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Predicting public participation in the Arts and its marketing implications

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Abstract

Participation in arts-related activities is consistently acknowledged as a major success factor for individuals and economies. In 2010, the arts industry in the United States generated $135.2 billion and supported 4.1 billion jobs in the U.S. (Americans for the Arts, 2011). However, data collected by the National Endowment of the Arts from 1982 to 2008 indicate that the arts are facing a decline in participation and an aging audience, which both suggest that the industry may struggle in coming years (NEA, 2009). In light of this information, it is crucial that arts organizations understand their audiences and how best to appeal to them. Using multiple regression analyses, we seek to identify the best models to predict participation for various art types and regions of the United States, and discuss the marketing implications of these results.

Keywords: The Musical arts, Marketing strategy, Multiple regression

INTRODUCTION

Participation in arts-related activities is consistently acknowledged as a major success factor for individuals and economies. In 2010, the arts industry in the United States generated $135.2 billion and supported 4.1 billion jobs in the U.S. (Americans for the Arts, 2011). However, data collected by the National Endowment of the Arts from 1982 to 2008 indicate that the arts are facing a decline in participation and an aging audience, which both suggest that the industry may struggle in coming years (NEA, 2009). In light of this information, it is crucial that arts organizations understand their audiences and how best to appeal to them.

Demographic variables are often used by arts organizations in an attempt to better understand their audiences and, ideally, to predict attendance at performances and events. The Survey of Public Participation in the Arts (SPPA), conducted periodically by the National Endowment of the Arts (NEA) in collaboration with the U.S. Census Bureau, is widely regarded as the most comprehensive and authoritative data available on arts participation and attendance in the United States. SPPA data has been used in a variety of research studies to further our understanding of how arts audiences have changed and what factors can be used to explain those changes.

Through analysis of multiple stepwise regression models, this paper seeks to identify the best models to predict participation for various art types, for different regions of the United States, and compares two time periods 16-years apart to inquire about changes taking place over time.

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Literature review

Much research on arts participation focuses on overall trends in arts audiences since the time of the first survey in 1982. The 2008 Survey Report found that about 35% of American adults participated in one of the defined "benchmark activities," which included jazz, classical music, opera, musical plays, non-musical plays, art museums, and art galleries. This was a notable decline from the approximate 39% attendance in all previous years of the survey. Every year, including 2008, the SPPA found that adults in their 40s and 50s are more likely to attend arts events than are younger adults. According to the Survey Report, much of the decline in overall participation from 2002 to 2008 can be accounted for by the fact that attendance from the 35 to 50 years-of-age range showed the steepest declines in attendance in key areas such as ballet, classical music, and art museums, since they traditionally represented the majority of attendances at arts events in general.

In addition to the general decline in arts participation, there is growing concern in the arts community that the audience for arts events is aging too rapidly. Every year, the average age of a performing arts attendee is increasing by an amount larger than that of the average U.S. adult. Classical music saw a particularly dramatic change from 2002 to 2008, with the highest percentage of attendees shifting from the 45-64 age group into the 65-74 age group. Similarly, 28% of musical theater attendees were over the age of 65 in 2008, which was a significant increase from only 13% in 2002 (NEA, 2009). The fear with an aging audience is that, if arts organizations cannot attract new, younger audiences, there will be no audience left in just a few years.

The data collected in the SPPA consistently indicate that education level and arts attendance have a strong, positive correlation (NEA, 2009). In a multivariate analysis, a model using demographic variables as predictors explained 20% of the variation in number of performances attended, and 18% of the variation was attributed to education level with no other individual variable accounting for more than 0.7% of the variation (Stern, 2011). However, it is interesting to note that, although education is generally considered the most important factor in predicting attendance, the participation gap between those with higher levels of education and those with lower levels has narrowed over time, meaning that the impact of education on frequency of participation is decreasing. Unfortunately, the gap is closing due to lower levels of participation from those with higher levels of education rather than more participation from those with lower levels. For example, ballet attendance for adults with a college degree was down to nearly 50% of the level found in 1982 (NEA, 2009). Naturally, this trend is a concern for arts organizations, not only because attendance is declining, but also because one of the main factors they use to understand their audiences (that is, education) is no longer as useful as it used to be.

Using a multiple regression model created by the NEA in 2002, benchmark participation in 2008 was predicted to reach 42%, which is significantly higher than the 35% actual reported attendances in the 2008 season (NEA, 2009). This indicates that the model to predict attendance has changed over time, and that the relative influence of different demographic factors has shifted. Within categories, trends in participation rates also provide evidence that the importance of certain demographic factors has been changing over time. Although the audience for musical theater is still primarily women, the ratio of women-to-men has been decreasing over the years, indicating that gender is less powerful in predicting attendance for musical theater than it has been in the past. Another interesting gender phenomenon is that, although being a woman makes an individual more likely to attend a classical music performance, men who attend at all actually attend *more* performances per person (NEA, 2009).

As might be expected, there is evidence that the predictive value of certain demographic variables may vary significantly when the predictions are segmented by art form. For example, the correlation between average educational attainment and arts attendance is significantly stronger for art museum attendance than for performing arts attendance (Nichols, 2009). A similar phenomenon was observed using the 1997 SPPA data, where various demographic factors were used to predict the number of attendances by any individual. For example, the number of children under 18 in the home was not significant in predicting classical music, opera, or ballet attendances, but was significant in all other benchmark art forms. Also, although women are generally more likely to attend arts performances than men, looking at jazz attendance reveals an almost even gender distribution in the audience. In this study, with race defined as "Black" or "Other," being Black was found to have a significant *negative* relationship with classical music attendance, but a significant *positive* relationship with jazz attendance. In general, the relationships of various predictors with jazz attendance were quite different from other art forms (Peterson, et al., 2000). In an aggregated "arts attendance" model, identifying as non-White has a negative marginal impact on attendance (NEA, 2009), but an organization focused on jazz music might find that this model incorrectly accounts for the effect of race, and possibly gender, on attendance at its events.

Although demographics have historically been considered among the most important considerations in arts attendance, a somewhat recent report by Stern (2011) suggests that demographics may not be as powerful predictors as other researchers believe. There is evidence that the strength of the relationship between

age and arts participation has decreased over time. Stern argues that this was not a shift in the predictive power of age, but rather, a shift in the relationship between age and education. According to Stern, since education is such a significant predictor of arts participation, the fact that age was previously very strongly related to education level caused age to *seem* significant in predicting arts attendance, when in reality it was simply reflecting the education effect. As the relationship between age and education has weakened over time, the apparent relationship between age and arts participation has, therefore, also weakened. In fact, Stern's multivariate analysis accounting for other demographic factors found that year-to-year declines in attendance were entirely unaffected by adjusting for age and age cohort, apparently demonstrating that decreases in participation were not related to the feared "aging audience."

