

## Inaugural Music Industry Research Association (MIRA) Survey of Musicians

### Executive Summary

*To further our understanding of the music industry, the Music Industry Research Association (MIRA) and the Princeton University Survey Research Center, in partnership with MusiCares, conducted a survey of 1,227 musicians in the U.S. in 2018. This report summarizes key findings, highlighting the challenges and opportunities that musicians face.*

#### *Key Findings*

- **The average American musician earns income from 3.5 music-related activities per year.** The most common income source is live performances, followed by music lessons and performing in a church choir or other religious service. The median musician in the U.S. earns between \$20,000 and \$25,000 a year. Sixty-one percent of musicians said that their music-related income is not sufficient to meet their living expenses. Respondents highlighted “artistic expression” as their favorite aspect of being a musician.
- **Women make up about one third of musicians, and report experiencing high rates of discrimination and sexual harassment.**
  - Seventy-two percent of female musicians report that they have been discriminated against because of their sex, and 67 percent report that they have been the victim of sexual harassment; corresponding figures for U.S. women more generally are 28 percent and 42 percent, respectively.
  - Sixty-three percent of Non-white musicians said they faced racial discrimination, as compared to 36 percent of Non-white self-employed workers nationwide.
- **Many musicians struggle with mental health problems.** Half of musicians reported feeling down, depressed or hopeless at least several days in the last two weeks, compared with less than a quarter of the adult population as a whole. Musicians were also more likely than the general population to report difficulty sleeping, low energy, trouble concentrating, and feeling bad about themselves.
  - 11.8 percent of musicians reported having “Thoughts that you would be better off dead or hurting yourself in some way” in at least several days in the last two weeks, compared with 3.4 percent for the general population.
- **The incidence of substance abuse is substantially higher among musicians than the general public.**
  - Compared to the general U.S. adult population, musicians are five times more likely to have used cocaine in the last month, 6.5 times more likely to have used ecstasy, 13.5 times more likely to have used LSD, 2.8 times more likely to have used heroin or opium, and 3.5 times more likely to have used meth.
  - Musicians are about twice as likely to drink alcohol frequently (four or more times per week) than the population as a whole: 31 percent versus 16 percent.

*Additional findings from the MIRA survey will be released in coming months, and anonymized data from the survey will be made available to the research community.*

**Inaugural Music Industry Research Association (MIRA) Survey of Musicians\***

**June 19, 2018**

To further our understanding of the music industry, the Music Industry Research Association (MIRA) and the Princeton University Survey Research Center, in partnership with MusiCares, conducted a survey of 1,227 musicians in the U.S. in 2018. MIRA is a nonprofit organization that supports and promotes social science research on critical issues affecting the music industry. This report summarizes initial findings from the MIRA Musician Survey related to musicians' career opportunities and challenges, experience with sex and race discrimination and sexual harassment, mental health, substance abuse, physical health, and health insurance coverage. Where possible, results are compared to a national sample of musicians and to the U.S. general population of adults.

The MIRA Musician Survey was conducted by the Princeton Survey Research Center (SRC) between April 12<sup>th</sup> and June 2<sup>nd</sup> of 2018. The appendix describes the survey in greater detail. In brief, the SRC recruited U.S.-based musicians who were clients of MusiCares and others who were part of a list of music industry personnel maintained by the American List Council. Respondents were also asked to refer other musicians, who SRC attempted to interview. The goal of the survey was to identify and interview a representative group of individuals who earned a living as a musician or music composer, or who were endeavoring to earn a living through making music. We designed the questionnaire specifically to benchmark responses for musicians against the general U.S. population, based on other nationally representative surveys.

Defining musicians and interviewing a representative sample of them is a difficult task. In comparison to musicians (based on occupation) who were surveyed in the American Community Survey (ACS), respondents to our survey tend to earn a higher income, tend to be more highly educated, and tend to be older, although they are quite similar in terms of sex, race and Hispanic ethnicity. Because it was not possible to recruit a large random sample of musicians or one with known probability weights in proportion to their representation in the population, our results should be viewed as providing an approximation, at best, of the population of musicians. In future years, we hope to expand and refine our sampling methods. For now, our results should be viewed as representing the experiences and living conditions of the particular subset of musicians that we were able to identify and who were willing to participate in our survey. Even with this partial sample, several of the findings from the MIRA Musician Survey raise concerns about the lives and careers of many working musicians.

