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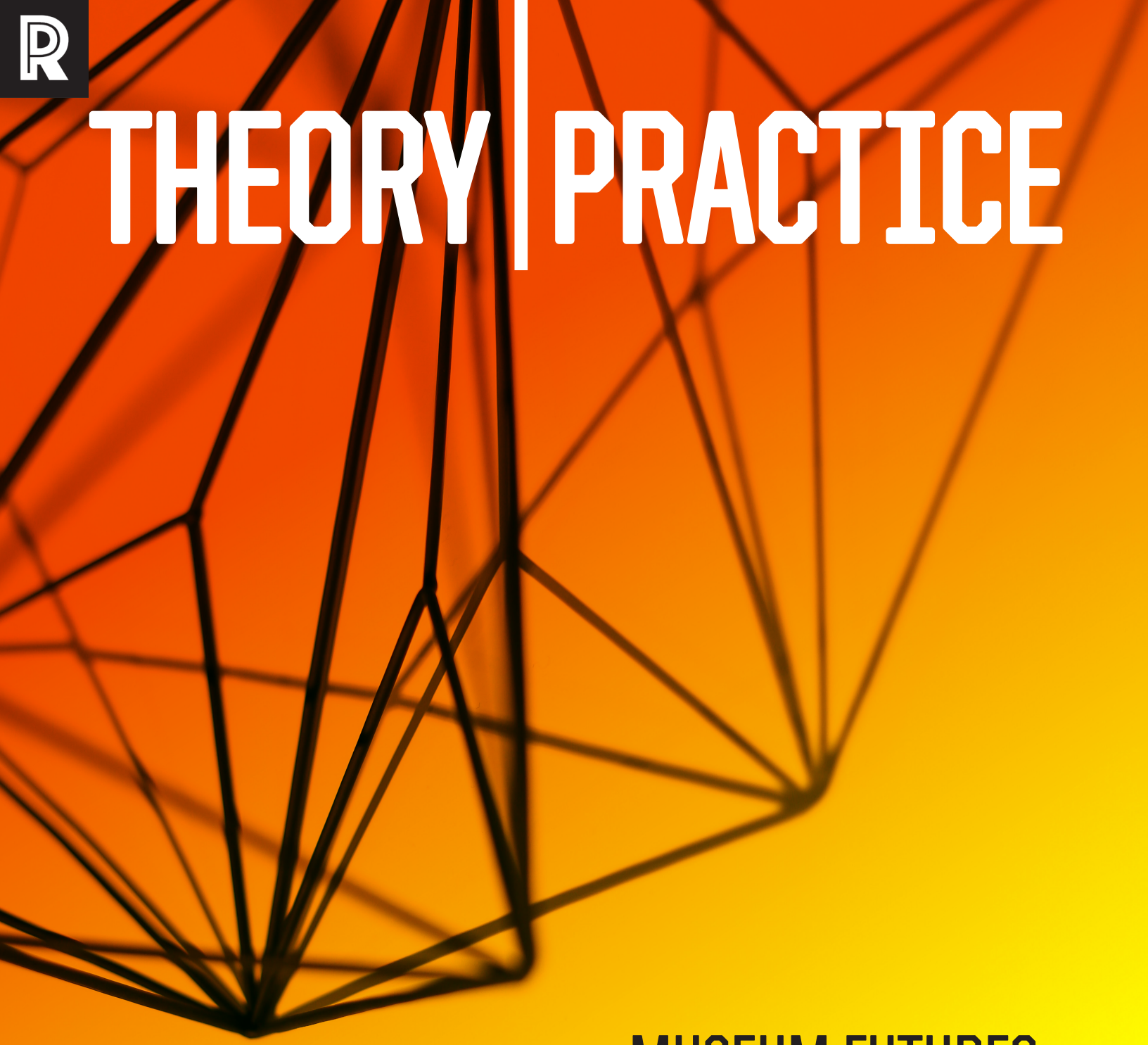

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Disparity of Informal Education Between Low- and High- Income Neighborhoods

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Keywords Museums; Libraries; Arts Organizations; Informal Education; Income Inequality

Abstract This study examined the relationship between neighborhood income and access to local informal education institutions and documented some of the views that low-income individuals have about informal education institutions. American cities are stratified by income, and they are also home to many well-known and valuable museums, libraries, and arts organizations that provide opportunities for learning and exploration. A cursory glance at the distribution of these institutions in cities seems to indicate that they are concentrated in higher-income neighborhoods, leaving fewer opportunities for free-choice learning in areas of poverty. In order to study this phenomenon, this study correlated the median income of zip codes in Los Angeles, Chicago, and Philadelphia, three of the largest cities in the United States, to the location of every museum, arts organization, and library branch in each of these cities. In addition, the research examined the attitudes towards informal education that individuals from low-income neighborhoods hold.

