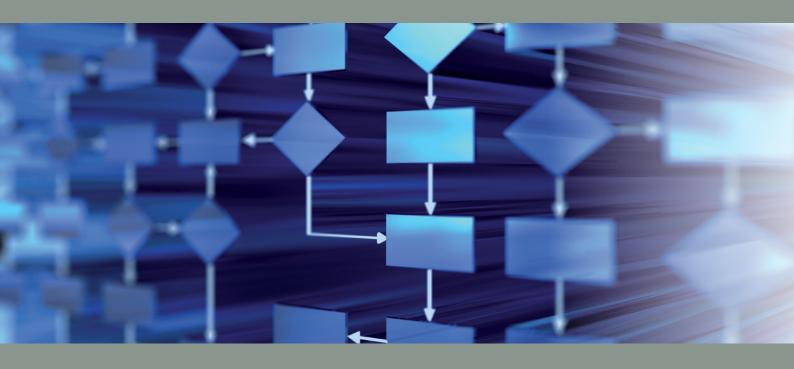
# **Economic Research Working Paper No. 50**

Unpacking predictors of income and income satisfaction for artists

Angie Miller Alexander Cuntz





## Unpacking predictors of income and income satisfaction for artists

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#### **ABSTRACT**

The stereotype of the "starving artist" is pervasive in modern Western culture, but previous research on artists and income is mixed. The goal of this study is to explore how several demographic variables, along with self-reported behaviors and artistic activities associated with non-monetary and monetary motivators, predict income and income satisfaction for artists.

Using unique survey data on current working artists in the United States, we provide empirical evidence on substantial reputational rewards and rewards from altruistic behaviors as important sources of artists' utility and, arguably, sources of their motivation to create new works. Moreover, we find that the evidence on "procedural" utility from working in the arts is less straightforward, and we find that many artists are pooling and diversifying financial risks on household levels. Overall, quantitative findings indicate that artists may have different criteria and conceptualizations when it comes to income, and they may derive value from their work in a variety of ways aside from income.

**KEY WORDS:** creative economy, non-monetary rewards, motivation, income, income satisfaction, working artists, public policy.

**JEL CLASSIFICATION**: J24, J28, J31, O31, O34, O38, Z10

#### **DISCLAIMER**

The views expressed in this paper are those of the authors, and do not necessarily reflect the views of the World Intellectual Property Organization or its member states.

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#### Introduction

In Western culture, there is a strong stereotype of the "starving artist," one who lives on very little income, with irregular hours and commitments, but is willing to suffer this lifestyle for the sake of their art. But how close is this stereotype to the economic realities of working artists? In higher education within the last decade, programs in the arts have been under scrutiny for the career outcomes of their graduates. Some data suggests that arts majors have some of the lowest income levels, particularly for recent college graduates (Carnevale, Cheah, & Strohl, 2012), and majoring in the arts is often portrayed in the popular press as "worthless" in terms of income and employability (Cantor, 2012). Yet placing the sole focus on income may overlook a more comprehensive understanding of motivators and careers in the arts. For instance, research indicates that compared to other occupations, musicians have much more nuanced definitions of success (Bennett, 2007), and, notably, artists in general reach higher levels of job satisfaction when compared to occupations of similar professional and educational standing (Bille, Fjællegaard, Frey, & Steiner, 2013; Steiner & Schneider, 2013).

Similarly, debate on public funding in the arts and reforming copyright frameworks in the digital age often puts an emphasis on balancing monetary incentives (for example, European copyright initiatives focusing on authors' remuneration illustrate this point (European Commission, 2016)). However, policies ultimately aiming to optimize creativity and creators' utility from their work will not depend on income issues alone. Instead, policies might need to consider all sources of motivation that help nurture such creativity or, at least, they should account for any side effects on artist's satisfaction that a single policy focus on monetary incentives entails.

Given this contrast in perspectives, this study seeks to explore income, and also sources of income satisfaction for arts graduates. What factors can predict income for artists? How are these factors related to income satisfaction, and what are the distinctions and possible trade-offs between these two outcomes? Does an increase in income equal an increase in income satisfaction, or is the relationship more nuanced?

We first address the relevant literature on monetary and non-monetary incentives for artists along with other factors that may relate to income, and then present findings from several regression models that incorporate demographics, self-reported behaviors associated with specific types of incentives, and other career-related factors predicting income and income satisfaction for a sample of self-identified artists. In an extensive discussion of results, we compare and contrast our findings with previous research, and make suggestions for future studies.

# **Literature Review**

# Labor Supply in the Arts

While most economic theory places the greatest value on income as an indicator of success, the work-preference model and its various extensions may better explain some elements of job satisfaction that are not directly related to financial gains (Casacuberta & Gandelman, 2011; Caserta & Cuccia, 2001; Cowen & Tabarrok, 2000; Popović & Ratković, 2013; Throsby, 1994a). Among other things, these models highlight the importance of non-pecuniary sources of "psychic income" to artists and motivators other than income.<sup>2</sup> For

<sup>&</sup>lt;sup>2</sup> While a basic premise of economics is that the more money a person receives the more she or he is induced to work, there is also countervailing evidence (Frey & Oberholzer-Gee, 1997; Milgrom & Roberts, 1992). Moreover, the quality of creative output does not necessarily rise with the size of the financial reward (Huang, Singh, & Mukhopadhyay, 2013). Previous research also identifies other factors beyond the individual or incentive-based

example, previous research demonstrates that intrinsic job satisfaction among art graduates - based on the opportunities to be creative or the ability to do work that reflect one's personality, interests, and values - is higher for those working in the arts than for those working outside the arts (Dumford & Miller, 2017). While still noting that a minimum amount of monetary compensation is required for basic needs, beyond this threshold, Throsby's original model suggests that those in certain occupational fields, such as the arts, may not concede the same aspects of utility from income (Throsby, 2001). Moreover, artists are exceptional as they derive utility from their art work – i.e. supply of work does not decrease utility (as it would in standard economics) – and hence artists' labor markets often exhibit oversupply and job rationing (Menger, 1999). Accordingly, artists tend to work longer hours in relatively low-paid art jobs and will attempt to cross-subsidize from work outside the arts until minimum subsistence is covered (Alper & Wassall, 2006; Robinson & Montgomery, 2000). Cross-subsidizing also takes place via family endowments and spouse's earnings, with couples diversifying the artist's income risks at the household level (Towse, 1996a).<sup>3</sup>

## Non-monetary incentives and utilities derived from artistic work

In applications of this work-preference model, artists find non-pecuniary "reputational rewards" within praise and appreciation for their work from peers and critics (Bourdieu, 1992; Neckermann, Cueni, & Frey, 2014), and society at large often perceives the arts as "high esteem" and prestigious (Abbing, 2004). Such extrinsic motivators generate extra utility and satisfaction and, ultimately, may incentivize creativity. In line with this, awards and prizes are a common way of support in the arts, granting reputational rewards and symbolic value to winners, but in many instances they are not accompanied by money or annuities (Frey & Gallus, 2017). Prominent examples are the Academy Awards (Oscars), prizes from various film festivals, the Emmy and Grammy Awards, the Booker Prize, the Prix Goncourt, or the Pulitzer Prize. Even when winners gain in social status, awards and prizes have only limited ability to predict future earnings of selected works for various reasons (English, 2014), and it is not always clear how reputational rewards ultimately affect artistic income streams.