Rather than depending on "purely" demographic factors, Stern utilized Peterson's concept of *cultural omnivores*, or individuals who participate in both "high-brow" and "low-brow" art forms, in an attempt to explain where this decrease originated (Peterson et al., 1996). His results suggested that the sharp drop in "cultural omnivores," combined with the number of events attended per "omnivore," accounts for 82% of the decline in benchmark activity attendance (Stern, 2011).

Still, other current research suggests that, since demographic factors are consistently significant across art forms and locations, they are crucial to predicting arts attendance. In fact, Hager and Winkler (2012) explicitly urge researchers and arts organizations not to underestimate or underemphasize the effects of demographic variables on attendance measures. Specifically, the authors argue that theater managers can and should depend on demographics to make strategic marketing decisions regarding how best to attract audiences to performances. Some demographic factors, such as income, are even able to reflect the impact of important lifestyle factors that are key to understanding arts participation in individuals. Demographic information may not account for the entirety of variation in arts participation, but it is so readily available and useful that it should certainly be considered in making marketing decisions for arts organizations.

It is evident, from an examination of prior research, that there may be differences in demographic predictor variables and their relative importance in understanding arts attendance by art form, region, and year. However, the question that naturally arises is whether these differences merit the use of distinct regression models for each. In other words, would it be useful to predict jazz, classical music, and musical theater performances using three separate equations, and how would these different equations affect marketing decision-making? Should different regions be marketed differently? What about changes over time? These are the issues that this paper addresses.

METHODOLOGY

The quantitative analyses presented in this paper will be based on data collected by the National Endowment of the Arts in collaboration with the United States Census Bureau via the 1992 and 2008 Surveys of Public Participation in the Arts (SPPA). These data are available through the National Endowment of the Arts website in a public use file containing combined data from the 1982, 1985, 1992, 2002, and 2008 surveys (NEA, 1982-2008). In 1992, the SPPA was administered as a supplement to the U.S. Census Bureau's National Crime Survey, and in 2008 the SPPA was a supplement to the Current Population Survey. In 2008, the response rate for the SPPA was 81.6%, and data on a total of 18,444 adults were obtained through the survey. In 1992, the survey collected data on 18,774 respondents. Each line in the data file corresponds with a single respondent, allowing researchers to create models that predict behavior on an individual level.

Each section of this paper will investigate various regression models using demographic variables to predict how often an individual will attend an arts performance. Demographic data are easily accessible to arts organizations, and understanding the demographics of the audience is useful in targeting marketing materials to potential audience members. Therefore, using demographic data as predictor variables is not only logical, but also necessary. The predictor variables that will be included in every model are income, household size, age, marital status, gender, education level, and race (Table 1):

Our first set of analyses will explore three different types of performing arts: musical theater, classical music, and jazz. These three cover a wide range of audience profiles, which we believe could lead to differences in which predictors are most important for each art type. We perform three stepwise multiple regression analyses (one per type of performing art), using the previously-mentioned demographic variables in Table 1, using 2008 SPPA data from across the nation. We then compare the results of the three "models" to determine the differences among the models, and how those differences should affect marketing decision-making.

Next, we analyze differences in the models for two different regions of the United States. We use 2008 SPPA data to predict aggregate attendance at the three previously stated arts events separately in the *Northeast* and separately in the *South*. We have chosen these two regions because they represent relatively high and low arts participation, respectively, thus potentially providing the greatest difference among any two regions chosen (Nichols, 2009). Again, we will compare the two regression models to determine how the models differ for each region, and what the marketing implications are.

The final set of analyses compare changes in the regression results for 1992 vs. 2008. These time periods

Table 1. Description of independent variables

The following independent variables were considered in the stepwise regressions for each of the analyses described in the sections below:
- "**FAMILY INCOME**": annual family income was divided into a near-interval scale, consisting of 16 categories as presented below, and represented in the analyses as a value from 1 to 16:
1.   Less than $5,000
2. $5,000 to $7,499
3. $7,500 to $9,999
4. $10,000 to $12,499
5. $12,500 to $14,999
6. $15,000 to $19,999
7. $20,000 to $24,999
8. $25,000 to $29,999
9. $30,000 to $34,999
10. $35,000 to $39,999
11. $40,000 to $49,999
12. $50,000 to $59,999
13. $60,000 to $74,999
14. $75,000 to $99,999
15. $100,000 to $149,999
16. $150,000 or more
- "**HHSIZE**": Household size was measured as the number of individuals living in the household at the time the survey was taken.
- "**FEMALE**": The female-indicator variable is a dummy variable, coded as 1 if the individual identified as female, and 0 if the individual identified as male.
- "**AGE**": the person's age as of the end of the week in which the survey was completed
- **"MARITAL STATUS"** at the time of the survey was entered into the regressions as a set of dummy variables. The following marital status variables are all measured in relation to the reference group of individuals who have never been married ("NEVERMARRIED").
  ○ "**MARRIED**": the individual is married.
  ○ "**MARRIEDABSENT**": the individual is married, but his or her spouse is absent
  ○ "**WIDOWED**": the individual is widowed.
  ○ "**DIVORCED**": the individual is divorced.
  ○ "**SEPARATED**": the individual is separated.
One of these variables took the value 1, all the others 0, except that all of them took the value 0 when the indicated category was "NEVERMARRIED."
- **INDIVIDUAL'S HIGHEST EDUCATION LEVEL** was also entered as a set of dummy variables. The reference for education level, against which all other education levels are measured, is an individual with an ADVANCED COLLEGE DEGREE.
  ○ "**Lessthan9th**": the individual has not attended any high school.
  ○ "**SomeHS**": the individual has attended some high school, but does not have a High School diploma.
  ○ "**HSGrad**": the individual is a high school graduate, but has not attended any college.
  ○ "**SomeCol**": the individual has attended some college, but does not have a college degree.
  ○ "**ColGrad**": the individual is a college graduate, but does not have an advanced degree.
One of these variables took the value 1, all the others 0, except that all of them took the value 0 when the indicated category was "ADVANCED COLLEGE DEGREE."
- To measure the effect of race, the three top categories by number of respondents were entered as dummy variables in comparison to the reference category "OTHER", consisting of an aggregation of all other possible responses.
  ○ "**WhiteOnly**": the individual identified his or her race as White only.
  ○ "**BlackOnly**": the individual identified his or her race as Black only.
  ○ "**AHPIOnly**": The individual identified his or her race as Asian or Hawaiian Pacific Islander only
One of these variables took the value 1, all the others 0, except that all of them took the value 0 when the indicated category was "OTHER."

are 16 years apart and (we assume) allow enough time for the effects of temporary economic or social events to even out, leaving primarily the effects of long-term trends. For these regression analyses, we will aggregate attendance across regions and the three aforementioned art types, in order to highlight the effects of the year, itself.