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Introduction

Informal education and free-choice learning are the building blocks of museums, libraries, and nonprofit arts organizations (Pesanelli 1990; Silverstein 2005; Xanthoudaki 2013). These institutions serve their local communities and provide opportunities for people of all ages to gain knowledge at their own pace, according to their own interests, and in environments without tests or grades. However, studies focusing specifically on libraries in cities (Constantino 2005; Duke 2000; Neuman and Celano 2001) have demonstrated that residents of low-income neighborhoods have less access to these resources than residents of higher-income neighborhoods.

This inequality can be especially glaring in cities with areas of both wealth and poverty, where museums, libraries, and arts organizations tend to be concentrated in high-income neighborhoods, while low-income neighborhoods face a severe lack of informal education opportunities. Economic studies have shown that in the past 40 years American income inequality has increased dramatically and faster than in other similarly-developed countries,

and that income segregation – the likelihood that a person's neighbors will be at the same socioeconomic level as them – has increased (Atkinson 1996; Bryan and Martinez 2008; Frank 2009; Kawachi 2002). For those in low-income neighborhoods, then, fewer opportunities for access to informal education is a serious concern.

Informal Education and Free-Choice Learning

According to Mattox (2012), 90% of what adults learn comes from informal education experiences. Informal education is characterized by interest-driven learning and goal setting and experiences that are not measured according to time, effort, or credentials; instead, these occur at leisure, according to each person's free time and desire. Riedinger (2012) has written about how family visits to informal education institutions allow for simultaneous, whole-group, multi-age learning. Parental involvement is positively correlated to children's education; when both parents and children are able to learn together in free-choice environments, greater gains can take place for children. Social and familial bonds are strengthened by shared informal education opportunities, and informal education also supports a lifelong love of learning.

The term "free-choice learning" is used as an alternate phrasing of "informal education" and indicates that self-education occurs in the context of a person deciding for themselves what, how, and when they would like to learn. Zeppel has stated that, "The settings for free-choice learning include libraries, museums, aquariums, zoos, botanic gardens, [and] science and visitors centers …" (2008, 5). Adams voiced similar thoughts in identifying free-choice learning as "the kind of learning that occurs while people visit museums and other cultural institutions" (2002, 12). Colburn has concurred with these assessments, examining free-choice learning as originating from museums and nature centers and being "free of fact-based standards and tests" (2008, 10).

Income Inequality, Economic Segregation, and Education

The United States Congressional Budget Office, in a 2011 report, sought to quantify the data on income inequality for the years between 1979 and 2007. They found that in that time period, the top 1% of American earners saw their incomes increase by 275% while the bottom quintile of working Americans saw their incomes grow by just 18%. Atkinson (1996) looked at income distribution in the United States and in similarly developed countries in Europe and found that income inequality is greater in America than anywhere in Europe, especially when comparing the highest and lowest earners. In some cases, an American earner in the bottom 20% has half the spending power of their counterpart in Europe.

This growing income disparity has increasingly given rise to a separation of people based on their household incomes and the relative wealth or poverty of their neighborhoods. Kawachi (2002) noted that since income inequality has been on the rise, the likelihood that a person will live in a mixed-income neighborhood has decreased – a phenomenon known as economic segregation. Bollens has stated that the processes by which people come to live in different areas of a city was "similar to natural selection" and has been mostly determined by socioeconomic status at the individual level (1986, 222). Income inequality, he proposed, is the primary form of segregation within cities. The problem of modern urban economic

segregation, in particular, was explored by Watson (2006), who noted that income controls city living to such an extent that in the year 2000, 85% of those residing in metropolitan areas lived in neighborhoods that were more income-segregated than they had been 30 years previously. This trend has held true in both cities that have experienced recent growth and cities that have been in decline. Chakravorty, in looking at inequality in Philadelphia, observed that income inequality usually takes the form of "who gets what where," echoing Kawachi's notion of economic segregation (1996, 1672), and noted that the physical manifestation of income inequality provides hard evidence, for those who care to look, that cities breed unequal conditions. For example, a person living in a poor neighborhood can compare through observation the state of their local housing with that of wealthier neighborhoods just a few miles away.

In looking at how family income effects schooling, Mathews stated, "An American child's chance of acquiring a quality education depends more on the parents' income than on almost anything else …" (2013, 26). Bloome and Western (2011) concurred, showing that inequality in education has risen alongside income inequality for the past forty years, and that educational mobility declined during the same time period. Mayer (2010) has speculated that predominant economic theories, as well as estimates from real-world observations and historical analysis, point towards increased income inequality leading to greater differences in educational attainment, and vice versa. Balfanz (2009) has noted that in some cases schools can amplify the effects of local economic segregation. For instance, in areas where many middle- and high-income families choose to send their children to private schools, lower-income students become concentrated in public schools, most especially so in the high school years.