Second, artists may derive "procedural utility" from the very process of creation, a feature more pronounced in the arts than in most occupations (Bille et al., 2013), and, in general, procedural and non-pecuniary aspects already explain parts of college major choices (Altonji, Arcidiancno, & Maurel, 2016). However, intrinsic motivation from "immersion/self-determination" in such autonomous, non-routine tasks not only increases artists' utility and satisfaction, but it can give rise to overoptimism regarding the quality and value of own creations. Possibly, this may have adverse effects on market transactions and efficiency (Buccafusco & Sprigman, 2011), and, arguably, also on revenues and income generated from artists' works. For example, some of their creations/works will not be sold on markets because artist will charge too high prices.

Third, another possible source of intrinsic motivation among many artists is their altruism and "other-regarding" preferences and behaviors which, to the best of our knowledge, have received little to no attention in the cultural economics literature so far (Fehr & Schmidt, 2006). This is surprising, as social norms in the arts in particular are conducive to these types of motivators and creators. In the arts, expectations on gift-giving and volunteering by "gifted" artists (i.e. with talents being gifted by someone else) are still commonplace, as if individuals' training and ability do not seem to entitle them for charging a price for efforts (Abbing, 2004). Often, creators are perceived as "serving" and, thus, *donated to* rather than paid for their work, and, in line with this, the more altruistic creator types may self-select into

ones we highlight in this study, also partially explaining income and labor supply on artistic labor markets (Caves, 2000; Menger, 1999).

<sup>&</sup>lt;sup>3</sup> Also, artists can cross-subsidize via collective action of artists pooling their resources and risks in groups (for example, groups of visual artists; Crane, 1987; Simpson, 1981).

cultural markets. Moreover, giving-away of works - that would be otherwise paid for - has unintended consequences on the general marketability/profitability of all works. For example, while artists may derive utility from their altruistic behavior it may also decrease their income - a phenomenon that is well-known in the development economics literature where donations from non-profits or volunteering are considered as potentially "killing entrepreneurial spirit" in markets (Berger & Stevenson, 2007).

More generally, sources of extrinsic and intrinsic motivators might be trading-off and may not always complement each other. For example, a line of research in social psychology and economics has focused on how monetary payments might be "crowding-out" intrinsic motivation (so-called "hidden cost of rewards"). It provides evidence on reduced work effort and creativity under certain circumstances, for example, if government support is contingent on a particular performance and/or not perceived as supportive (Amabile, 1988; Frey, 1997, 2000). In the current study, the financial burden of student loan debt may crowd out some of the intrinsic motivation of artists, i.e. a higher debt burden could be associated with lower levels of career-related satisfaction. However, well-designed institutional arrangements such as public support or the copyright framework also may lead to a crowding-in of intrinsic motivation and in these cases positively affect creativity (Frey, 2000). An institutional design successfully crowds-in when the targeted individuals perceive the intervention as supportive and not as controlling. In a similar vein, Simonton (1989, as cited in Grant & Berry, 2011, p. 78) provides evidence that "classical composers, who typically report high intrinsic motivation for writing music, tend to produce the most creative, aesthetically significant works when they are [at the same time.] prosocially motivated to leave behind great final pieces for audiences." Ambiguous evidence in this area of research clearly demonstrates a need for further quantitative investigation of motivation trade-offs in the arts.

From a methodological perspective, Throsby and several others have already tested the work-preference models' assumptions (for example, see Rengers & Madden, 2000). However, empirical validation in their work only *indirectly* detects psychic income as deviations/anomalies in artists' labor supply decisions not conforming standard labor economics, estimates being based on wage changes in art- and non-art sectors. In this way, this approach misses out on the identification of specific sources of psychic income. In contrast, we attempt to overcome some of these issues by approximating psychic income more *directly* - via measuring income satisfaction levels - and our approach aims to identify and approximate *different* motivators and sources of psychic income, both intrinsic and extrinsic.

## Determinants of income from artistic work and utilities derived from income

The relationship between efforts and earnings seems weak for professional artists, and in many places and for many disciplines it appears that the arts are a low-income profession when compared to other occupations with similar educational and professional standing (Moulin, 1992; Rengers & Madden, 2000). Artists often find themselves in a somewhat paradoxical situation because they "as an occupational group are, on average, younger than the general work force, are better educated, tend to be more concentrated in a few metropolitan areas, [however, they] show higher rates of self-employment, higher rates of unemployment and of several forms of constrained underemployment, i.e., non-voluntary part-time work, intermittent work, fewer hours of work, and are more often multiple job holders" (O'Brien & Feist, 1995 as cited in Menger, 1999, p. 545).

Educational attainment does not serve as a strong screening device for artistic talent and earnings, as compared to other labor markets. Results from previous research on income effects in the arts are mixed, however. Earlier studies suggest that income from primary art practice is not at all or only slightly responsive to formal training in the arts (Carnevale et al., 2012; Filer, 1990; Throsby, 1996; Towse, 1996b). More recently, however, Potts and Shehadeh (2016) document under-education rather than over-education trends among artists in Australia, in particular with younger artists and artists working within the arts investing less in formal education and thus securing income returns. Moreover, Bille and Jensen (2018) provide evidence on a positive effect of educational attainment on the survival of Danish artists in certain occupation fields and they also report mixed, field-specific results for income differences based on formal education levels of artists.

Career progression and artist's age are other important factors for income levels. Differential drop-out rates and lower number of hours worked may explain why age-earnings patterns for artists are typically steeper than for other workers (Rengers, 2002; Throsby, 1994b). In a similar vein, sources of income and multiple job earnings are more dispersed at the beginning of artistic careers and only come under greater control with increasing reputation (Menger, 1999).

Once the market values works and recognizes a few of them as artists, and artists become more aware of their talent, they also find it easier to predict success of their work. However, due to the scarce training-on-the-job opportunities and competition with other artists, early-stage artists in particular will be forced to accept below average income.

Research outcomes also differ for specific artistic disciplines and by type of work arrangement. For example, research on visual artists by Kretschmer and colleagues (2011) suggests that median income of designers and household level income of photographers are higher than UK national averages (but this did not apply to the other types of visual artists in their study). Moreover, within the arts, there are known income discrepancies, with those in architecture and design commonly reporting higher incomes that those in the fine or performing arts (Strategic National Arts Alumni Project, 2012). Regarding work arrangements, it is performers working under more flexible arrangements that earn higher hourly wages than those employed on a long-term basis, receiving a "wage premium" in the performing arts (Menger, 1999). Here, employers seem to compensate for uncertain labor prospects and secure the availability of underemployed performers on these specific labor markets.

Artists' higher rates of self-employment are an interesting case concerning utility and job satisfaction, as their work arrangements are not only determinants of (presumably, lower and more varying) income. Artists, like other entrepreneurs, can perceive work arrangement choices as an "opportunity" rather than a "necessity" (Block, Sandner, & Spiegel, 2015). More specifically, occupational autonomy from self-employment allows them to exercise

greater control over work flow and direction, as well as generation of a stronger sense of self-achievement. Artists and entrepreneurs may sacrifice earnings to become entrepreneurs, again, indicating that non-pecuniary motivations must be present (Kerr, Kerr, & Xu, 2017; Taylor, 1987).