Along with the public-use data file, the NEA provides a 2008 SPPA user's guide to help researchers approach the data file. In order to match survey respondents to the

overall U.S. population, SPPA data are given weights for each response. After careful consideration of all the information provided by the NEA, we determined that the use of weights would not significantly change the conclusions of our study; hence, we have decided to conduct our analyses without weighting the data.

HYPOTHESES

This paper consists of three main comparisons. These comparisons are as follows:

Art Types
1.   Jazz vs. Classical music vs. Musical theater
Regions
2.   Northeast vs. South
Years
3.   1992 vs. 2008

Based on previous research results and preliminary review of the data, we believe that there will be sufficient evidence to conclude that the separate regressions for each of these categories will be statistically significant and will have many notable differences from one another.

Across art types, we believe that the significant predictive variables will differ, and that the impact of the significant variables that the art types have in common will noticeably differ. Previous research has found that the strength, and even *direction*, of a demographic variable's correlation with attendance can vary depending on the type of art form, therefore indicating that the models predicting attendance for different art forms may also vary significantly.

Regionally, there is little evidence to support a specific hypothesis. Still, some research has found that the predictive power of certain variables differ for different states, and we would thus hypothesize that regional cultural differences will lead to differences in how certain demographics affect arts participation.

The NEA found that a 2002 regression model inaccurately predicted 2008 data (NEA, 2009), which leads us to believe that the models will differ substantially over the longer, 16-year term.

Comparisons by Art type

Jazz Performances

Here, we examine the relationship between the dependent variable:

"Y" = number of times an individual has attended a JAZZ performance in the last 12 months, and the variety

of independent variables listed earlier in Table 1. The sample size used in the analysis, excluding cases with missing information for any of the variables, is 16,499.

After a stepwise regression with all the variables in Table 1 "eligible," we find, for the final model of the analysis, an equation of:

$$\text{Y-predicted} = .602 - .036*\text{HHSIZE} + .013*\text{FAMILY INCOME} - .138*\text{HSGrad} - .394*\text{SomeHS} - .388*\text{Lessthan9th} - .240*\text{SomeCol} - .140*\text{WIDOWED} - .292*\text{AHPIOnly} - .093*\text{WhiteOnly}.$$

The R^2 for the regression is .020; however, it is highly significant, with a p-value for the "F-test for the overall model" of .000. Furthermore, each of the variables in the equation is significant at $p < .01$, with all but "WIDOWED" ($p = .002$) and "WhiteOnly" ($p = .006$) significant at $p < .001$.

We now discuss each of the independent variables in terms of its impact on Y (number of times an individual has attended a JAZZ performance in the last 12 months). Please note that all of the statements are to be interpreted as "*on the average*;" however, for ease of presentation, we shall omit that phrase in each explanation (for this and subsequent analyses):

HHSIZE: The coefficient of this variable can be seen to be -.036. This indicates that, holding all other variables in the equation constant, as the number of people living in the household increases by 1, the number of times an individual attends a jazz performance per year drops by .036. This indicates that, *ceteris paribus*, the fewer people in the individual's household, the more often the individual goes to jazz performances.

FAMILY INCOME: The coefficient of this variable can be seen to be +.013. This indicates that, holding all other variables in the equation constant, as the family income increases by one category (as listed earlier in Table 1), roughly $10,000 for the larger frequencies of individuals, the number of times an individual attends a jazz performance in the past year increases by .013. This indicates that, *ceteris paribus*, the higher the individual's family income, the more often the individual goes to jazz performances.

WIDOWED: This variable's impact is measured relative to an individual who has never been married. What is indicated is that, holding all other variables in the equation constant:
•   An individual who is a widow/widower attends jazz performances .14 times fewer per year than someone who has never been married (coefficient = -.140). This indicates that, *ceteris paribus*, widows/widowers attend fewer jazz performances per year than individuals who were never married.

Lessthan9th, SomeHS, HSGrad: These variables' impacts are measured relative to an individual with an advanced college degree. What is indicated is that, all other variables in the equation held constant:

• An individual who did not attend any high school (i.e., less than 9th grade of education) attends jazz performances about four-tenths of a time fewer per year (coefficient = -.388) than an individual with an advanced college degree, *ceteris paribus*.

• An individual who attended some high school, but without a high-school degree, will attend jazz performances about the same four-tenths of a time fewer per year (coefficient = -.394) than an individual with an advanced college degree, *ceteris paribus*.

• An individual who is a high-school graduate, but without any college education, will attend jazz performances about a third of a time fewer per year (coefficient = -.341) than an individual with an advanced college degree, *ceteris paribus*.

• An individual with some college, but not a college graduate, will attend jazz performances about a fourth of a time fewer per year (coefficient = -.240) than an individual with an advanced college degree, *ceteris paribus*.

• It can be noted that, *ceteris paribus*, an individual who is a college graduate, but without an advanced college degree, did not (statistically) differ in his/her attendance at jazz performances from those individuals who did have an advanced college degree.

AHPIOnly, WhiteOnly: These variables' impacts are measured relative to an individual whose race falls into the "Other" category, as explained in Table 1. What is indicated is that, all other variables in the equation held constant:

• *Ceteris paribus,* an individual who lists his/her race as Asian or Hawaiian Pacific Islander will attend jazz performances about three-tenths of a time fewer per year (coefficient = -.292) than an individual who lists his/her race as "Other."

• *Ceteris paribus,* an individual who lists his/her race as "WhiteOnly" will attend jazz performances about one-tenth of a time fewer per year (coefficient = -.093) than an individual who lists his/her race as "Other."

As noted, all of the variables in the equation are highly significant (nb: appearing in the final model of the stepwise regression guarantees that the variable will be significant at the default level [.05 to enter, .10 to not get deleted after entering]). This, of course, applies to all our subsequent analyses also; for brevity's sake, we will not repeat the statement.)

We shall now portray the corresponding "story" for the attendance of classical music performances and musical theater performances.

Classical Music Performances

Here, we examine the relationship between the dependent variable:

"Y" = number of times an individual has attended a CLASSICAL music performance in the last 12 months, and the same (eligible) independent variables listed earlier in Table 1. The sample size used in this analysis, excluding those with missing information, is 16,460.

After a stepwise regression with all the variables in Table 1 "eligible," we find, for the final model of the analysis, an equation of:

Y-computed = .580 - .917*HSGrad + .019*FAMILY INCOME - .019*HHSIZE – .771*SomeCol - .904*SomeHS - .950*Lessthan9th - .548*ColGrad +.006*AGE - .183*MARRIED + .116WhiteOnly - .150*WIDOWED.