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\* This report was prepared by Professor Alan B. Krueger of Princeton University and Professor Ying Zhen of Wesleyan College, with the able assistance of James Reeves. The survey was implemented by the Princeton University Survey Research Center, under the direction of Ed Freeland. We appreciate the cooperation of MusiCares in partnering with us to recruit many of the musicians who completed the MIRA survey.

## Career Challenges and Opportunities

The ACS provides the most representative picture of the demographic characteristics and income earned by individuals who are classified as musicians, singers and related workers based on their occupation (SOC 27-2040).<sup>1</sup> This group includes musicians and singers as well music directors and composers. The **Appendix Table** indicates that the median musician in the U.S. earned between \$20,000 and \$25,000 a year in the period from 2012 to 2016, according to ACS data. The median musician in our sample reported earning nearly \$35,000 in 2017.

These figures include personal income from all sources. Musicians often earn income from non-music related activities. The MIRA Musician Survey found that the average musician earns two-thirds of their annual income from music-related activities, and one third from non-music related sources. Five percent of the sample earned less than \$100 from music-related activities in 2017. (Recall that the sample includes those who are endeavoring to earn a living through music, as well as professional musicians.) For those who earned more than \$100 in music activities, the average share of income from music-related activities was 82 percent. The median musician in the MIRA Musician Survey earned \$21,300 from music-related sources in 2017.<sup>2</sup>

The median musician earned income from 3.5 different sources in 2017, and the average musician earned income from 3.0 different sources. **Table 1** reports 17 possible sources of music-related income. By far the most common source of income is performing live events. Eighty-one percent of musicians earned income from live events in 2017, and these performances accounted for 42 percent of the average musician's music-related income. The median amount of income earned from live events, for those who reported receiving income from this source, was \$5,428.<sup>3</sup>

The second and third most common sources of income that were selected were giving music lessons (42 percent) and performing in a church choir or other religious services (38 percent). Together with live performances, these three activities accounted for more than two thirds of the average musician's music-related income.

Over a quarter of musicians earned some income from streaming services, composing, merchandise sales, and session work, but each of these sources accounted for less than 5 percent of the average musician's music-related income.

We asked the sample of musicians how much time they devoted to earning income from performing, composing, giving lessons, and non-music work in the last seven days, as well as

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<sup>1</sup> Related workers include composers and music directors.

<sup>2</sup> This figure increases to \$22,500 if the sample is restricted to those who earned more than \$100.

<sup>3</sup> The mean was much higher (\$13,527), indicating a high degree of skewness.

time traveling to and from performances.<sup>4</sup> **Table 2** summarizes the results. The average musician spent 14 hours performing in the preceding week. Performance-related travel took up 5.7 hours and composing another 4.4 hours. Women spent less time performing, traveling and composing than men, but more time giving lessons. Compared to Whites, Non-whites spent less time performing, and more time composing and engaging in non-music work, on average.

The list of music activities in Table 2 is not exhaustive, but consistent with our earlier results, the time allocation data point to the importance of performances in musicians' livelihoods. The results also indicate that musicians, on average, spend more than half as much time earning income from non-music related work, as they do from performances.

Sixty-one percent of musicians said that their music-related income is *not* sufficient to meet their living expenses. When asked about their total income, including non-music related income, 36 percent of musicians said their total income was insufficient to meet their living expenses. Half of Non-whites, and 32 percent of Whites, said their total income was insufficient to meet their living expenses.

One musician who participated in a focus group we held before finalizing the questionnaire pointed out that he has to perform many different genres to meet audience requests and to obtain more work. Consequently, we asked survey respondents to indicate all of the genres that they have performed in the past year from a list of 25 different genres. The musicians performed a wide range of genres. The average musician performed five different genres. The ten most common genres were: Classical (37 percent); Jazz (35 percent); Pop (35 percent); Folk (31 percent); Blues (31 percent); Country (28 percent); Christian (27 percent); Adult Contemporary (24 percent); Independent (23 percent); and Mainstream Rock (23 percent).