It should also be noted that other demographic characteristics can predict income as well. There is an ever-present wage gap for gender in the United States (Fortin, 2008), and artists do not seem to be immune from this trend (Lindemann, Rush, & Tepper, 2016). There is also evidence of a racial wage gap, such that Whites generally make more than other racial/ethnic groups (Chetty, Hendren, Jones, & Porter, 2018). Finally, there are also intergenerational effects on income and income disparities that can be related to individual abilities, parental education, and socioeconomic status (Black & Devereux, 2010).

# **Data and Methodology**

Given the existing theories concerning the various ways in which to interpret the value and motivation of artistic work, as well as several known economic disparities, the goal of the current study is to explore these constructs through several models predicting income and income satisfaction for artists in the United States. The data used for this study was from the 2011, 2012, and 2013 administrations of the Strategic National Arts Alumni Project (SNAAP). SNAAP is a multi-institution online alumni survey designed to obtain knowledge of arts education in the United States. The participants were 40,835 alumni from 153 different arts high schools, undergraduate, and graduate colleges or arts programs within larger universities. All arts alumni from each institution were invited to participate. The average institutional response rate was 18%. This study limited the sample to those who were currently working as professional artists and were not retired (although they might also be working in other non-arts occupations as well). Of those in the sample, 1,324 were high school alumni (3%), 29,490 undergraduate alumni (72%), and 10,021 graduate alumni (25%). Of these alumni, 44% were male, 56% female, and 0.2% transgender. The majority of alumni (84%) reported their ethnicity as White/Caucasian. Alumni represented a diversity of major fields: 22% Architecture and Design, 8% Applied (Art History, Arts Administration, and Arts Education), 32% Fine and Studio Arts, 10% Media Arts, and 27% Performing Arts. Alumni represented in this sample span a 72-year range of graduation years (1941-2013), with 18% being recent alumni who graduated in the past 5 years.

These respondents were representative of the population from the participating institutions, but not necessarily the entire U.S. population of arts alumni, since institutions choose whether they want to participate in SNAAP. However, a variety of institutional types participated, including independent arts schools (20% of institutions), baccalaureate colleges (8%), master's colleges and universities (23%), doctoral/research universities (6%), research universities with high research activity (10%), research universities with very high research activity (25%), and arts high schools (8%). In terms of sector, 57% of institutions were public and 43% were private. All regions of the United States were equally represented.

## Variable/survey item description and selection

We construct main outcome variables based on two survey items, income and income satisfaction. For the latter, respondents were asked a series of items about aspects of satisfaction with this primary job, with response options on a four-point Likert-type scale ranging from "Very dissatisfied" to "Very satisfied." This study includes the item on satisfaction with income for their primary job. For the former, they were asked to report their individual annual income from the previous year, with response options in ranges of \$10,000 increments that were then recoded into midpoints (dropping those with "I prefer not to respond"). A similar item asked them to report their household annual income from the previous year.

For the sake of clarity, we divide predictor variables into two categories. Based on the review of the existing literature on artists' labor supply and income, a *first group* of predictor variables aims to account for several known economic disparities: It includes flags for major field, overall institution experience rating, public/private status, gender, race/ethnicity, age, current self-employment status, working multiple jobs, primary job in an arts field, having artist parent(s), parent education level, having a graduate degree, administration year, and cost of living index.

More specifically, survey participants were asked to make an overall evaluative rating of their time at their institution while pursuing their degree, with response options on a four-point Likert-type scale from "Poor" to "Excellent." Respondents also indicated what degree they received from the participating institution, and any other degrees they had earned from outside institutions. This information was then combined to create a variable for whether respondents had any graduate-level degree. Major was collected from institutions, and coded into 96 categories. Five flags were created from these categories to use in the analyses: Architecture and Design, Applied, Fine and Studio Arts, Media Arts, Performing Arts, and Other Arts. Respondents also provided their current zip code, and data collected by the Council for Community and Economic Research concerning state-level cost of living index was merged into the data file. Information on institutional sector (public vs. private) and flags for year of survey administration were available in the data set as well.

To determine the occupation in which participants spend a majority of their work time, they were shown a list of 45 different occupations, both arts-related and non-arts-related. Respondents selected from the list all of the occupations they had ever worked, all of the occupations in which they currently work, and (if more than one current occupation) the one in which they spend a majority of their work time. This selected occupation was then grouped into a dichotomous variable for whether primary job is in an arts or non-arts field. Because artists might hold multiple jobs within the same occupational field, participants were also asked if they were currently working at more than one job, with ordinal response options from "No" (i.e. only working one job), 2 jobs, 3 jobs, 4 jobs, and more than 4 jobs. Employment-related items also asked respondents if they were professional artists, and if they were "self-employed, independent contractor, or a freelance worker" with categorical response options of "Currently," "In the past," and "Never."

Participants also answered items concerning demographic information (gender, age, race/ethnicity, parent education, etc.). The continuous variable of age was collected from a write-in number box, while parent education level was an ordinal variable with seven different response options ranging from "Did not finish high school" to "Completed a doctoral degree." The categorical variable of gender identity had the four response options of man, woman, another gender identity, and prefer not to respond, which were collapsed into the man/woman dichotomy for analyses due to the small number of other respondents. Race was also collapsed into a binary variable with "White" and "non-White" due to small numbers for some racial/ethnic groups. Another background question about whether or not their parents, guardians, or close relatives were professional artists was also included.

A second group of predictor variables includes student loan debt amount, percent of income from work as an artist, percent of work time spent as an artist, investment capital as an available resource, prizes/grants/commissions as an available resource, acknowledgement/publicity of work as an available resource, frequency of public performing/exhibit avocational art, and arts community participation. Here, the selection of variables is more delicate than in the first group as it runs the assumption that a certain self-reported respondent's behaviour is associated with a certain set of motivators (.e., the survey does not directly inquire on artists' original motivations, nor does it allow tracing back reported activities and creativity to one or more motivators). In this way, we focus on and identify only on those survey items and activities that are *emblematic* for certain motivator sets.

To assess altruistic behaviors such as volunteering and avocational arts involvement, participants were asked whether they make or perform art in their personal (not work-related) time, and those who reported "yes" were asked follow-up items about this avocational practice. One of the follow-up items of interest to this study was how frequently they publicly perform or exhibit art in their personal time, with ordinal level response options of "I do not perform or exhibit in public," "Less than once a year," "1 or 2 times a year," "3 or more times a year," and "Continuously in public or online." Additionally, a scale of arts community involvement was calculated as the weighted sum of affirmative responses for a set of items about voluntary arts activity during the past year: "attended an arts event, exhibit, concert or performance" (weight of 0.5); "donated money to an arts organization or artist" (weight of 1); "volunteered at an arts organization" (weight of 2); "volunteered to teach the arts" (weight of 2); and, "served on the board of an arts organization" (weight of 3). This scale ranges from 0 (no involvement) to 8.5 (involvement with all activities in the past year).

Next, to assess behaviors extrinsically motivated by monetary and reputational rewards, we focused on several other survey items. For example, respondents were asked about the amount of student loan debt they acquired while at their educational institutions, with response options in ranges of \$10,000 increments (up to \$60,000) that were then recoded into midpoints and adjusted for inflation based on year of graduation (dropping those with "I prefer not to respond"). Arguably, a heavy loan debt burden ex-ante their careers makes artists of any motivational type chase for monetary rewards, and thus it well aligns their actual behaviors with those that are mainly motivated by monetary rewards. Moreover, artists were also shown a list of resources, and asked to select all that were very important for success in their artistic careers; of the resources listed, "loans, investment capital"; "publicity or acknowledgement of your work"; and "prizes, grants, or commissions" were included in this study. Here, the first item in the list of resources is, again, indicative of behaviors incentivized by monetary rewards; the second item is representative of behaviors

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<sup>&</sup>lt;sup>4</sup> In a similar set of questions, artists were asked if these same resources had ever been insufficient and posed as a barrier to their careers. Corresponding responses were then combined to create an "available resource" flag if a respondent reported that a particular resource was important but was NOT lacking.

driven by reputational rewards; in many instances, the third item is a "hybrid" reward type if the prizes, grants, or commissions not just involve appreciation and recognition of artists' works, but a transfer of money or annuities.