Income and Informal Education

Thebaut (2007), noting that museums contribute to the economic development of cities, described how they nonetheless have come to play a smaller and smaller role in the lives of low-income individuals. This, she wrote, is due to the high admission costs at many museums, which erode their founding principles of equal, not-for-profit public service to the whole of society. Smith (2008), in researching how the arts can help combat social ills in marginalized communities, looked specifically at Philadelphia's Mural Arts Program. Though it was founded in 1984 to combat graffiti and keep gangs from marking their territories, this organization's mission gradually evolved into exploring how creativity could empower the city's poorest residents. Most of the over 2,500 murals created so far reflect the values, practices, and heroes of the areas where they are located, and very few have been vandalized or otherwise blighted.

Sandell (2003) has argued that museums can and should help combat inequalities in society, but suffer from the common idea that institutions exist purely for cultural purposes and that their benefits are only manifested in esoteric, lofty ideas of expanded knowledge and exposure to new ideas and artifacts. Instead, it has been proposed that museums should strive to exert a positive influence on the personal, community, and societal levels. Scott (2003) cites a number of other benefits museums bring to communities, including promoting tolerance, allowing diverse individuals to find common ground through shared history, and honoring important and meaningful events. Newman and McLean (2003) point out that

museums and libraries can, through their collections and exhibits, encourage the practices of free speech, political involvement, confrontation of problems that affect marginalized communities, and agitation for social justice. Abrams (2003) has examined the many ways that history museums can provide ways to help combat social inequalities.

O'Neill (2003) has argued that inclusion in museums means institutions must be constantly aware of barriers to access, try to surmount them, and be willing to take extra steps to provide support for those who have been excluded in the past. Fleming has noted that museums have traditionally been seen as or have overtly committed themselves to serving wealthy and educated citizenry, and that these privileged groups have tended to exclude all others from galleries and exhibits, creating institutions that are "publicly funded, yet private and exclusive clubs, annexed by self-seeking interests" (2003, 213). This is in contrast to the values that the informal education field as a whole espouses. Several factors contribute to these perceptions: first, high-level staff positions are almost entirely occupied by those with university degrees, who often also come from comfortable backgrounds and are unfamiliar with any other way of life; additionally, displays within museums can be overly scholarly and may be put together without much thought given to appealing to the general public.

Museum Experiences of Low-Income Individuals

Stein, Garibay, and Wilson (2008) have noted that in seeking to reach out to and create programming for traditionally underserved audiences – including low-income urban residents – museums often do not examine whether what they are offering truly appeals to who they are trying to bring in. Instead, institutions may present programs based only on what their internal staff feel these communities want and may be unwilling to undertake the physical and cultural changes that are necessitated by offering programs viewed as valuable to the underserved community. Often programs for these audiences are offered only once or as a limited series of events, rather than as a continued commitment to engagement. These practices can foster an atmosphere within the museum that comes off as unwelcoming to these low-income families and other nontraditional museum audiences, providing an additional and less tangible barrier to access.

Museums, libraries, and the arts may also have different meanings and purposes to people from different cultures, including cultures based on socioeconomic status (Stein, Garibay, and Wilson 2008). Cultural tradition may dictate that museums are not places for low-income families to visit, or that museums do not provide any relevant value. For some, there may be no experience with visiting informal education institutions, and so going to a museum or library might produce apprehension. Different cultures also value spending leisure time in different ways, and if what is available at an institution does not match up with the desires or needs of a culture, individuals may simply not attend. In turn, lack of visitation by members of certain groups or cultures may lead institutions to assume that people from those backgrounds are uninterested in informal education, and so no effort may ever be made to reach out to them (Huerta and Migus 2015).

Huerta and Migus (2015) have pointed out that American museums are mostly rooted in the traditions and culture of middle- and upper-income families. This can help reinforce the norms of higher socioeconomic status within institutions, creating cohesion for visitors who already

belong to these income levels but subtly pushing out low-income families. In itself, the idea of "barriers" which keep poorer people from attending informal education institutions assumes that low-income individuals must change their lives in order to be a part of museums, rather than museums adapting to fit within the traditions of underserved audiences (Dawson 2014).