The R^2 for this regression is .047, substantially higher than what we found in our analysis of jazz attendance, and again, the F-test for the overall model is highly significant, with a p-value of .000 (to three digits). All of the variables in the equation, with the exception of household size (p = .040), are significant at p < .01.

As we did in the previous section for jazz performances, we now discuss each of the independent variables in terms of its impact on Y (number of times an individual has attended a CLASSICAL music performance in past year).

HHSIZE: The coefficient of this variable can be seen to be -.019. Therefore, with all other variables in the equation held constant, the number of times an individual attends a classical music performance per year drops by .019 as the number of people in the household increases by 1. This indicates that, as we found with jazz performances, the fewer people in the individual's household, the more often the individual goes to classical performances, *ceteris paribus*. However, the effect of household size on attendance is not quite as strong for classical music performances as it is on jazz performances.

FAMILY INCOME: The coefficient of this variable can be seen to be +.019. This indicates that, holding all other variables in the equation constant, as the family income increases by roughly $10,000, one income category, the number of times an individual attends a classical music performance per year increases by .019. This relationship is very similar to what we found for jazz attendance, again indicating that, *ceteris paribus*, the higher the individual's family income, the more often the individual goes to classical music performances.

AGE: This variable was not found to be statistically significant in predicting number of jazz attendances, but for classical music performances the coefficient of this variable is +.006 and it is statistically significant. This indicates that, holding all other variables in the equation constant, as the age of an individual increases by 1 year, the number of times an individual attends a classical performance in the past year increases by .006. This indicates that, the older a person is, the more often the individual goes to classical performances, *ceteris paribus*. The coefficient of the variable may appear to be relatively small compared to other coefficients. However, the effect is still meaningful and informative, indicating that if we consider 1000 people older by one year, there will be 6 more attendees at classical music performances. If this effect is extrapolated to a large population, overall attendance may be heavily impacted.

WIDOWED, MARRIED: These variables' impacts are measured relative to an individual who has never been married. What is indicated is that, holding all other variables in the equation constant:

•   *Ceteris paribus*, an individual who is widowed will attend classical music concerts .15 times fewer per year (coefficient = -.150) than an individual who was never married.

•   *Ceteris paribus*, an individual who is married will attend classical music performances about .18 times fewer per year (coefficient = -.183) than an individual who was never married.

It is interesting to note that the impact of being widowed, compared with never having been married, is approximately the same on classical music attendance as it is for jazz music. However, being married had no significant impact (relative to one who had never been married) on jazz attendance, but for classical music there is a significant difference in number of attendances between those who are married and those who have never been married.

Lessthan9th, SomeHS, HSGrad, SomeCol, ColGrad: These variables' impacts are measured relative to an individual with an advanced college degree. What is indicated is that, all other variables in the equation held constant:

•   An individual who did not attend any high school (i.e., less than 9th grade of education) will attend about one fewer classical music performances per year (coefficient = -.950) than an individual with an advanced college degree, *ceteris paribus*.

•   An individual who attended some high school, but without a high-school degree, also will attend classical music performances about one time fewer per year (coefficient = -.904) than an individual with an advanced college degree, *ceteris paribus*.

•   An individual who is a high-school graduate, but without some college, will also attend classical music

performances about one time fewer per year (coefficient = -.917) than an individual with an advanced college degree, *ceteris paribus*. So, the result is very similar for these three categories of education.

•   An individual with some college, but who is not a college graduate, will attend classical performances about three-fourths of a time fewer per year (coefficient = -.771) than an individual with an advanced college degree, *ceteris paribus*.

•   An individual who is a college graduate, but without an advanced college degree, will attend classical performances about a half of a time fewer per year (coefficient = -.548) than an individual with an advanced college, degree *ceteris paribus*.

It is certainly noteworthy that the effect of education level is *much* larger for an individual's number of attendances at classical music performances, than for an individual's number of attendances at jazz performances.

WhiteOnly: This variable's impact is measured relative to an individual whose race falls into the "Other" category. What is indicated is that, all other variables in the equation held constant:

•   *Ceteris paribus,* an individual who lists his/her race as "WhiteOnly" will attend classical performances about one-tenth of a time more per year (coefficient = +.116) than an individual who lists his/her race as "Other."

The "story" for our final art type, that for predicting an individual's number of attendances at musical theater performances, follows.

Musical Theater Performances

Here, we examine the relationship between the dependent variable:

"Y" = number of times an individual has attended a MUSICAL THEATER performance in the last 12 months, and the eligible independent variables as listed in Table 1. The sample size used in this analysis is 16,444.

After a stepwise regression with all the variables in Table 1 "eligible," we find, for the final model of the analysis, an equation of:

$$\text{Y-computed} = .446 + .034*\text{FAMILY INCOME} - .147*\text{ColGrad} - .040*\text{HHSIZE} - .588*\text{HSGrad} + .136*\text{Female} - .596*\text{SomeHS} - .451*\text{SomeCol} - .571*\text{Lessthan9th} - .143*\text{AHPIOnly} - .062*\text{MARRIED} + .068*\text{WhiteOnly}$$

The R^2 for the regression is .054, substantially higher than what we found in our analysis of jazz attendance, and modestly higher than the R^2 of our classical music model. Again, the F-test for the overall model is highly significant, with a p-value of .000 (to three digits). All of the variables in the equation, with the exception of the

two race variables, are significant at p < .01; for AHPIOnly, p = .018 and for WhiteOnly, p = .026.

We now discuss each of the independent variables in terms of its impact on Y (number of times an individual has attended a MUSICAL THEATER performance per year).

FAMILY INCOME: The coefficient of this variable is +.034. This indicates that, holding all other variables in the equation constant, as the family income increases by one category, roughly $10,000, the number of times an individual attends a musical theater performance per year increases by .034. This relationship is very similar to, although stronger than, what we found for jazz and classical music attendance, again indicating that, *ceteris paribus*, the higher the individual's family income, the more often the individual goes to musical theater performances.

HHSIZE: The coefficient of this variable can be seen to be -.040. This indicates that, holding all other variables in the equation constant, as the number of people living in the household increases by 1, the number of times an individual attends a musical theater performance in the past year drops by .04. Essentially, as we found with jazz and classical music performances as well, the fewer people in the individual's household, the more often the individual goes to musical theater performances, *ceteris paribus*. The effect of household size on musical theater attendance is about the same magnitude as what we found between household size and jazz concert attendance.

FEMALE: The impact of the variable "Female" shows the difference between the frequency of attendance of a female, as opposed to that of a male. This variable's coefficient is +.136. Holding all other variables in the equation constant, the number of times an individual attends a musical theater performance per year is .136 higher for a female than for a male. This indicates that females attend musical theater performances more frequently than males do, *ceteris paribus*. Interestingly, musical theater performances is the only art type of the three investigated for which the gender variable is statistically significant in predicting the number of performances an individual attends per year.