Finally, to assess behaviors intrinsically motivated by procedural rewards, those survey respondents who reported being professional artists also reported what percentage of their work time was spent as an artist, as well as what percentage of their income came from their work as an artist, with ordinal response options in ranges of 20% (i.e. less than 20%, 21% to 40%, 41% to 60%, etc.). While, arguably, market valuation and distribution access might bias the share of income from art work we observe for individual respondents, the fraction of time spent working as an artist in total working hours should help identify utilities derived from artistic and creative processes. Moreover, artists may also derive procedural utilities from "autonomous" and "independent" self-employment. For consistency reasons, however, this variable was included in the first group of predictors.

To sum up, Appendix A lists and describes selected survey items and constructed measures; Appendix B presents summary statistics for variables deployed in the empirical models explained in the next section.

## Empirical Strategy

To explore the influence of career-related motivators and characteristics on income and income satisfaction, we conduct four Ordinary Least Squares (OLS) regression analyses, controlling for certain alumni and institutional characteristic. OLS regression is chosen due to the ordinal nature of the dependent variables and the appropriateness of this method for testing theory with real-world data collected outside of manipulated laboratory settings (Field, 2009; Tabachnick & Fidell, 2001). In each of the analyses, the indicator variables are entered in groups, to look at the unique contribution in explained variance for each group.

For the first model, the outcome variable is individual income. Again, the first group of predictor variables includes the flags for administration year, major field, overall institution experience rating, public/private status, gender, race, age, current self-employment status, working multiple jobs, primary job in an arts field, having artist parent(s), parent education level, having a graduate degree, and cost of living index. The second group of predictor variables accounts for altruistic and various other behaviors associated with procedural, reputational, and monetary rewards. Namely, these include student loan debt amount, percent of income from work as an artist, percent of work time spent as an artist, investment capital as an available resource, prizes/grants/commissions as an available resource, acknowledgement/publicity of work as an available resource, frequency of public performing/exhibit avocational art, and arts community participation.

The second regression model includes these first two sets of predictor variables, and adds individual income as a third step predictor variable and satisfaction with income from primary job as the outcome variable. This specification aims to capture and compare sources of psychic income and artists' utilities other than those derived from income (i.e. artistic activities and behaviors associated with non-monetary motivators, and either of intrinsic or extrinsic nature).

The third regression model is identical to the first model, but instead it uses household income as the outcome variable. Household level information better captures the idea that artists, ultimately, might base labor supply choices on the amount of total household income and risk diversification available there. Again, spousal/partner income is a way to cross-subsidize the artist's individual income from one or more jobs. Similarly, the fourth regression model is identical to the second model, but instead used household income in lieu

of individual income as the third step predictor variable. In this last specification, we are again interested in studying artists' utilities other than those derived from income.

All categorical independent variables were dummy-coded prior to entry in the model (Appendix A). The Variance Inflation Factor (VIF) values for each of the continuous predictor variable in these regression models were all well below 5 (ranging from 1.0 to 2.6), suggesting that multicollinearity was not an issue in the models (Field, 2009). Normal probability plots and residual analyses indicated no severe departures from the assumptions of independence, normality, homoscedasticity, and linearity.

#### Results

## Explained Variance

In terms of explained variance, the  $R^2$  values, these ranged from .200 to .287, indicating that the models explained anywhere from 20.0% to 28.7% in the variance for the outcomes (Table 1).

Not surprisingly, the models using individual income as either the outcome or the third step predictor had the highest overall explained variance, as one's specific demographic and career-related variables should be more directly linked with individual income, rather than household income. However, the models that incorporated household income were able to explain a non-trivial amount of variance as well. Looking within the models, it is apparent that when predicting income (either individual or household), demographic characteristics explain a greater amount of the total variance, as compared with the second group of predictors also accounting for the various type of non-monetary rewards. For the models that predicted income satisfaction, however, the demographic characteristics in the first group of variables do not make such a strong contribution to the explained variance, suggesting that income and income satisfaction do not function in direct correspondence with one another. Although in the second model (predicting income satisfaction), individual income was by far the driving factor and contributed more than half of the explained variance, it was still not the sole contributor.

# Ordinary Least Squares (OLS) Regression Analyses

Results suggest that overall, there are a variety of both positive and negative predictors when it comes to income and income satisfaction (Tables 2-3). For the model predicting individual income, a later survey administration year (2012 or 2013), overall institutional experience, being male, older in age, a higher cost of living, higher percent of income from work as an artist, available loans and investment capital, available prizes/grants, available publicity, and arts community participation were all positive predictors. Conversely, a non-Architecture & Design major (i.e. Applied, Fine & Studio, Performing Arts), being currently self-employed, working multiple jobs, having a primary job in an arts field, amount of student loan debt, higher percent of work time as an artist, and more frequently performing or exhibiting art made during personal time were negative predictors of individual income (Table 2).

For the model that predicted income satisfaction (using individual income as the third step variable), some of the patterns from the previous model remained the same, while others appeared in the opposite direction. Positive predictors of income satisfaction were Applied Arts major, Fine & Studio major, Media Arts major, Performing Arts major, overall institutional experience, higher percent of income from work as an artist, available loans and investment capital, available prizes/grants, available publicity, more frequently performing or exhibiting art made during personal time, and individual income. However, attending a private institution, being male, White, older in age, currently self-employed, working multiple jobs, having a primary job in an arts field, higher parent education level, graduate degree, cost of

living, amount of student loan debt, and percent of work time as an artist were all negative predictors of income satisfaction (Table 2). It is interesting to note that even though older, male respondents with graduate degrees and higher cost of living actually have higher incomes, they are less satisfied with their income. On the other hand, Applied, Fine & Studio, and Performing Arts majors, along with those who more frequently perform and exhibit art in their personal time have a relatively lower income, yet they are higher in their satisfaction with their income.

Similar patterns of results were found for the models that incorporated household income, in place of individual income (Table 3). One notable discrepancy between the model predicting individual income and the model predicting household income is that the percent of work time as an artist is a negative predictor for individual income, but a positive predictor for household income. For the model that predicted income satisfaction, including household income as the third step predictor (Table 3), most findings are comparable to the model that included individual income, with only a few exceptions. When incorporating household income, we find that being male is a positive predictor of both household income and income satisfaction. Additionally, it is worth noting that in the models looking at household income, amount of student loan debt is not a significant predictor of income satisfaction.

#### **Discussion**

Regarding the different sets of motivators and utilities artists derive from them, results from the second group of predictors are instructive. Monetary incentives remain the most important source of motivation as income, as investment capital and student loans effects alone explain a large fraction of income and satisfaction differences. However, we also find robust evidence that reputational rewards and altruism are another important source motivating artistic activities.