A study by Dawson (2014) looking at the attitudes of low-income London residents towards informal science education institutions found that most of the individuals studied had little past experience with science centers and museums, and many saw them only as amusement centers or tourist attractions. These perceptions contributed to the idea that informal science institutions were expensive (even when they were actually free) and of little value to families. Others also voiced opinions that such museums were not welcoming to their wider community, and that they would visibly stick out as the only members of their community in attendance. Some believed they did not have the background they thought was needed to know how to act in a museum, as such a background would only be obvious to those from middle- and upper-income levels. Low-income visitors also voiced concern over the hidden costs of museum attendance – namely, transportation and needing to purchase food and drink away from home – as well as the opportunity costs of taking hours at a time off to travel to and explore an institution. However, when low-income visitors reflected back on their informal science education experiences, they mostly remembered things positively. They valued the learning opportunities provided but also the time spent together with family in novel experiences. The association of museums with higher socioeconomic levels and norms also provided some amount of social status.

In a small study of ten adults living in the lowest-income zip codes of one American city, which looked at how often these urban residents visited museums and libraries and what their attitudes towards these institutions were, it was discovered that the majority of adults in this sample visited sites of informal education four or more times per year (Musco, 2016). In the same study, when asked on a scale from 1 to 5 about whether they enjoyed visiting museums and libraries, the average response was 3.75 for museums and 4 for libraries; and when asked on the same scale about whether there were perceived barriers to visiting informal education institutions, the average response was 3 for museums and 3.125 for libraries.

From the same study, those surveyed reported that they enjoyed museums and libraries for the fun, positive, and new experiences they provided; the educational and technology opportunities that were made available; the time they could spend engaging in fun and family-centered activities; and the opportunities for self-education (Musco, 2016). Respondents also cited positive outcomes to their larger communities such as creating spaces for learning; financial benefits to their surrounding communities; and a generally favorable presence locally. However, the perceived barriers to visiting included placed-based problems, such as needing transportation to get to an institution, and financial barriers. It was noted that museums, in particular, are inconvenient through their admission costs, limited hours, and lack of presence in low-income neighborhoods.

Methodology

In order to determine the relationship between neighborhood income and the location of museums, libraries, and arts organizations, this research sought to quantify numerically how

the number of local informal education institutions is related to the median income of neighborhoods. The particular cities studied were Los Angeles (the second largest city in the United States), Chicago (the third largest city), and Philadelphia (the fifth largest city). Within these cities, every museum, library, and arts organization was counted and had its address recorded to determine what zip code each institution resides in. Data on libraries in these cities came from the Los Angeles Public Library and County of Los Angeles Library systems, the Chicago Public Library system, and the Free Library of Philadelphia network. Lists of arts organizations in each city came from, respectively, the Los Angeles County Arts Commission, the MacArthur Foundation, and the Greater Philadelphia Arts Alliance. Information on each city's museums came from the 2014 edition of *The Official Museum Directory*.

Libraries were chosen to be included along with museums and arts organizations because of the informal educational opportunities they often provide (Zeppel 2008). Libraries do differ from other informal education institutions in key ways: for one, the primary undertaking of a library is to provide community access to books, periodicals, and other media. Libraries are also almost universally free, whereas most museums require paid admission and the programming for almost every arts organization is fee-based. However, libraries also provide resources and experiences that mimic what can be found in museums and arts organizations. For example, a library may provide as part of its weekly programs a children's story hour, an afterschool program for teens, a classic movie series, and a group for adults learning English as a second language. These are all educational opportunities for community members, and these offerings would not be out of place at a museum. In addition, some libraries have taken on the task of putting together exhibitions of old books or historical documents in their collections, and branches may even opt to host small traveling exhibits. Nevertheless, unlike museums, most of these programs and exhibits are free, and so are more financially accessible for urban residents.

Zip codes were then matched with median income data from the 2013 United States Census Bureau's American Community Survey (ACS). Using the ACS provided a median income for each area, which was then correlated with the absolute number of informal education institutions that were tallied in each zip code. This quantitative data was then examined using SPSS predictive analytics software to determine a Pearson coefficient for each city, which provided a correlation between each city neighborhood's median income and its local access to informal education institutions. In addition, an independent samples t-test was used, which allowed for comparison between all the low- and high-income neighborhoods to determine the differences between the two groups in terms of the number of informal education institutions. Using this method of analysis allowed for a determination of whether the averages among both groups in each city were significant.

Results

The relationship between the median income of every zip code in the three cities studied and the number of informal education institutions in each zip code was measured using a Pearson Product Moment Correlation. This version of statistical analysis generates a number value r that is always between -1 and 1 and indicates the relationship between the two values being measured: positive r values indicate a positive correlation, negative r values indicate a negative correlation, and $r = 0$ indicates no relationship between the variables. Specifically,

the strength of the positive or negative relationship can be determined as: an *r* value between 0.5 and 1.0 or between -0.5 and -1.0 is considered strong, a value between 0.2 and 0.5 or between -0.2 and -0.5 is considered moderate, and a value between -0.2 and 0.2 is considered weak.

