71-113 Musical Groups and Artists, 71-112 Dance Companies, 51-211 Motion Picture and Video Production). We will also isolate NAICS code 71-151 Independent Artists and Performers as our proxy for artists. This code captures freelance artists who have set up their own LLC. While not a perfect measure, it is the closest proxy to artists at the zip code level that is consistent across cities and across time.

In the second stage of our NAICS data collection we will extract data on other industries including finance (52), manufacturing (31), and software publishers (5112), among other industrial groups. Our strategy is to study the geographical linkages between arts industries and artists (as captured by the census and the NAICS independent artists code) and other industries. Do artistic industries co-locate with particular “non-artistic” industries? Are there patterns visible across metro areas or within particular types of neighborhoods?

3. American Community Survey (ACS) 2005-2009

ACS data is the most recent Census reported data. As the last Census is over a decade old, much of the social and economic data is outdated. For the purposes of this project, the historical Census data allows us to see neighborhood and city evolution and thus will be useful for our time-series analysis. However, to get a recent snapshot of neighborhoods and their associated attributes, as discussed above, the ACS is the most current data. ACS data on artistic occupations is available at the metropolitan and PUMA level, but not at the zip code level. Thus in order to use this data in tandem with BLS data, a crosswalk between these geographies will be employed. There are caveats to this data. While ACS provides the most recent and fine-grained data, it is not nearly as specific as Census or BLS data for occupational and industry information. The occupational and industry group that artists fall under is “Arts, entertainment, and recreation, and accommodation and food services,” which covers a wide swath of other occupations, some of which are only loosely affiliated with the arts. Thus ACS is most useful for social, economic and demographic data by PUMA and metro. The most accurate assessment of artists will remain the NAICS Independent Artists and Performers group. The ACS data allows us to see the current state of neighborhoods and cities and to compare these conditions to historical Census data. This approach also gives us the opportunity to see whether the historical presence of artists has a transformative effect on neighborhoods in the present day.

Unquestionably, even though our approach thoroughly incorporates the data available at the neighborhood level, artists are a difficult group to follow as they are undercounted in most publically available datasets. However, we feel that the datasets employed will give us the most succinct and comprehensive analysis of artists and their interplay with other industries and social and economic characteristics that comprise a neighborhood.

d. Data Analysis

Our analysis will take two approaches. In the first stage, we will employ geographic information systems (GIS) to spatially visualize artistic activity at the neighbourhood level. GIS is a technological system of correlating statistical data with spatial identity and visualizing these relationships through maps. GIS maps will allow us to identify concentrations of particular industrial, residential, demographic and other variables. These maps allow researchers to identify high concentrations of industrial activity, poverty, ethnic diversity and so forth. GIS allows multiple data sets to “layer” within the same map in order to see spatial associations amongst different statistical variables. Spatial statistics allows researchers to quantify and test if these visual correlations are statistically significant.

Using GIS, we will first map the location of artists and art industries by PUMA and zip code, respectively. After identifying those neighbourhoods with a concentration of artistic activity, we will next map associated neighbourhood demographic data within those high concentration neighbourhoods. In summary, this entails mapping neighbourhood level demographic data, artist and artistic business data, and industry data. Such analysis will allow us to undertake spatial statistical analysis to determine if geographical clustering of art and other industries or neighbourhood attributes exists within the 30 selected cities.

In the second stage of our analysis, we will conduct statistical analysis on the 30 metropolitan areas as a whole. Our empirical strategy is to see if we can tease out a causal relationship between the presence of art and neighbourhood development. We will develop a statistical model that includes specific social, economic and demographic variables (e.g. income levels, rents, educational levels, family size) and artists and art industries. We will study if the presence of artists in earlier years (1980, 1990) predicts neighbourhood development in later decades.

Our aim is to determine whether artists and art industries have a generalizable impact on neighbourhoods across America and what types of neighbourhood attributes are most likely to attract artists. If so, we hope our research can help shape how we effectively employ the arts for social and economic revitalization in diverse types of American communities.

e. Personnel capability

Both PI (Grodach) and subcontractor (Currid-Halkett) are highly qualified to conduct the proposed research. As the curricula vitae show, each individual has published extensively on arts and cultural industries and occupations at the local and regional levels and have employed data

sets related to the proposed research in their prior work. Much of this work is cited in the reference section on pages 9-10 as well.

The roles and responsibilities of personnel are organized by task:

Carl Grodach (PI)

Task 1: Organize and oversee daily activity of research project

Task 2: Finalize literature review, research design and method

Task 3: Oversee and conduct gathering and analysis of census data

Task 4: Oversee and contribute to writing and review of final report

Approximately 8% of time based on 12-month calendar year.

Elizabeth Currid-Halkett (Subcontractor)

Task 1: Conduct GIS analysis

Task 2: Contribute to census data analysis

Task 3: Contribute to writing and review of final report

Approximately 8% of time based on 12-month calendar year.

f. Organizational capacity

The research project will utilize publically accessible US census and Bureau of Labor data. We will employ SPSS and excel software licensed to the School of Urban and Public Affairs at the University of Texas at Arlington to collect, manage, and analyze the data. In addition, GIS analysis will take place at the USC Spatial Sciences Institute, a state-of-the-art data center familiar with generating and processing large amounts of data.

As noted above, both PI (Grodach) and subcontractor (Currid-Halkett) have published extensively on arts and cultural industries and occupations at the local and regional levels (see vitae and pp.9-10).

g. Outline for research report.

- I. Executive summary
- II. Introduction: Overview of the research and key findings
- III. Studying the Location preferences of artists and artistic businesses (Literature Review)
- IV. Presentation of analysis and findings: GIS and statistical analysis of artist location patterns
- V. Conclusion: Policy recommendations and implications for future research

VI. Methodological Appendix

h. Outcome(s) and Measurements

The data collected and analysis undertaken will provide rich information on artistic communities, their location preferences and their long term relationship to neighborhood development. This analysis provides a new framework for studying artist communities and industries. Our methodological approach expands the scholarship and wider policy debate on the role of the arts in economy and society. We aim that our research more closely teases out the impact artists have on neighborhood development, thus informing policy and development and providing more targeted means to support the arts. Our work has both scholarly and practical impact in shaping the larger intellectual dialogue around the importance of the arts to urban economies whilst also providing tools and evidence to shape more directed policy efforts.

i. Schedule

May-August, 2012: Data collection

August-November, 2012: Data Analysis

November, 2012-January, 2013: Report Write-up

February, 2012: Delivery of final report

j. Plans for reporting and disseminating the study results

We anticipate presenting the results of the research at professional conferences, specifically the urban planning conference, the Association for Collegiate Schools of Planning (ACSP), and the geography conference, Association for American Geographers (AAG).

k. Plans for making the report and data accessible to the public

We will use the data and analysis generated for this project to produce a series of scholarly articles based on the research. The NEA will be acknowledged in all publications generated by this research. We will also distribute the report through our own websites, the planning community, and through conference presentations.

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