The questionnaire also asked musicians to report their primary instrument. Twenty-five percent listed guitar; 17 percent listed piano or keyboards; 15 percent listed voice; 10 percent listed drums; 10 percent listed bass or bass guitar; and 5 percent listed organ. The remainder were spread out over a range of instruments: violin, tuba, trumpet, saxophone, trombone, clarinet, etc.

The survey asked the musicians to indicate what they liked most about being a musician and what they liked least about being a musician. They could select multiple items from the list. **Table 3** summarizes their responses. The musicians highlighted the opportunity for artistic expression, performing, and collaborating with others as the most preferred aspects of being a musician. Several musicians wrote in that they liked aspirational and spiritual aspects of being a musician, such as "changing the world for the better through music" and "connecting with others on a spiritual level through artistic expression."

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<sup>4</sup> They were instructed to "include time spent on performance, rehearsing, practicing, and arranging gigs" in performance time.

On the negative side, financial insecurity and time spent marketing themselves stood out as the least preferred aspects of being a musician. A generally similar pattern was found for men and women, and for Whites and Non-whites. A 58 year-old musician described the financial challenges that musicians face as follows: “At the local level, the pay for a night club gig in 1978 was an average \$100. Forty years later it is the same or less, while the cost of bread, gas, milk, alcohol, housing continues to rise.”

### **Discrimination and Sexual Harassment**

Women are underrepresented in the music industry. According to our tabulations of the ACS, women made up 34.2 percent of musicians in the U.S. in 2016. This is little changed from 2000, when the figure stood at 35.1 percent, and little changed from 1990, when the figure was 32.9 percent (based on Census data). Thirty-five percent of musicians who responded to the MIRA Musician Survey were female, similar to the nationwide figure for musicians from the ACS data.

The share of musicians who are African Americans – both in the MIRA Musician Survey and in the ACS – is close to their share in the overall population.

The first two rows of **Table 4** reports tabulations of responses to the question: “Have you ever felt that you were discriminated against by a client or customer because of your sex?” and an analogous question regarding race. The same questions were included in national survey of self-employed workers, which seems like a reasonable comparison since a large number of musicians work as independent contractors.<sup>5</sup> Results are disaggregated by sex and race of the respondents. In both cases, musicians are substantially more likely than the general population to report that they have felt that they were discriminated against. Fully 71.8 percent of female musicians said that they have felt discriminated against, substantially greater than the 27.8 percent figure for the sample of U.S. self-employed workers.

Non-white musicians are also substantially more likely than non-white self-employed workers to report that they have felt discriminated against because of their race: 63.3 percent vs. 36.0 percent.

The question on sexual harassment (“Have you ever been a victim of sexual harassment?”) was modeled on a 2017 Gallup survey. Female musicians are even more likely than the general population of women to report that they have been a victim of sexual harassment (67.1 percent versus 42.0 percent), and a statistical test indicates that this difference is highly unlikely to be the result of sampling variability.

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<sup>5</sup> The survey of self-employed workers is described in Krueger (2018).

## Mental Health

Several prominent musicians have struggled with depression, anxiety and other mental health problems. A 2016 survey of 2,200 professional musicians in the U.K. by Help Musicians UK found that 71 percent had suffered from anxiety and panic attacks, 69 percent had suffered from depression, and 18 percent had suffered from other forms of mental illness.<sup>6</sup>

In light of these alarming statistics, the MIRA Musician Survey asked a battery of mental health questions that were modeled on the 2015-2016 National Health and Nutrition Examination Survey (NHANES), which is based on a large, representative sample of the general U.S. population. **Table 5** summarizes our findings. Similar to U.K. musicians, our sample of U.S. musicians report high levels of depression.

Half of surveyed U.S. musicians reported feeling down, depressed or hopeless at least several days in the last two weeks, compared with less than a quarter of the adult population as a whole. Musicians were also more likely than the general population to report little interest in doing things, difficulty sleeping, low energy, trouble concentrating, and feeling bad about themselves.

An alarming 11.8 percent of musicians reported having “Thoughts that you would be better off dead or hurting yourself in some way” in at least several days in the last two weeks, compared with 3.4 percent for the general population.