MARRIED: The impact of this variable is measured relative to one who has never been married. What is indicated is that, relative to one who has never been married and holding all other variables in the equation constant:
•   The number of times an individual attends a musical theater performance per year is a sixteenth of a time fewer (coefficient = -.062) for a married person than for a person who has never been married, *ceteris paribus*. Compared with the impact that being married

has on classical music attendance, the effect on number of musical theater attendances is quite a bit weaker.

Lessthan9th, SomeHS, HSGrad, SomeCol, ColGrad: These variables' impacts are measured relative to an individual with an advanced college degree. What is indicated is that, all other variables in the equation held constant:
•   An individual who did not attend any high school (i.e., less than 9th grade of education) will attend musical theater performances about a half of a time fewer per year (coefficient = -.571) than an individual with an advanced college degree, *ceteris paribus*.
•   An individual who attended some high school, but without a high-school degree, will also attend musical theater performances about a half of a time fewer per year (coefficient = -.596) than an individual with an advanced college degree, *ceteris paribus*.
•   The same result is found for an individual who is a high-school graduate, but without any college; that individual will attend musical theater performances about a half of a time fewer per year (coefficient = -.588) than an individual with an advanced college degree, *ceteris paribus*.
•   An individual with some college education, but who is not a college graduate, will attend musical theater performances slightly less than a half of a time fewer per year (coefficient = -.451) than an individual with an advanced college degree, *ceteris paribus*.
•   A college graduate will attend musical theater performances about .15 times fewer per year (coefficient = -.147) than an individual with an advanced college degree, *ceteris paribus*.

Comparing an individual at each level of education included in the regression to one with an advanced college degree, there is a larger difference in number of attendances than we found for jazz attendance. However, the effect of education level (measured relative to one with an advanced college degree) is smaller for musical theater performances than it is for classical music performances. For example, *ceteris paribus*, the difference between attendances by a college graduate versus an individual with an advanced degree is particularly noticeable in that it is much smaller for musical theater than classical music (musical theater coefficient = -.147; classical coefficient = -.548).

WhiteOnly, AHPIOnly: These variables' impacts are measured relative to an individual whose race falls into the "Other" category. What is indicated is that, relative to an individual who lists "Other" as his/her race and all other variables in the equation held constant:
•   *Ceteris paribus,* an individual who lists his/her race as "WhiteOnly" will attend musical theater performances about .07 times more per year (coefficient = +.068) than an individual who lists his/her race as "Other."

• *Ceteris paribus,* an individual who lists his/her race as Asian or Hawaiian Pacific Islander only will attend musical theater performances about one seventh of a time fewer per year (coefficient = -.143) than an individual who lists his/her race as "Other."

Summary of results for ART TYPE

There are quite a few notable differences among the regressions results for the different art types. Overall, demographic variables more strongly predict musical theater attendance than classical or jazz music attendance, indicating that other factors – such as lifestyle variables – have less of an impact on attendance at musical theater performances. Age showed up as a significant predictor only for number of classical music performances, where older individuals attended more concerts than younger ones. Gender, on the other hand, was significant only for predicting an individual's number of musical theater attendances, where women attended more performances per year than men did.

In general, higher rates of attendance are associated with higher income, as would be expected. However, although classical music is generally considered to be most related to income, this analysis found that income actually had the largest effect on number of musical theater performances (coefficient = +.034), with the effect on classical music attendance being quite a bit smaller per unit (~$10,000) increase in income level (coefficient = +.019). Still, as may be expected, our analysis found that the impact of each education level on number of attendances (relative to one with an advanced college degree) was strongest for classical music attendance. Jazz music attendance had the smallest differences in attendance as a result of education level, and there was not any significant difference in attendance between a college graduate's attendance at jazz performances and that of an individual with an advanced college degree.

Comparisons by Region

Northeast

Here, we examine the relationship between the dependent variable:

"Y" = number of times an individual has attended an arts performance in the last 12 months (where "arts performance" is defined as *any jazz music, classical music, or musical theater performance*), and a variety of independent variables as listed earlier in Table 1. The sample size used in this analysis is 3,225; it includes only that data pertaining to **individuals who live in the Northeast**.

After a stepwise regression with all the variables in Table 1 "eligible," we find, for the final model of the analysis, an equation of:

$$Y\text{-computed} = 1.544 + .100*FAMILY\ INCOME - 1.687*HSGrad - .128*HHSIZE - 1.841*SomeHS - 1.232*SomeCol - .380*MARRIED - 1.381*Lessthan9th - .690*ColGrad - 1.059*AHPIOnly + .265*Female$$

The R^2 for the regression is .067, and the F-test for the overall model is highly significant, with a p-value of .000 (to three digits). All of the variables in the equation, with the exception of the female indicator variable (p = .013), are significant at p < .01.

We now follow the same format as in the previous section, and discuss each of the independent variables in terms of its impact on Y (number of times an individual has attended an arts performance per year).

FAMILY INCOME: The coefficient of this variable is +.100. This indicates that, holding all other variables in the equation constant, as the family income increases by one category, roughly $10,000, the number of times an individual attends an art performance per year increases by .100. *Ceteris paribus*, the higher the individual's family income, the more often the individual goes to these arts performances.

HHSIZE: The coefficient of this variable is -.128. This indicates that, holding all other variables in the equation constant, as the number of people living in the household increases by 1, the number of times an individual attends a musical theater performance per year drops by .128. The fewer people in the individual's household, the more often the individual goes to these arts performances, *ceteris paribus*.

MARRIED: The impact of MARRIED is measured relative to one who has never been married. This variable's coefficient can be seen to be -.380. This indicates that, holding all other variables in the equation constant, the number of times an individual attends an arts performance is .380 lower for a married person than for a person who has never been married. Essentially, *ceteris paribus*, married people attend these types of arts performances less frequently than those who have never been married.

FEMALE: This variable's coefficient can be seen to be +.265. This indicates that, holding all other variables in the equation constant, the number of times an individual attends an arts event of this nature per year is about a quarter of a time higher for a female than a male. Therefore, *ceteris paribus*, females attend these performances more frequently than males do.

Lessthan9th, SomeHS, HSGrad, SomeCol, ColGrad: These variables' impact are measured relative to an individual with an advanced college degree. What is indicated is that, all other variables in the equation held constant:

• An individual who did not attend any high school (i.e., less than 9th grade of education) will attend about 1.4 fewer of these performances per year (coefficient = -1.381) than an individual with an advanced college degree, *ceteris paribus*.

• An individual who attended some high school, but without a high-school degree, will attend about nearly 2 fewer performances per year (coefficient = -1.841) than an individual with an advanced college degree, *ceteris paribus*.