First, while the effect of prizes and grants on household income renders insignificant for various reasons (for example, most prizes might not involve money or annuities, very rarely occur, or they might not well predict future successes), artists derive reputational rewards from these awards in all other model specifications. Both results are largely in line with those established in the previous literature (English, 2014; Frey & Gallus, 2017). Similarly, when acknowledgement and publicity of work become available we not only observe a reputational effect on income, perhaps because of the advertising and higher visibility of works, but an increase of satisfaction artists derive from work once we control for their income. Second, we provide preliminary evidence that altruistic behaviors account for some of the effects in utilities and thus social preferences might also be present in arts communities. For example, while personal-time displaying or performing of artists in public negatively affects income streams, such non-commercial activity does "pay" artists in terms of their income satisfaction. Moreover, intrinsically motivated giving-away of works might be linked to the rise of similar social norms (Abbing, 2004). However, it might also reduce overall profitability and entrepreneurial spirit in artistic markets (Berger & Stevenson, 2007).

Third, in this study, evidence for procedural rewards on income satisfaction is inconclusive, i.e. working more hours in the arts does not always generate additional (positive) utility as postulated in the baseline work-preference model (Throsby, 2001). While results for the survey item on "percentage of income as an artist" and for several (lower-income) majors are indicative of the procedural rewards involved, in contrast, for higher "percentages of work

<sup>6</sup> Note that results from the survey item on "arts community participation" does not confirm this. However, arguably, this item seems to capture effects of income leverage from the artists professional networks rather than altruistic behavior per se or volunteering.

<sup>&</sup>lt;sup>5</sup> As concerns "access" to loans and investment, estimates might suffer from omitted variable bias. For example, (unobserved) quality and talent of artists might govern their access to capital and eligibility for loans ex ante. Similar estimate bias might apply to winning prizes and grants, where artists could face different probabilities of being awarded at the outset, depending on the distribution of talent.

time as an artist" satisfaction decreases, not corroborating this idea. However, notably, there is previous research suggesting that there is also a quality dimension when it comes to *more* art work, i.e. higher-earning artists seem to work less time and might have more leisure time preferences (Casacuberta & Gandelman, 2011). Also, other research using SNAAP data illustrates that the "satisfaction premium" from working in the arts might be more salient in bottom and medium tiers of the income distribution where there are more multiple jobholders and supplementary work in non-art occupations (Cuntz, 2018). In any case, this issue will need further validation, and should be pursued in future research.

Moreover, results from the second group of predictors are also informative regarding artists "cross-subsidizing" activities (Towse, 1996a), which may extend to affect artists' psychic income levels. In the models looking at household income rather than individual income, the amount of student loan debt is not a significant predictor of income satisfaction. It may be that in multi-income households, artists are able to pool their resources for debt repayment, and successful diversification of risks eliminates at least the negative effects on utilities previously observed. Similarly, again, while the fraction of work time as an artist is a negative predictor for individual income, it becomes a positive one on household level. Here, artists (also) relying on the income of others and typically living in higher-earning households can afford to work longer hours in the arts.

Finally, there are a number of findings from the first group of predictors that warrant discussion, many of which confirm previous research results. For example, we document a gender income gap and an income that is increasing with age, as well as the pattern that those artists living in areas with a higher cost of living index make more money (Lindemann et al., 2016; Throsby, 1994b; Rengers, 2002). Additionally, those who majored in architecture and design, as well as those majoring in media arts, were higher in income, which aligns with previous research utilizing the SNAAP data set (Strategic National Arts Alumni Project, 2012). However, having/finishing a graduate degree does not turn out to have a significant income effect which still seems to confirm the mixed and ambiguous evidence found in the previous literature in the US graduate context. Similarly, irregular work arrangements in the arts such as being self-employed, having a primary job in an arts field, or working multiple jobs are all negatively related to income. Furthermore, these arrangements seem to be decreasing artists' income satisfaction, i.e. there is a substantial negative effect on psychic income and a lower income.

Consequently, this does not lend support to the idea discussed in the entrepreneurship literature (Kerr et al., 2017), or it might not apply to entrepreneurs in the arts. Here, a satisfaction premium from autonomous and independent work is not observable and thus does not make up for the earnings sacrifices when individuals self-select into self-employment.

Nevertheless, there are a few nuances worth mentioning. Specifically, there is a differential pattern for men in the household income models. For individual income, men were higher in actual income but *less* satisfied. Their household income is also higher, but in the last model they were *more* satisfied with primary job income. Perhaps it is the case that men in multi-income households are aware that they make more money than their partners (which may serve them as a *reference*), and therefore the wage gap is more salient to them, in turn leading them to be appreciative of their own income (Clark, Frijters, & Shields, 2008)? More research is needed to explore this contrast in the gendered patterns for income and income satisfaction.

#### Limitations and caveats

Although there are many strengths in this study design and analytic strategy, some limitations of the data and methodological caveats should be noted as well. First, in terms of generalizability of research outcome, the data was collected only from institutions that chose to participate in SNAAP, and only from alumni with contact information, so the sample may not be representative of all arts alumni. Additionally, the sample consists of only institutions within the United States, so the findings may not completely generalize to higher education or economic systems in other countries. The survey also had a somewhat low response rate (18%), which may impact the representativeness of the sample, although recent research suggests that surveys with lower response rates can still provide an adequately representative sample (Fosnacht, Sarraf, Howe, & Peck, 2017; Lambert & Miller, 2014). Moreover, a study based on SNAAP 2009 field-test data (Kennedy, Tepper, & Lambert, 2010) did not discover significant response bias that would prevent drawing conclusions from the data. Another potential imitation would be that this study relied on self-reported data and several variables such as individual income, household income, student loan debt, and percentage of income from work as an artists were estimated using midpoints of ranges, so some precision may have been lost in this numeric translation. Therefore, the results should be interpreted with some caution.

Second, much of the value of the study's design, again, builds on the assumption that certain behaviors in artists' careers are associated with certain motivators and that, ultimately, we are able to successfully (or at least partially) identify these emblematic cases of activities among survey items. Previous creativity research has taken a similar approach when it comes to an assessment based on survey responses and when creativity is not directly observable to researchers (Bryant & Throsby, 2006). Still, future research should provide more empirical evidence validating the assumption and, more ambitiously, verifying the mere correlations in a causal research design. For example, it could be the case that the less satisfied artists select (or, are forced) into self-employment, and thus instances of selfemployment and satisfaction levels are simultaneously determined. So, the negative effects on satisfaction might or might not be biased. A causal design would, in turn, exploit exogenous variation in the level of self-employment, i.e. variation independent of individuals' satisfaction levels. For example, the fall of the Berlin wall has been used as an exogenous policy shock, lifting existing restrictions on self-employment in order to study job satisfaction (Benz & Frey, 2008). Moreover, there is clearly a need for more experimental/laboratory evidence when it comes to altruistic behaviours as an alternative source for rewarding creativity and related activities.

#### Conclusion

Artists have different criteria and conceptualizations when it comes to what is considered a "good" job and income. Furthermore, it is not clear what makes them achieve superior levels of satisfaction when compared to groups with similar professional and occupational standing (Bille et al., 2013). In looking at predictors of income and income satisfaction in a large sample of U.S.-based artists, in addition to income and demographic characteristics, we find that there are several sources of non-monetary rewards that predict a non-trivial fraction of their income satisfaction.