A separate question asked, “Have you ever experienced performance anxiety?” One quarter of respondents marked “Yes, and it is an ongoing issue,” and another 42 percent marked, “Yes, but it does not affect me now.” So only one third of musicians have not experienced performance anxiety at some point in their lives. One musician described the reason for his anxiety as follows: “Like anyone, artists and musicians want to be liked and accepted. But unique to creatives, rejection is not just about the work...It's about you personally...because it's your unique expression, unlike anyone else's.” Another musician referred to “the crushing waves of self-doubt and insecurity around creating art for a living!”

Among musicians, women reported only slightly higher levels of psychological well-being than men. For example, 48 percent of female musicians reported feeling down, depressed or hopeless for at least several days, compared to 52.5 percent of male musicians. Male musicians were about twice as likely as female musicians to have entertained thoughts that they would be better off dead or hurting themselves, 14.2 percent versus 7.2 percent.

The survey included the Cantril Ladder of life question:

Please imagine a ladder with steps numbered from zero at the bottom to 10 at the top. The top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you. On which step of the

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<sup>6</sup> See [https://www.helpmusicians.org.uk/assets/publications/files/1st\\_nov\\_can\\_music\\_make\\_you\\_sick\\_part\\_1-pilot\\_survey\\_report.pdf](https://www.helpmusicians.org.uk/assets/publications/files/1st_nov_can_music_make_you_sick_part_1-pilot_survey_report.pdf).

ladder would you say you personally feel you stand at this time?

The average response for musicians was 6.73. (Male musicians reported an average of 6.71 and female musicians an average of 6.77.) By comparison, a national sample of adults reported an average of 7.19 in 2013 based on the American Time Use Survey (ATUS). (The average for men was 7.15 and the average for women was 7.23 according to ATUS.)

To put these results in context, the difference in the average step on the ladder reported by musicians and the average adult, 0.46, is about half the magnitude of gap in the average Cantril ladder between employed and unemployed men based on ATUS data.

### **Alcohol and Substance Abuse**

Many famous musicians have struggled with drug addiction and alcoholism. To assess the extent of alcohol and substance abuse, and compare musicians to the general adult population, we asked our sample several questions that were modeled on the NHANES and National Survey on Drug Use and Health (NSDUH).

**Table 6** reports the findings for alcohol consumption. Over three-quarters of musicians report having at least one drink per week, compared with just under half of the general adult population. Musicians are also more likely to be frequent drinkers, almost twice as likely as the general population to report that they drink alcohol on four or more days per week.

Conditional on drinking alcohol, musicians report drinking about half a glass less per day than the general population, on average, on days when they drink.<sup>7</sup> Musicians were about twice as likely as the general public to report drinking at least three glasses of alcohol on four or more days per week (12.7 percent versus 6.2 percent).

Female musicians were slightly more likely than male musicians to report that they drink alcohol, but they reported drinking about 20 percent less on days that they drink.

**Table 7** contains our findings concerning marijuana use and drugs that were not prescribed by a physician. Musicians are more likely than other adults to have ever used marijuana, but they are about equally likely to report having used it at least once per month over the last year. Slightly more than a quarter of both musicians and the adult population report that they used marijuana or hashish in the past year.

The incidence of substance abuse is substantially higher among musicians than the general public. Compared to the general U.S. adult population, musicians are five times more likely to have used cocaine in the last month, 6.5 times more likely to have used ecstasy, 13.5 times more

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<sup>7</sup> Note that the MIRA Musician Survey inquired about drinks per day in the last 12 months, whereas the NSDUH population figure is for drinks per day in past month.

likely to have used LSD, 2.8 times more likely to have used heroin or opium, and 3.5 times more likely to have used meth.

Musicians were three times more likely than the general adult population to have used at least one of the drugs listed in Panel B of **Table 7** in the previous month; 5.4 percent of the musicians reported using at least one of the controlled substances in the past month, compared with 1.8 percent for adults overall. And while there may be concern that the sample over represents musicians in need of rehabilitation services because MusiCares provides such services, even for the subset of musicians who were recruited to the sample from the ALC list or were referred by other musicians, the musicians were 2.2 times more likely to have used at least one of the listed drugs than were the general population.