• An individual who is a high-school graduate, but without any college, will attend about one-and-two-thirds fewer performances per year (coefficient = -1.687) than an individual with an advanced college degree *ceteris paribus*.

• An individual with some college education, but who is not a college graduate, will attend slightly over 1 performance fewer per year (coefficient = -1.232) than an individual with an advanced college degree *ceteris paribus*.

• A college graduate will attend performances about .70 times fewer per year (coefficient = -.690) than an individual with an advanced college degree, *ceteris paribus*.

AHPIOnly: This variable's impact is measured relative to an individual whose race falls into the "Other" category. What is indicated is that, all other variables in the equation held constant:

• *Ceteris paribus,* an individual who lists his/her race as Asian or Hawaiian Pacific Islander will attend about 1 fewer of these performances per year (coefficient = -1.059) than an individual who lists his/her race as "Other."

South

Here, we examine the relationship between the dependent variable:

"Y" = number of times an individual has attended an arts performance (jazz music, classical music, musical theater) in the last 12 months, and the independent variables as listed earlier in Table 1. The sample size used in this analysis is 5,248; it includes only those data points associated with **people who are from the South**.

After a stepwise regression with all the variables in Table 1 "eligible," we find, for the final model of the analysis, an equation of:

Y-computed = 2.203 + 0.058*FAMILY INCOME – 0.099*HHSize – 1.859*HSGrad – 1.953*SomeHS – 1.613*SomeCol – 1.954*Lessthan9th – 1.027*ColGrad – .440*MARRIED – .684*AHPIOnly – .344*WIDOWED – .502*SEPARATED

The R^2 for the regression is .074, slightly higher than what we found in our analysis of attendance in the Northeast. Again, the F-test for the overall model is highly significant, with a p-value of .000 (to three digits). All of the variables in the equation are significant at $p < .01$, except for WIDOWED ($p = .022$) and SEPARATED ($p = .032$).

We now discuss each of the independent variables in terms of its impact on Y (number of times an individual has attended an arts performance in the past year).

FAMILY INCOME: The coefficient of this variable can be seen to be +.058. This indicates that, holding all other variables in the equation constant, as the family income increases by one category (about $10,000), the number of times an individual attends these arts performances per year increases by .058. Therefore, *ceteris paribus*, the higher the individual's family income, the more often the individual goes to the included types of arts performances. The effect of income on number of attendances is not as large in the South as in the Northeast (coefficient = +.100).

HHSIZE: The coefficient of this variable can be seen to be -.099. Holding all other variables in the equation constant, as the number of people living in the household increases by 1, the number of times an individual attends one of these arts performances per year drops by about one-tenth. In essence, this indicates that, as we found in the Northeast, the fewer people in the individual's household, the more often the individual goes to these performances, *ceteris paribus*.

Lessthan9th, SomeHS, HSGrad, SomeCol, ColGrad: These variables' impacts are measured relative to an individual with an advanced college degree. What is indicated is that, all other variables in the equation held constant:

• An individual who did not attend any high school (i.e., less than 9th grade of education) will attend about 2 fewer performances per year (coefficient = -1.954) than an individual with an advanced college degree, *ceteris paribus*.

• An individual who attended some high school, but without a high-school degree, will also attend about 2 fewer performances per year (coefficient = -1.953) than an individual with an advanced college degree, *ceteris paribus*.

• An individual who is a high-school graduate, but without any college, will attend about 1.9 fewer performances per year (coefficient = -1.859) than an individual with an advanced college degree, *ceteris paribus*.

• An individual with some college education, but who is not a college graduate, will attend about 1.6 fewer performances per year (coefficient = -1.613) than an individual with an advanced college degree, *ceteris paribus*.

• A college graduate will attend about 1 performance fewer per year (coefficient = -1.027) than an individual with an advanced college degree, *ceteris paribus*.

These results are similar to what we found for the impact of education level on attendances using the data from the Northeast, but the difference in attendance of each education level from one who has an advanced degree is *larger in the South than it is in the Northeast.* In both regional analyses, education has a *much* stronger impact on number of attendances than any of the other variables in the final equation/model . Their coefficients indicate differences of up to almost 2 performances per year, as opposed to the fractional impacts we have seen with the other demographic factors.

MARRIED, WIDOWED, SEPARATED: The impact of these variables is measured relative to one who has never been married. What is indicated is that, holding all other variables in the equation constant:

• A married person will attend about a half of a performance per year fewer (coefficient = -.440) than a person who has never been married, *ceteris paribus.*

• A person who has been widowed will attend about a third of a performance per year fewer (coefficient = -.344) than a person who has never been married, *ceteris paribus*.

• A person who is separated from his/her spouse will attend about half of a performance fewer per year (coefficient = -.502) than one who has never been married, *ceteris paribus*.

AHPIOnly: This variable's impact is measured relative to an individual whose race falls into the "Other" category. What is indicated is that, relative to an individual who lists "Other" as his/her race, and all other variables in the equation held constant:

• *Ceteris paribus,* an individual who lists his/her race as Asian or Hawaiian Pacific Islander only will attend performances about .70 times fewer per year (coefficient = -.684) than an individual who lists his/her race as "Other."

Summary of results for REGION

One of the notable differences between the model predicting number of attendances in the Northeast and the model for the South is the impact of family income. In the South, an approximately $10,000 increase in annual family income corresponds with an increase of 0.058 attendances per year. This means that, in the South, an individual's family income would have to increase by around $170,000 per year in order for that person to be predicted to attend one more arts event in a year, with all other factors in the equation remaining constant. In the Northeast, however, an increase of $10,000 in income is associated with an increase of .1 attendances per year. Therefore, in order for a person in the Northeast to be predicted to attend one more event each year, his or her family income would have to increase only by $100,000. Hence, the impact of changes in income on number of attendances appears to be stronger for those individuals in the Northeast than those in the South.

In both equations, all five education variables are present, indicating that there are significant differences in number of attendances between one with an advanced college degree and each other level of education. At every level of education, the difference in number of attendances relative to one who has an advanced college degree is larger in the South than it is in the Northeast. The biggest difference in coefficients is at the "Less than 9th grade" level, where an individual in the South would attend about 1.95 fewer performances per year than one with an advanced college degree, whereas the corresponding value for an individual in the Northeast is 1.38 (more than a half of a performance per year difference).

Comparison by Year – 1992 vs. 2008

Year – 1992

Here, we examine the relationship between the dependent variable:

"Y" = number of times an individual in any region has attended an arts performance (jazz music, classical music, or musical theater) in the last 12 months, and a variety of independent variables as listed earlier in Table 1. The data used in this analysis is from the **1992 SPPA**, and the usable sample size is 11,569.