More specifically, we identify artistic activities associated with reputational rewards and altruistic behaviors as important sources of artists' utility and, arguably, sources of motivation. For example, awarding prizes and grants generates appreciation and recognition for artistic work that exceeds utilities derived from transferring money and annuities (income alone). However, there are notable trade-offs of rewards. For instance, while altruistic behavior of artists such as personal-time practice and performance in public increases satisfaction, this giving-away culture decreases income from commercial activities. Moreover, based on this study, the evidence on procedural utility from working in the arts is less clear and will need further empirical validation.

Given the wealth of information gleaned from this study, public policies could take these factors and interdependencies more prominently into account when determining intervention goals and when assessing the impact of initiatives based on income figures alone.

## References

- Abbing, H. (2004). Why are artists poor?: The exceptional economy of the arts (1<sup>st</sup> Ed.). Amsterdam: Amsterdam University Press.
- Alper, N. O., & Wassall, G. H. (2006). Artists' careers and their labor markets. In V. A. Ginsburgh & D. Thorsby (Eds.), *Handbook of the economics of arts and culture* (pp. 814-864). Amsterdam: North-Holland.
- Altonji, J. G., Arcidiacono, P., & Maurel, A. (2016). The analysis of field choice in college and graduate school: Determinants and wage effects. In E. A. Hanushek, S. Machin, & L. Woessmann (Eds.), *Handbook of the economics of education*, (vol. 5) (pp. 3144-3259). Amsterdam: Elsevier.
- Amabile, T. (1988). From individual to organizational innovation. In K. Gronhang & G. Kaufmann (Eds.), *Innovation: A cross-disciplinary perspective* (pp. 139-166). Oslo: Norwegian University Press.
- Bennett, D. (2007). Utopia for music graduates. Is it achievable, and how should it be defined? *British Journal of Music Education*, 24(2), 179-189.
- Berger, L., & Stevenson, D. (2007, October). *K-12 entrepreneurship: Slow entry, distant exit.* American Enterprise Institute Conference on the Future of Educational Entrepreneurship, Washington, D.C.
- Bille, T., Fjællegaard, C., Frey, B., & Steiner, L. (2013). Happiness in the arts—International evidence on artists' job satisfaction. *Economics Letters*, *121*(1), 15-18. doi: 10.1016/j.econlet.2013.06.016
- Bille, T., & Jensen, S. (2018). Artistic education matters: survival in the arts occupations. *Journal of Cultural Economics*, *42*(1), 23–43.
- Black, S. E., & Devereux, P. (2010). *Recent developments in intergenerational mobility*. Working paper 15889. Cambridge, MA: National Bureau of Economic Research. Retrieved from <a href="http://www.nber.org/papers/w15889.pdf">http://www.nber.org/papers/w15889.pdf</a>.
- Block, J., Sandner, P., & Spiegel, F. (2015). How do risk attitudes differ within the group of entrepreneurs? The role of motivation and procedural utility. *Journal of Small Business Management*, *53*(1), 183- 206. doi: 10.1111/jsbm.12060
- Bourdieu P. (1992). Les regles de l'art. Paris: Seuil.
- Bryant, W., & Throsby, D. (2006). Creativity and the behavior of artists. In V. A. Ginsburg & D. Throsby (Eds.), *The handbook of the economics of art and Culture* (Vol. 1) (pp. 507-529). Amsterdam: Elsevier.
- Buccafusco, C., & Sprigman, C. (2011). The creativity effect. *University of Chicago Law Review*, 78(1), 31-52. Retrieved from <a href="https://chicagounbound.uchicago.edu/uclrev/vol78/iss1/3/">https://chicagounbound.uchicago.edu/uclrev/vol78/iss1/3/</a>

Cantor, M. (2012, April 23). The 13 most worthless majors. *Newser.* Retrieved from www.newser.com.

Caserta, M., & Cuccia, T. (2001). The supply of arts labour: Towards a dynamic approach. *Journal of Cultural Economics*, *25*(3), 185-201. doi: 10.1023/A:1010902428475

Casacuberta, C., & Gandelman, N. (2012). Multiple job holding: The artist's labor supply approach. *Applied Economics*, *44*(3), 323-337. doi: 10.1080/00036846.2010.508719

Carnevale, A.P., Cheah, B., & Strohl, J. (2012). College majors, unemployment, and earnings:

Not all college degrees are created equal. Washington, DC: Center of Education and the Workforce, Georgetown University.

Caves, R. E. (2000). *Creative industries: Contracts between art and commerce*. Harvard: Harvard University Press.

Chetty, R., Hendren, N., Jones, M. R., & Porter, S. R. (2018). *Race and economic opportunity* 

in the United States: An intergenerational perspective. Working paper 24441. Cambridge, MA: National Bureau of Economic Research. Retrieved from <a href="http://www.nber.org/papers/w24441.pdf">http://www.nber.org/papers/w24441.pdf</a>.

Clark, A. Frijters, P. & Shields, M. (2008). Relative income, happiness, and utility: An explanation for the Easterlin paradox and other puzzles. *Journal of Economic Literature*, 46(1), 95-144. doi: 10.1257/jel.46.1.95

Cowen, T., & Tabarrok, A. (2000). An economic theory of avant-garde and popular art, or high

and low culture. Southern Economic Journal, 67(2), 232-253. doi: 10.2307/1061469

Crane, D. (1987). *The transformation of the avant-garde.* Chicago: University of Chicago Press.

Cuntz, A. (2018). *Creators' income situation in the digital age*. Economic Research Working Paper Series, no. 49. Geneva: World Intellectual Property Organization.

Dumford, A. D., & Miller, A. L. (2017). Assessing alumni success: Income is NOT the only outcome! *Assessment and Evaluation in Higher Education*, *42*(2), 195-207. doi: 10.1080/02602938.2015.1098587.

English, J. F. (2014). The economics of cultural awards. In V. A. Ginsburg & D. Throsby (Eds.), *The handbook of the economics of art and culture* (Vol. 2) (pp.119-143). Amsterdam: Elsevier.

European Commission (2016, September 14). Press release, <a href="http://europa.eu/rapid/press-release">http://europa.eu/rapid/press-release</a> IP-16-3010 en.htm.

Fehr, E. & Schmidt, K. (2006). The economics of fairness, reciprocity and altruism - Experimental evidence and new theories. In S. Kolm & J. M. Ythier (Eds.), *Handbook of the economics of giving, altruism and reciprocity* (Vol. 1) (pp. 615-691). Amsterdam: Elsevier.

Field, A. (2009). Discovering statistics using SPSS (3rd ed.). London: Sage Publications.

Filer, R. K. (1990). Arts and academe: The effects of education on earnings of artists. *Journal of Cultural Economics*, *14*(2) 15-38.

Frey, B. S. (1997). *Not just for the money. An economic theory of personal motivation*. Cheltenham, UK and Brookfield, USA: Edward Elgar.