The musicians were asked whether they took any pain medication on the preceding day, such as aspirin, ibuprofen or prescription medication. Thirty-seven percent of musicians responded yes, which is about 50 percent higher than the U.S.-wide figure based on the American Time Use Survey Well-Being module (23.4 percent). Most of the pain medication that musicians reported was over-the-counter medication; only 22 percent of those who reported taking pain medication said they took prescription medication, or about 8 percent of musicians as a whole.

We also asked the surveyed musicians to report their regular intake of various prescription medications. Twelve percent of musicians reported regularly using prescription medication for anxiety; 13 percent reported regularly using prescription medication; 10 percent reported regularly using sleep medication; and 3 percent reported regularly using prescription medication for attention deficit disorder. Lastly, 8 percent of musicians said they take a prescription beta-blocker. We do not have comparable information for the general population.

### **Physical Health and Health Insurance Coverage**

Performing music is physically demanding. **Table 8** reports the percentage of musicians who experienced one of five different music-related injuries. Fully half of musicians indicated that they presently have an injury, with the most common injuries involving back or neck (24.8 percent), repetitive strain (23.0 percent) and hearing (22.2 percent). Almost a quarter (23.9 percent) of musicians had multiple ongoing injuries. Only 19.1 percent of musicians never had one of the indicated injuries. As an indication of the physical challenges that musicians face, one musician stated: “Vision and spine issues are making lugging gear and driving to gigs exceedingly difficult. I can’t stop, because I depend on the income.”

One bright spot for musicians in recent years is that the percentage of musicians with health insurance coverage appears to have increased notably since the Affordable Care Act went into effect. A survey of musicians conducted by the Future of Music Coalition (FMC) in 2013, before the ACA went into effect, asked “Are you CURRENTLY covered by any of the following

types of health insurance or health coverage plans?” Responses included coverage through a current or former employer or union, purchased from an insurance company, Medicare, Medicaid, Tricare or other military health care, Indian Health Service, and other. The FMC survey found that 57 percent of musicians had health insurance coverage in 2013.

For a randomly selected half of our sample, we asked exactly the same health insurance coverage question as FMC. For the other half, we asked the more standard Census Bureau question, “Do you currently have health insurance?” Our results were not very sensitive to the particular question. The FMC version of the question indicated that 87.7 percent of musicians had health insurance in 2018, and the Census Bureau’s variant of the question indicated that 84.6 percent of musicians had health insurance in 2018. In either case, the health insurance coverage rate among musicians was much higher in 2018 than was the case in 2013, based on the FMC survey. About half of musicians with health insurance coverage indicated that they purchased private insurance or were covered by Medicaid, which are two sources of coverage that were expanded under the Affordable Care Act.

In fact, our survey suggests that the health insurance coverage rate of musicians is only slightly below that of all workers. The health insurance coverage rate for the U.S. workers age 19 to 64 as a whole was 88.8 percent in 2016 according to the latest Census Bureau data.<sup>8</sup>

The health insurance that musicians are covered by may be inadequate for their needs in many cases, but if the MIRA and FMC survey results are even roughly accurate, they suggest that there has been a major increase in health insurance coverage for musicians since the Affordable Care Act went into effect.

## **Conclusion**

The survey findings described in this report suggest that many professional musicians face a multitude of problems, including high levels of depression and anxiety, high rates of substance abuse, relatively low incomes, and work-related physical injuries. And while many musicians find features of a musical career particularly alluring, the life a musician presents many challenges.

Because of the nonscientific design of the sampling procedures used to gather data, and the low and possibly selective response rate to our survey, the extent to which the results of the MIRA Musician Survey can be extrapolated to the full population of working musicians is unclear. Nevertheless, the rather disturbing findings documented here call for further monitoring of the conditions faced by many musicians, and support for those musicians who suffer from severe emotional, physical, and financial hardships.

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<sup>8</sup> <https://www.census.gov/library/publications/2017/demo/p60-260.html>

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## **Appendix: The 2018 MIRA Survey of Musicians**

To further our understanding of the music industry, the Music Industry Research Association (MIRA) and the Princeton University Survey Research Center (SRC), in partnership with MusiCares, conducted a survey of 1,227 musicians in the U.S. between April 12<sup>th</sup> and June 2<sup>nd</sup> of 2018. This appendix describes the development of the survey questionnaire and recruitment to the sample.