After a stepwise regression with all the variables in Table 1 "eligible," we find, for the final model of the analysis, an equation of:

Y-computed = 2.741 – 1.880*HSGrad – 2.105*SomeHS – .221*HHSize + .079*FAMILY INCOME - .426*MARRIED – 1.266*SomeCol – 1.480*Lessthan9th - .822*ColGrad

The R^2 for the regression is .016; it is highly significant, with a p-value for the F-test for the overall model of .000 (to three digits). All of the variables in the final equation are significant at p < .01.

We now discuss each of the independent variables in terms of its impact on Y (number of times an individual has attended an arts performance in the past year).

FAMILY INCOME: The coefficient of this variable can be seen to be +.079. Therefore, holding all other variables in the equation constant, as the family income increases by one category, roughly $10,000, the number of times an individual attends these arts performances in the past year increases by one twelfth of a time. *Ceteris paribus*, the higher the individual's family income, the more often the individual goes to art performances.

HHSIZE: The coefficient of this variable can be seen to be -.221. This indicates that, holding all other variables in the equation constant, as the number of people living in the household increases by 1, the number of times an individual attends one of these arts performances per year drops by about a fifth of a time. The fewer people in the individual's household, the more often the individual goes to these performances, *ceteris paribus*.

Lessthan9th, SomeHS, HSGrad, SomeCol, ColGrad: These variables' impact are measured relative to an individual with an advanced college degree. What is indicated is that, with all other variables in the equation held constant:

• An individual who did not attend any high school (i.e., less than 9th grade of education) will attend about 1.5 fewer performances per year (coefficient = -1.480) than an individual with an advanced college degree, *ceteris paribus*.

• An individual who attended some high school, but without a high-school degree, will attend performances about 2 fewer times per year (coefficient = -2.105) than an individual with an advanced college degree, *ceteris paribus*.

• An individual who is a high-school graduate, but without any college, will attend performances about 1.9 fewer times per year (coefficient = -1.880) than an individual with an advanced college degree, *ceteris paribus*.

• An individual with some college education, but who is not a college graduate, will attend about 1.3 fewer performances per year (coefficient = -1.266) than an individual with an advanced college degree, *ceteris paribus*.

• A college graduate will attend performances about .80 times fewer per year (coefficient = -.822) than an individual with an advanced college degree, *ceteris paribus*.

MARRIED: The impact of this variable is measured relative to one who has never been married. What is indicated is that, holding all other variables in the equation constant:

• A married person will attend about one-half of a performance fewer per year (coefficient = -.426) than a person who has never been married, *ceteris paribus.*

Year – 2008

Here, we examine the relationship between the dependent variable:

"Y" = number of times an individual in any region has attended an arts performance (jazz music, classical music, musical theater) in the last 12 months, and a variety of independent variables as listed earlier in Table 1. The data used in this analysis is from the **2008 SPPA**, and the sample size used is 16,407.

After a stepwise regression with all the variables in Table 1 "eligible," we find, for the final model of the analysis, an equation of:

Y-computed = 1.810 – 1.918*HSGrad + .062*FAMILY INCOME - .093*HHSize – 1.532*SomeCol – 1.976*SomeHS – 1.980*Lessthan9th - .739*ColGrad - .388*MARRIED - .537*AHPIOnly + .180*Female + .006*AGE - .406*WIDOWED -. 327*SEPARATED

The R^2 for the regression is .073, significantly higher than the R^2 we found in our analysis of the 1992 data. It is highly significant, with a p-value for the F-test for the overall model of .000 (to three digits). All of the variables in the final equation are significant at p < .01, with the exception of SEPARATED (p = .033).

We now discuss each of the independent variables in terms of its impact on Y (number of times an individual has attended an arts performance in the last 12 months).

FAMILY INCOME: The coefficient of this variable can be seen to be +.062. Holding all other variables in the equation constant, as the family income increases by roughly $10,000, the number of times an individual attends these arts performances per year increases by .062. As we also found in our analysis of the 1992 data, *ceteris paribus*, the higher the individual's family income, the more often the individual goes to the aforementioned arts performances.

HHSIZE: The coefficient of this variable is -.093. Holding all other variables in the equation constant, as the

number of people living in the household increases by 1, the number of times an individual attends one of these arts performances per year drops by about one tenth. *Ceteris paribus*, the fewer people in a person's household, the more performances he or she attended in 2008. However, the impact of a change in household size was not as large in the 2008 data as it was in the 1992 data (1992 coefficient = -.221).

AGE: This variable was not found to be statistically significant in predicting number of attendances in 1992, but for the 2008 data the coefficient of this variable is +.006, and is statistically significant. So, in 2008, holding all other variables in the equation constant, as the age of an individual increases by 1 year, the number of times an individual attends a classical performance per year increases by .006. The older a person is, the more often the individual goes to these performances, *ceteris paribus*.

Female: This variable's coefficient can be seen to be +.180. This indicates that, holding all other variables in the equation constant, the number of times an individual attends a musical theater performance is .180 higher for a female than for a male. In essence, this means that females attend musical theater performances more frequently than males do, *ceteris paribus*. Interestingly, the gender variable was not found to be significant in predicting attendance in 1992, but it has a significant effect on number of attendances in 2008.

Lessthan9th, SomeHS, HSGrad, SomeCol, ColGrad: These variables' impacts are measured relative to an individual with an advanced college degree. What is indicated is that, relative to an individual with an advanced college degree, and all other variables in the equation held constant:

• An individual who did not attend any high school (i.e., less than 9th grade of education) will attend about 2 fewer performances per year (coefficient = -1.980) than an individual with an advanced college degree, *ceteris paribus*.

• An individual who attended some high school, but without a high-school degree, will also attend performances almost 2 fewer times per year (coefficient = -1.976) than an individual with an advanced college degree, *ceteris paribus*.

• An individual who is a high-school graduate, but without any college, will attend performances also about 2 fewer times per year (coefficient = -1.918) than an individual with an advanced college degree ,*ceteris paribus*.

• An individual with some college education, but who is not a college graduate, will attend about 1.5 fewer performances per year (coefficient = -1.532) than an individual with an advanced college degree, *ceteris paribus*.

• A college graduate will attend performances about three fourths of a time fewer per year (coefficient = -.739) than an individual with an advanced college degree, *ceteris paribus*.

Again, as we found with the regional comparison, the effects of education level, relative to one with an advanced degree, are much stronger than the impacts of changes in the other demographic variables.