The city of Philadelphia is comprised of 46 different zip codes; the wealthiest has a yearly median income of $89,588, while the poorest has a yearly median income of $14,297. The city of Philadelphia is also home to 67 museums, 54 branches of the Free Library of Philadelphia, and 204 arts organizations. For this city, the Pearson Product Moment Correlation delivered a value of $r = 0.37$. Thus, there is a moderate positive correlation between neighborhood income and the number of local informal education institutions. A comparison between Philadelphia's richest and poorest zip codes and their respective informal education institutions can be found in Figures 1 and 2.

The city of Chicago is comprised of 56 different zip codes; the wealthiest zip code has a yearly median income of $132,188, while the poorest zip code has a yearly median income of $19,548. The city of Chicago also contains 81 museums, 79 branches of the Chicago Public Library, and 150 arts organizations, according to a list compiled by the MacArthur Foundation. For this city, the Pearson Product Moment Correlation delivered a value of $r = 0.25$. Thus, there is a moderate positive correlation between neighborhood income and the number of local informal education institutions. A comparison between Chicago's richest and poorest zip codes and their respective informal education institutions can be found in Figures 3 and 4.

The city of Los Angeles is made up of 123 zip codes; of these, 43 are zip codes which are shared between residents of the city and residents of other municipalities in Los Angeles County. For the purposes of this study, all of these shared zip codes were included in the data analysis, with the exception of one that is almost entirely within the city of San Fernando. The richest of these zip codes has a median annual income of $168,036, while the poorest has a median annual income of $11,750. Within these zip codes there are 100 museums, 87 library branches, and 216 arts organizations, according to lists compiled by the Los Angeles County Arts Commission. For this city, the Pearson Product Moment Correlation delivered a value $r = -0.13$. Thus, there is a weak negative correlation between neighborhood income and the number of local informal education institutions. A comparison between Los Angeles's richest and poorest zip codes and their respective informal education institutions can be found in Figures 5 and 6.

To determine in a global sense how the number of local informal education institutions in neighborhoods with the highest incomes compares to the number of local informal education institutions in neighborhoods with the lowest incomes, an independent samples t-test was conducted. This form of statistical analysis allows for a measurement of the entire data set of all zip codes in the three cities and their respective numbers of informal education institutions, rather than breaking down the data for each city. This adds another and more holistic point of comparison to the discussion. Through this test, it can be determined whether all the higher income neighborhoods studied are more likely to contain greater numbers of informal education institutions. For this test, the median incomes of all three cities' zip codes were categorized into low (bottom third), middle (middle third), and high (upper third). Comparing the low-income and high-income groups, results of the independent samples t-test revealed

that overall high-income zip codes have a significantly larger number of informal educational institutions within them than low-income zip codes; in other words, there tend to be a greater number of informal education institutions in neighborhoods with the highest incomes compared to neighborhoods with the lowest incomes.

Discussion

Given that access to a quality formal education is a function of the family income of a child, and that economically segregating factors concentrate low-income residents into particular areas of cities, this study was concerned with identifying whether informal education institutions fit into a similar pattern. In two of the three cities, Philadelphia and Chicago, there was a positive correlation between neighborhood income and the location of informal education institutions. In other words, as neighborhood income increased, so did the number of informal education institutions.

The notable exception to the general trend of results was the city of Los Angeles, where the data revealed that as income decreased, the number of informal education institutions actually increased slightly. This may be because Los Angeles is a "young" city, having been founded decades later than Chicago and two centuries after Philadelphia was colonized. In contrast to these older cities, where segregation can be persistent, Los Angeles may be more fluid in terms of income level mixing because it is a newer city (Charles 2003). Los Angeles, as a city in the far West of the United States, has also long been seen as a fundamentally different place where the traditional social class structures common in older East Coast cities could be forgotten (McGovern 1999). Perhaps this is a model that other cities can learn from.

Based on some of the literature looking at whether and how low-income urban residents utilize informal education, people in poorer areas do seem to place some value in museums, libraries, and the arts. Some studies have suggested that informal education provides personal benefits in the form of educational opportunities and interesting life experiences, as well as social status and time with family, and overall positive benefits to communities in which institutions are located. Considering this, and that poorer neighborhoods suffer from a lack of quality formal education experiences, it would seem that informal education is perhaps more important in lower-income neighborhoods than in wealthier ones and that museums, libraries, and arts organizations may be more necessary for low-income communities than in wealthier areas. As such, museums, libraries, and arts organizations should be more heavily concentrated in low-income neighborhoods instead of in the higher-income areas where they are more likely to be located. It is counterproductive, then, for geographic barriers to exist preventing those in poorer areas from visiting informal education institutions, as this only serves to take educational resources away from the places where they are most needed.