Frey, B. S. (2000). Creativity, government, and the arts. *De Economist, 150*(4), 363–376. doi: 10.1023/A:1020128016113

- Frey, B. S., & Gallus, J. (2017). Towards an economics of awards. *Journal of Economic Surveys*, *31*(1), 190-200. doi: 10.1111/joes.12127
- Frey, B. S., & Oberholzer-Gee, F. (1997). The cost of price incentives: An empiricial analysis of motivation crowding-out. *The American Economic Review, 87*(4), 746-755. Retrieved from <a href="http://www.jstor.org/stable/2951373">http://www.jstor.org/stable/2951373</a>
- Fortin, N. M. (2008). The gender wage gap among young adults in the United States: The importance of money versus people. *The Journal of Human Resources, 43*(4), 884-918. doi: 10.3368/jhr.43.4.884.
- Fosnacht, K., Sarraf, S., Howe, E., & Peck, L. K. (2017). How important are high response rates for college surveys? *The Review of Higher Education, 40*(2), 245-265. doi: 10.1353/rhe.2017.0003.
- Grant, A., & Berry, J. (2011). The necessity of others is the mother of invention: Intrinsic and prosocial motivations, perspective taking, and creativity. *The Academy of Management Journal*, *54*(1), 73-96. doi: 10.5465/amj.2011.59215085
- Huang, Y., Singh, P., & Mukhopadhyay, T. (2013). *How to design crowdsourcing contest: A structural empirical analysis*. Proceedings of the Conference on Information Systems and Technology, Phoenix, Arizona, USA.
- Kennedy, J., Tepper, S., & Lambert, A. D. (2010, September). *An analysis of mode effects in three survey modes in the Strategic National Arts Alumni Project.* Paper presented at the 2<sup>nd</sup> International Workshop on Internet Survey Methods, Daejeon, South Korea.
- Kerr, S., Kerr, W., & Xu, T. (2017). *Personality traits of entrepreneurs: A review of recent literature*, NBER Working Papers 24097. Cambirdge, MA: National Bureau of Economic Research, Inc.
- Kretschmer, M., Bently, L., Singh, S., & Cooper, E. (2011). Copyright contracts and earnings of visual creators: A survey of 5,800 British designers, fine artists, illustrators and photographers. Bournemouth/Cambridge: Centre for Intellectual Property Policy & Management/Centre for Intellectual Property & Information Law.
- Lambert, A. D., & Miller, A. L. (2014). Lower response rates on alumni surveys might not mean lower response representativeness. *Educational Research Quarterly*, *37*(3), 38-51.
- Lindemann, D. J., Rush, C. A., & Tepper, S. J. (2016). An asymmetrical portrait: Exploring gendered income inequality in the arts. *Social Currents, 2016*, doi: 10.1177/2329496516636399.
- Menger, P.-M. (1999). Artistic labor markets and careers. *Annual Review of Sociology*, 25, 541-
- 574. doi: 10.1146/annurev.soc.25.1.541
- Milgrom, P. R., & Roberts, J. (1992). *Economics, organization, and management*. Englewood Cliffs, NJ: Prentice Hall.
- Moulin, R. (1992). *L'artiste, l'institution et le marche*. Paris: Flammarion. Neckermann, S., Cueni, R., & Frey, B. S. (2014). Awards at work, *Labour Economics*, *31*, 205-217. doi: 10.1016/j.labeco.2014.04.002
- O'Brien, J, & Feist, A. (1995). *Employment in the arts and cultural industries: An analysis of the 1991 census*. London: Arts Council England.

Potts, J., & Shehadeh, T. (2016). *Over-education in Australia's creative industries*, Working Paper. Retireved from http://dx.doi.org/10.2139/ssrn.2838577

Rengers, M. (2002). Economic lives of artists: Studies into careers and the labour market in the cultural sector. Utrecht, the Netherlands: Interuniversity Center for Social Science Theory and Methodology.

Rengers, M., & Madden, C. (2000). Living art: Artists between making art and making a living. *Australian Bulletin of Labour*, 26(4), 325-354.

Robinson, M. D., & Montgomery, S. S. (2000). The time allocation and earnings of artists. *Industrial Relations*, *39*(3), 525–534. doi: 10.1111/0019-8676.00179

Simonton, D. K. (1989). The swan-song phenomenon: Last works effects for 172 classical composers. *Psychology and Aging*, *4*(1), 42-47. doi: 10.1037/0882-7974.4.1.42

Simpson, C. (1981). SoHo: The artist in the city. Chicago, IL: University of Chicago Press. Strategic National Arts Alumni Project. (2012). Annual Report 2012: A diverse palette: What arts graduates say about their education and careers. Bloomington, IN: Center for Postsecondary Research, Indiana University, School of Education.

Steiner, L, & Schneider, L. (2013). The happy artist: An empirical application of the work-preference model. *Journal of Cultural Economics*, *37*(2), 225-246. doi: 10.1007/s10824-012-9179-1

Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (4th ed.). Needham Heights, MA: Allyn & Bacon.

Taylor, B. (1987). Artists in the marketplace: A framework for analysis. In D. Shaw, W. Hendon, & C. R. Waits (Eds.), *Artists and cultural consumers* (pp. 77-84). Akron, OH: Association for Cultural Economics.

Throsby, D. (1994a). A work-preference model of artist behavior. In A. Peacock, & I. Rizzo (Eds.), *Cultural economics and cultural policies* (pp.69-80). Dordrecht: Kluwer.

Throsby, D. (1994b). The production and consumption of the arts: A view of cultural economics. *Journal of Economic Literature*, *32*(1), 1-29. Retrieved from <a href="http://www.jstor.org/stable/2728421">http://www.jstor.org/stable/2728421</a>

Throsby, D. (1996). Disaggregated earnings functions for artists. In V. Ginsburgh & P.-M. Menger (Eds.), *Economics of the arts* (pp. 331-346). Amsterdam: North Holland.

Throsby, D. (2001). Defining the artistic workforce: The Australian experience. *Poetics*, 28(4), 255-271. doi: 10.1016/S0304-422X(01)80003-6

Towse, R. (1996a). The economics of artists labor markets. London: Arts Council of England.

Towse, R. (1996b). Economics of training artists. In V.A. Ginsburgh, P.-M. Menger (Eds.), *Economics of the arts: Selected essays* (pp. 303-332). Bingley, UK: Emerald Group Publishing.

Table 1: Explained Variance for All Regression Models

Outcome	Total R <sup>2</sup>	$\Delta R^2$ for Group 1 Predictors	$\Delta R^2$ for Group 2 Predictors	ΔR <sup>2</sup> for Group 3 (Income) Predictor
Model 1: Individual income (N=40,835)	.287	.238	.050	
Model 2: Satisfaction with income (N=38,826)	.269	.074	.035	.161
Model 3: Household income (N=40,835)	.217	.197	.021	
Model 4: Satisfaction with income (N=38,826)	.200	.075	.034	.093

Note: All  $R^2$  and  $\Delta R^2$  values significant at p<.001 level

Table 2: OLS Regression Results: Predicting Individual Income (Model 1) and Income Satisfaction for Primary Job (Model 2)

	Individual Income		Income Satisfaction	
	Standardized β Coefficient	p	Standardized β Coefficient	p
2012 respondent <sup>1</sup>	.014	.048	.017	.018
2013 respondent <sup>1</sup>	.025	<.001	.000	.947
Applied Arts major <sup>2</sup>	066	<.001	.047	<.001
Fine & Studio major <sup>2</sup>	150	<.001	.031	<.001
Media Arts major <sup>2</sup>	013	.060	.039	<.001
Performing Arts major <sup>2</sup>	145	<.001	.063	<.001
Other major <sup>2</sup>	029	<.001	.001	.821
Overall institution experience	.025	<.001	.082	<.001
Private institution	.009	.189	023	.001
Man	.204	<.001	051	<.001
White	.008	.170	013	.030
Age	.272	<.001	106	<.001
Currently self-employed	136	<.001	047	<.001
Multiple jobs	066	<.001	071	<.001
Primary job in arts field	086	<.001	036	<.001
Artist parent	001	.907	.011	.068
Parent education level	.003	.660	038	<.001
Has graduate degree	.002	.768	059	<.001
Cost of living index	.133	<.001	042	<.001
Student loan amount	041	<.001	017	.015
Percentage of income as artist	.254	<.001	.119	<.001
Percentage of work time as artist	070	<.001	068	<.001
Investment capital available	.019	.002	.020	.001
Prizes/grants available	.016	.008	.033	<.001
Acknowledgement/Publicity of	.034	<.001	.024	<.001
work available				
Avocational art exhibit frequency	067	<.001	.028	<.001
Arts community participation	.085	<.001	004	.510
Individual income			.477	<.001