MARRIED, WIDOWED, SEPARATED: The impact of these variables is measured relative to one who has never been married. What is indicated is that, holding all other variables in the equation constant:

• A married person will attend about .4 fewer performances per year (coefficient = -.388) than one who has never been married, *ceteris paribus.*

• A person who is widowed will also attend about .40 fewer performances per year (coefficient = -.406) than one who has never been married, *ceteris paribus.*

• A person who is separated will attend about one-third of a performance fewer per year (coefficient = -.327) than an individual who has never been married, *ceteris paribus.*

Summary of results for Year

One of the most noticeable differences between the 1992 model and the 2008 model is that the R^2 for the 2008 model (0.073) is substantially higher than the R^2 for the 1992 model (0.016). This means that the best combination of "eligible" demographic variables in 2008 was better at predicting number of attendances, accounting for 7.3% of the variation in attendances, than the best combination in 1992, which accounted only for 1.6% of the variation in number of attendances. This may indicate that, over time, the effect of other conditions – such as lifestyle or psychographic variables – has decreased.

In the model for 2008, the effect of household size (coefficient = -.093) had decreased to less than 50% of what it was in 1992 (coefficient = -.221). Therefore, with all the other factors remaining the same, an individual's household being larger did not decrease the frequency of his or her attendance at arts events in 2008 as much as it did in 1992. Although age was not significant in the 1992 model, it was significant in the 2008 model; *ceteris paribus*, older people attended more performances than younger people. Also, gender was not significant in 1992 model, but was in 2008, with a coefficient of +.180. Although men and women attended effectively the same number of performances in 1992, in 2008, *ceteris paribus*, on average, women attended more shows than did men. These evolving effects of demographic variables have some interesting implications for marketing decision makers in arts organizations, and these considerations will be discussed next in our *Conclusions* section.

CONCLUSIONS OF THE STUDY AND THEIR MARKETING IMPLICATIONS

As stated earlier, the ultimate goal of this paper is to inform the marketing-related decisions of arts organizations and their directors. In the previous sections, we saw several interesting results in our estimating individual's attendance at various arts events that should be taken into consideration when organizations are planning their marketing strategies, especially in light of recent trends of declining participation in the arts across the board.

When contrasting *art types*, we found that age was a significant predictor of an individual's classical music attendances, but not of musical theater or jazz attendances. From this result, it is clear that age should be taken into account when marketing classical music performances, but it may not need to be considered with other art types. The aging population of classical music attendees is clear in the positive sign of the age variable's coefficient; the older a person is, the more classical concerts he or she attends in a year. It seems logical, based on our findings, that a classical music organization would need to appeal to its older patrons, since they are the most frequent attendees of concerts. However, as many arts organizations have found in recent years, it is key to find ways to target younger consumers in order to create a sustainable audience into the future.

The gender variable was also significant for only one of the art types studied: musical theater attendances. Therefore, it would be useful for organizations to target their promotion of musical theater performances to women through a combination of women's magazines, stores, television channels, etc. Since gender was not significant in the other art forms, a more general, widespread approach to promotional activities may be used for those performances.

Comparing the Northeast and South regional models, there are a few differences that may affect arts organizations in those areas, although overall the models are fairly similar. In making marketing channel and media decisions, arts promoters in the Northeast may find that they should focus on the annual family income of their target market a bit more heavily than for their target market in the South, since its impact on the frequency of an individual's attendance in the Northeast is almost twice what it is in the South.

On the other hand, Southern organizations should pay closer attention to education level in choosing how to reach their audiences, since the coefficients of each of those variables indicated a larger difference in number of attendances due to education level than we saw in our analysis of the Northeast. It is also interesting that attendance in the South is affected quite differently by marital status than it is in the Northeast. Whereas in the Northeast there is a significant difference only between attendance of those who are married and those who have never been married, being widowed or being separated are also found to significantly decrease attendance (relative to never having been married) in the South. Therefore, organizations in the South would need to understand that, in their audiences, marital status should be paid more attention to in the marketing decision process, perhaps most notably in promotional channel decisions.

The results of our year-to-year comparison between 1992 and 2008 were possibly the most interesting in terms of marketing implications. Firstly, the "base" number of attendances by an individual, as indicated by the constant in each equation was quite a bit higher in 1992 (2.741 attendances per year) than it was in 2008 (1.810 attendances). This is not surprising, given the decreasing overall participation in the arts, as described earlier. Additionally, the larger R^2 of the 2008 model and the changing significant predictors show that the various factors that affect how often a person attends performances have changed over time. These findings support our assertion that it is all the more important now for arts organizations to understand their audiences, and keep up with how they are changing, in order to be able to target them more effectively.

One of the most noticeable ways in which the audience has changed is that the impact of household size on attendance in 2008 has decreased to less than half of what it was found to be in 1992. Therefore, if organizations were previously targeting families with fewer children – since having a large family would have had a large negative impact on number of attendances in 1992 – they need to recognize that that may not be as useful of a strategy in the future. For now, household size is still a significant variable, but it is important to pay attention to how its effect changes over time, and to look further into why this change is occurring. Another variable that indicates a change in the audience is the female indicator variable, which was not significant in 1992, but has a coefficient of +.180 in 2008. This clearly shows arts organizations that number of attendances has shifted from being effectively equal between men and women (all other variables held constant) to having women as the significantly-more-frequent attendees. It is left to the organizations themselves to decide whether they want to focus in on those who are already attending more often – that is, the women – or try to restore that balance of attendance by reaching out and appealing more to the male audience. The age variable tells a similar story to that of the gender variable; in 2008, being older made a person attend significantly more attendances, whereas age had no effect in 1992.

Now that it is 2013, one must already begin to think about a "reproduction" of this study a few years from now. After all, if there were meaningful changes from 1992 to 2008, there could easily be further changes from 2008 to, say, 2018.

Ultimately, of course, concert organizers must decide what path they want to take in promoting future events of various art forms, regions, sizes, etc. In addition to these demographic concerns, other factors must be considered, such as budget, staffing, and time constraints, which would affect the scale of marketing projects; also, lifestyle variables, which would surely increase the predictive power of the model, should be explicitly considered in future analyses. A tremendous amount more data about individuals' lifestyles are available now, compared with 1992, and a lot more data in this area are available since even 2008. Whether the concert directors and promoters decide to penetrate further into the market that they already have (that is, those demographics that already attend events more frequently), or to reach out to those who are less avid attendees, using predictive models such as the ones presented in this paper will be useful in helping them create more focused, efficient, and effective marketing campaigns.

LIMITATIONS

Given certain time and resource constraints, this study certainly has its limitations. For one, it does not test every possible combination of arts type, region, and year. Instead, it provides a method to suggest whether or not it would be logical to continue this type of inquiry for other combinations, given the results. This process could be continued to determine the level of individuality to which it would make the most sense to tailor these regressions, comparing them not only on the difference in effects of individual variables, but also on ease of data collection and attaining the proper sample size. Additionally, further research could be undertaken to examine the effects of psychographic variables on attendance at these arts performances, as these variables might well add significant predictive power to the analyses.

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