Indeed, research has found barriers to access rooted in location, which correlates to the findings here that informal education institutions tend to be located in wealthier urban neighborhoods. This is especially problematic considering that many city residents, especially those living in poverty, do not have easy access to cars and so rely on public transportation, which can make visiting a museum or library a tiring, inconvenient, and sometimes impossible process. Even when residents of low-income areas do make an effort to visit informal education institutions, the physical undertaking of accessing these resources makes the

inequality of location even more glaring. Looking at these barriers, it can seem as though informal education is set up to be accessed mostly by those who have time and money to spare and the means to travel independently.

In order to serve the greatest good, informal education needs to be most available in the poorest neighborhoods. In practicality, this is not always possible. Museums exist in particular buildings, some of which hold historical significance, and cannot simply pack up and move to a new area. Urban museums in particular often depend on attracting tourism dollars, and for the sake of convenience and perception are often best located in prosperous downtown areas.

However, museums have it in their power to make some inroads in bringing their collections and their knowledge out into the community, and the following are suggestions for what museum professionals can do to bridge this inequality. Though exhibit pieces may be cumbersome or too valuable to move out of a museum building or may be needed as part of an on-site show, there can be "teaching collections" as well as artifacts and objects in storage available for travel. Teaching collections, comprised of interesting and educational items that are not in display-worthy condition, can be handled and taken outside of the building. These are parts of a museum that could provide fascinating and evocative learning experiences for those who are not able to visit in person; in addition, collections in storage could, with great care, be brought into communities and not interfere with current exhibitions on the museum floor.

Many museums also have traveling programs that their educators bring to offsite locations. These programs represent a fusion of the knowledge contained in museums with the reality that not everyone can visit in person; however, these programs are typically fee-based, and this cost can prevent some areas and organizations from experiencing these programs. Museums can strive to allocate funds to bring their programs into underserved communities and even solicit donations and pursue grants that would allow them to do such work. In order for these types of programs to take place, however, museums must consider them to be important enough to seek funding for and must recognize low-income urban residents as a constituency to reach. Without acknowledging their neighbors in poorer areas as patrons, museum programs that meet audiences where they are will have a hard time gaining consideration.

However, location is not the only barrier to access experienced by low-income urban residents. The literature indicates several other practical considerations that keep poorer families away from informal education, such as cost and finding a convenient time to visit. Less tangible are attitudes and beliefs that some poorer urban residents hold about museums and libraries being places mostly for people from higher socioeconomic brackets, where middle- and upper-class values are enshrined and content and programs are inaccessible without "proper" educational backgrounds. In addition, visiting museums and libraries might not always align with the cultural traditions of people from low-income neighborhoods.

This is not a case, then, of "If you build it, they will come." A museum which takes its services into low-income areas still may not adequately serve locals if its programs are not accessible to those with lower levels of educational attainment, or if its staff operates from assumptions

of shared middle-class backgrounds and values. The pervasive top-down approach to informal education, where staff act as experts imparting knowledge that they personally believe is useful and important, also reflects an attitude that can be unwelcoming to nontraditional visitors. Instead, informal education must seek to deeply understand low-income residents and their experiences, beliefs, and needs. Institutions must then commit to making an effort to provide exhibits and programming that are reflective of the desires of all members of their urban community. The idea that museums should change people is not equitable; rather, museums should be willing to be changed by the new audiences they encounter and serve.

As for further study, it would be interesting to look in depth at any museum or form of museum programming which has successfully reached out to low-income communities and resulted in those communities truly valuing what the museum has to offer and feeling as though their needs are being met and respected. Detailed research on such an institution or suite of programs would ideally determine how this outreach was developed, what it looks like, how the intended audience relates to the content the museum has provided, what lessons for practice have been learned, and how such work can be replicated in other institutions and settings. Alternately, a study could be made of a rigorous, methodical, and controlled implementation of such a program, with an analysis looking at whether the above suggestions truly result in equitable programming that is valued within low-income communities. From this would arise not just theoretical ideas about reaching out to low-income communities, but factual results on what works and what does not and what best practices can be derived from bringing museums and their content to low-income neighborhoods.

It has now been 23 years since the publication of *Excellence and Equity* and its call for museums to be publicly inclusive service organizations (American Association of Museums 1992). These should be ideals for the informal education field, and yet the research cited here demonstrates that this is not the case. How to achieve equity should be the ultimate goal of this and all other future research on how museums, libraries, and arts organizations can reach the low-income Americans that our educational system and our society overlook.