Note: Statistically significant (*p*<.05) coefficients are bolded <sup>1</sup>Referent group: 2011 respondents <sup>2</sup>Referent group: Architecture & Design majors

Table 3: OLS Regression Results: Predicting Household Income (Model 3) and Income Satisfaction with Primary Job (Model 4)

	Household Income		Income Satisfaction	
	Standardized β Coefficient	p	Standardized β Coefficient	p
2012 respondent <sup>1</sup>	.004	.621	.024	.002
2013 respondent <sup>1</sup>	.030	<.001	.002	.753
Applied Arts major <sup>2</sup>	065	<.001	.040	<.001
Fine & Studio major <sup>2</sup>	161	<.001	.019	.038
Media Arts major <sup>2</sup>	030	<.001	.045	<.001
Performing Arts major <sup>2</sup>	155	<.001	.051	<.001
Other major <sup>2</sup>	028	<.001	004	.493
Overall institution experience	.035	<.001	.082	<.001
Private institution	001	.929	019	.010
Man	.081	<.001	.020	.002
White	.028	<.001	021	.001
Age	.305	<.001	083	<.001
Currently self-employed	065	<.001	089	<.001
Multiple jobs	094	<.001	073	<.001
Primary job in arts field	019	.006	071	<.001
Artist parent	.001	.894	.010	.105
Parent education level	.028	<.001	045	<.001
Has graduate degree	004	.603	059	<.001
Cost of living index	.116	<.001	017	.011
Student loan amount	072	<.001	013	.077
Percentage of income as artist	.026	.012	.231	<.001
Percentage of work time as artist	.023	.023	115	<.001
Investment capital available	.017	.010	.021	.002
Prizes/grants available	.009	.182	.039	<.001
Acknowledgement/Publicity of	.030	<.001	.030	<.001
work available				
Avocational art exhibit frequency	083	<.001	.023	.001
Arts community participation	.106	<.001	.002	.742
Household income			.344	<.001

Note: Statistically significant (*p*<.05) coefficients are bolded <sup>1</sup>Referent group: 2011 respondents <sup>2</sup>Referent group: Architecture & Design majors

Variable	Description
Admin Year: 2011 respondent; 2012 respondent; 2013 respondent	0 = No; 1 = Yes Note: 2011 respondent is referent group in model
Major: Architecture & Design; Applied; Fine & Studio; Media Arts; Performing Arts; Other	0 = No; 1 = Yes Note: Architecture & Design is referent group in model
Overall institutional experience	1 = Poor, 2 = Fair, 3 = Good, 4 = Excellent
Private institution	0 = Public; 1 = Private
Man	0 = Woman; $1 = $ Man
White	0 = non-White (American Indian, Asian, Black/African American, Hispanic/Latino, Hawaiian/Pacific Islander, Other, and Multiracial); 1 = White
Age	Number box
Currently self-employed	0 = No; 1 = Yes
Works multiple jobs	1 = 1 job; $2 = 2$ jobs; $3 = 3$ jobs; $4 = 4$ jobs; $5 = More$ than 4 jobs
Primary job in arts field	0 = Non-arts field; 1 = Arts field
Artist parent	0 = No; 1 = Yes
Parent education level	1 = Did not finish high school 2 = Graduated from high school or equivalent 3 = Attended college but did not complete a degree 4 = Completed an associate's degree (AA, AS, etc.) 5 = Completed a bachelor's degree (BA, BS, etc.) 6 = Completed a master's degree (MA, MS, etc.) 7 = Completed a doctoral degree (PhD, JD, MD, etc.)
Has graduate degree	0 = No; 1 = Yes
Cost of living index (by state)	91.14 to 150.73
Student loan debt amount	0 to 80,000 (midpoints of \$10,000 ranges, then adjusted for inflation by graduation year)

Percent of income from work as artist	2 = Less than 20%; 3 = 21% to 40%; 4 = 41% to 60%; 5 = 61% to 80%; 6 = 81% to 100%
Percent of work time as artist	2 = Less than 20%; 3 = 21% to 40%; 4 = 41% to 60%; 5 = 61% to 80%; 6 = 81% to 100%
Available resource for artistic work: Loans/investment capital; Prizes, grants, or commissions; Publicity/acknowledgement of work	0 = No; 1 = Yes Note: "Yes" combines responses for those who said the resource was important but was NOT lacking
Frequency of publicly performing or exhibiting art in personal time	-1 = Does not make/perform art in personal time; $1 = $ I do not perform or exhibit in public; $2 = $ Less than once a year; $3 = $ 1 or 2 times a year; $4 = $ 3 or more times a year; $5 = $ Continuously in public or online
Arts community participation index	0 to 8.5  Note: weighted sum variable combining "attended an arts event, exhibit, concert or performance (weight of 0.5); "donated money to an arts organization or artist" (weight of 1); "volunteered at an arts organization" (weight of 2); "volunteered to teach the arts" (weight of 2); and "served on the board of an arts organization" (weight of 3)
Individual income	5,000 to 200,000 (midpoints of \$10,000 ranges)
Household income	5,000 to 200,000 (midpoints of \$10,000 ranges)
Income satisfaction	1 = Very dissatisfied; 2 = Somewhat dissatisfied; 3 = Somewhat satisfied; 4 = Very satisfied

Appendix B: Summary Statistics for all Variables

	Mean*	Standard
2011	2.4	Deviation
2011 respondent*	.34	.48
2012 respondent*	.37	.48
2013 respondent*	.29	.45
Architecture & Design major*	.22	.41
Applied Arts major*	.08	.27
Fine & Studio major*	.32	.47
Media Arts major*	.10	.31
Performing Arts major*	.27	.45
Other major*	.01	.10
Overall institution experience	3.48	.66
Private institution*	.47	.50
Man*	.44	.50
White*	.84	.36
Age	43.02	13.78
Currently self-employed*	.63	.48
Multiple jobs	1.76	.93
Primary job in arts field*	.84	.37
Artist parent*	.23	.42
Parent education level	4.69	1.73
Has graduate degree*	.51	.50
Cost of living index	124.60	19.97
Student loan amount	11,652.64	18,716.07
Percentage of income as artist	4.31	1.81
Percentage of work time as artist	4.72	1.56
Investment capital available*	.17	.38
Prizes/grants available*	.26	.44
Acknowledgement/Publicity of work available*	.39	.49
Avocational art exhibit frequency	2.37	2.04
Arts community participation	2.57	2.39
Individual income	53,959.71	43,563.25
Household income	85,305.37	57,639.60
Income satisfaction	2.74	.94

<sup>\*</sup>Means for binary variables reflect the proportion with a flag or "Yes" response