List of Figures

Figure 1:

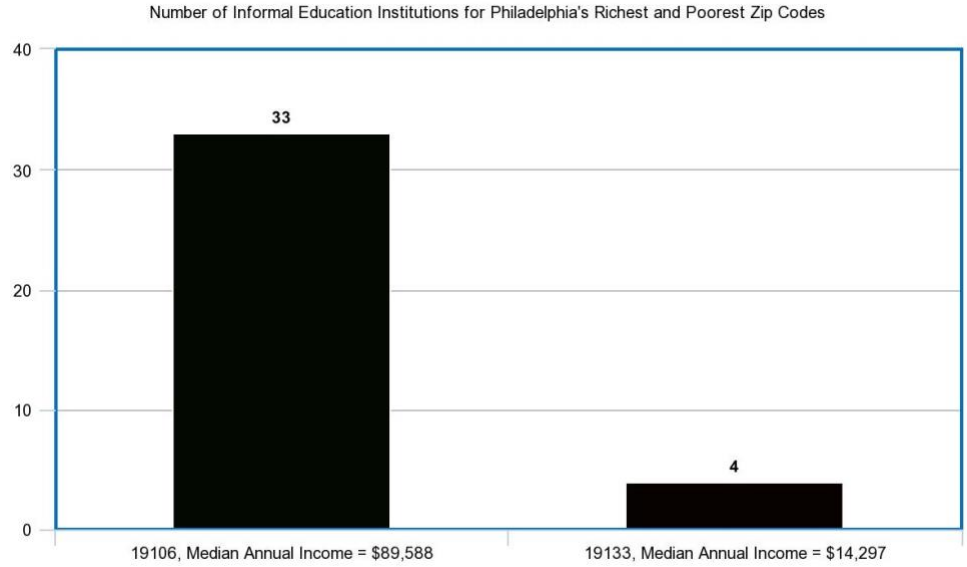


Figure 2: Philadelphia's Richest (19106) and Poorest (19133) zip codes.

Figure 3:

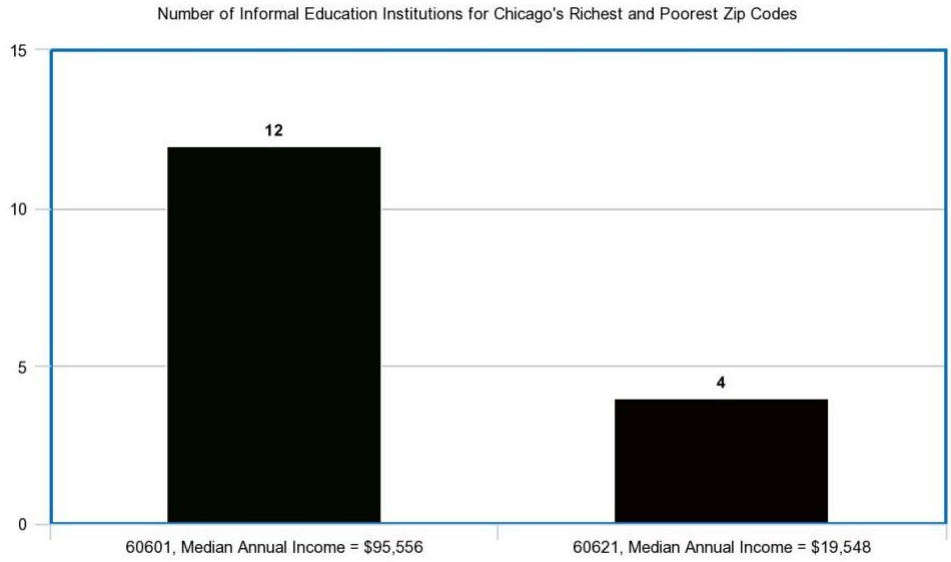


Figure 4: Chicago's Richest (60601) and Poorest (60621) zip codes.

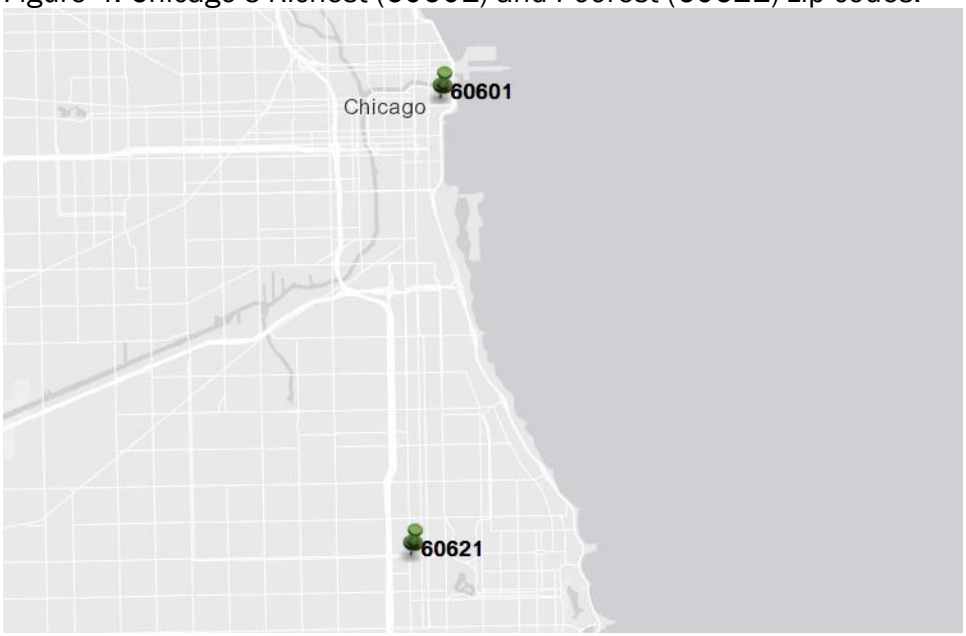
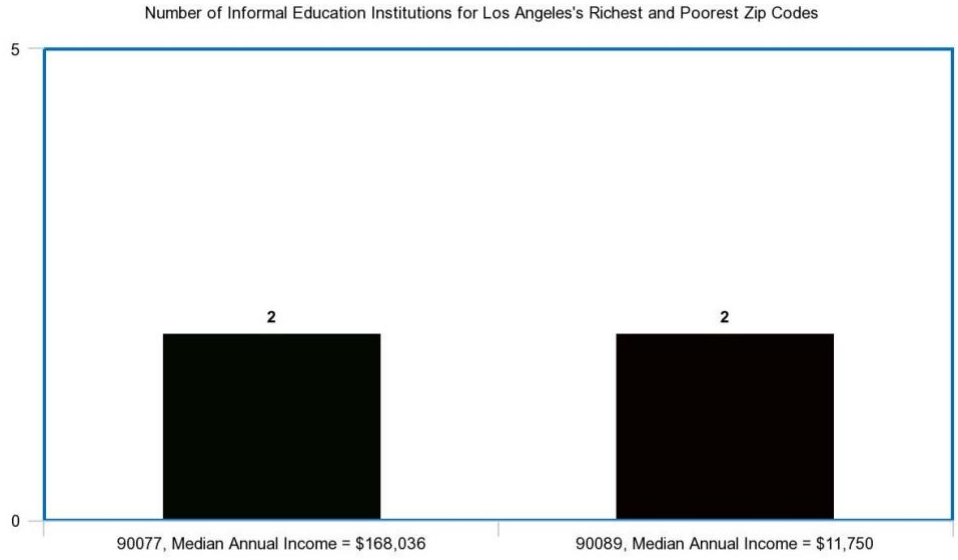


Figure 5:



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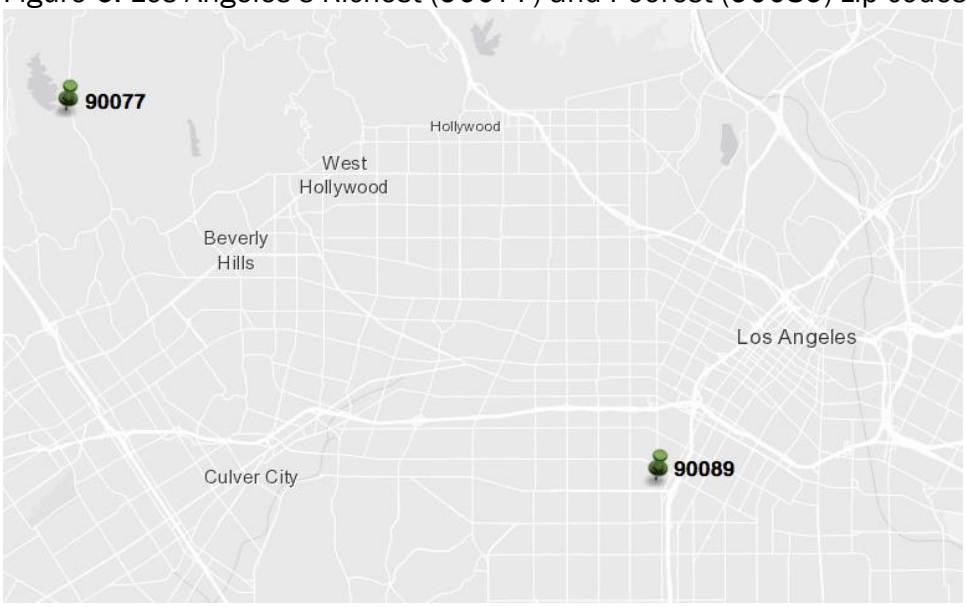

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