### *Developing the Survey Questionnaire*

The questionnaire for the MIRA Musician Survey was designed in the first four months of 2018. To develop the questionnaire, we reviewed questionnaires from past surveys of musicians in the US and the UK. To pretest the questionnaire, the Princeton SRC convened two focus groups of six musicians (12 in total) from central New Jersey, Philadelphia and New York. Modifications were made to the questionnaire based on feedback from these two groups of musicians.

To qualify for the survey, respondents had to answer yes to one of the following two screening questions at the beginning of the survey:

- 1) Do you currently earn most of your income as a musician or composer?
- 2) Are you working toward making music the main source of your income?

At the end of the survey questionnaire, we asked respondents if they would be willing to participate in a follow-up survey at a later date. Those who agreed were asked to provide their name, email address, and phone number. We also added a page on which all respondents could provide the names and email addresses of up to five other musicians whom we could invite to complete the survey. A copy of the survey instrument is available at [https://psrc.princeton.edu/archive/questionnaires/MIRA\\_survey\\_June\\_2018.pdf](https://psrc.princeton.edu/archive/questionnaires/MIRA_survey_June_2018.pdf).

The survey was approved by the Princeton Institutional Review Board.

### *Developing the Sample*

The survey was conducted online with Qualtrics software. There are three components to the sample: musicians served by MusiCares, musicians included in a list of musicians provided by the American List Council (ALC), and musicians referred to be surveyed by musicians who were surveyed based on the two previous sources (as well as some referrals from the referred musicians).

To launch the online survey, the Princeton University Survey Research Center partnered with Musicares, a non-profit charitable organization that provides a range of safety net resources for musicians. Musicares is the charitable arm of the Recording Academy, the organization that oversees the Grammy Awards that are presented each year to artists in the music industry. MusiCares maintains a database of email addresses for anyone served by the organization over the past fifteen years. To be eligible for assistance from MusiCares, a musician must have at least five years of professional music industry experience or at least six commercially released recordings or videos. MusiCares' services and resources cover a wide range of financial, medical, and personal emergencies. The most utilized-service MusiCares provided to its clients in the latest fiscal year involved hearing preservation. In addition, MusiCares provides financial assistance for eligible music industry personnel experiencing an unforeseen emergent need, assistance for those impacted by hurricanes or other disasters, support for medical and dental services, and other forms of assistance. Approximately 3 percent of MusiCares' clients in recent years sought help for substance abuse issues (although rehab and related services make up a much larger share of MusiCares' budget).

MusiCares sent email invitations to 11,402 MusiCares clients, of which 9,993 invitations were successfully delivered. Of those initial email invitations delivered, 5,016 were viewed by a recipient. Three additional reminder messages were sent to the MusiCares list over a period of two weeks. A total of 1,409 musicians from the MusiCares database opened the survey and completed interviews were received from 780. Twenty of these respondents were dropped from the sample because they lived outside of the US, bringing the total number of completed interviews from the MusiCares list to 760.

To expand our search for musicians who would qualify for the survey, the Survey Research Center purchased a list from ALC. The list comprised names and contact information (including email addresses) for 17,162 persons associated with businesses in music production and music entertainment in the US, and was derived from multiples sources, including yellow pages, controlled circulation magazines, third party data, websites, and public information from new business licenses. The list was initially checked for duplicate email addresses as well as overlap with the list of email addresses of anyone from the MusiCares list who had already responded to the survey. Many of the groups covered by the list were unlikely to be eligible for the survey (e.g., music therapists, music paralegals), but email invitations were sent to each person in the list. A total of 734 email invitations bounced back because they are no longer active. Of the 851 people from the list who clicked through to the first page of the survey, 627 qualified for the survey (based on responses to the two screener questions) and 377 provided complete responses. Two of these cases were dropped as they were from respondents who do not live in the US, reducing the total number of completed interviews from this source to 375.

Within this combined group of 1,135 completed responses, there were 167 respondents who provided the names and valid email addresses of another 495 musicians who might be eligible for the survey. This method of gathering names for a survey is a form of "snowball" sampling,

so named because the goal is to expand the number of people completing the survey (and referring others) with each successive wave of survey invitations. As the names and email addresses for each successive group of referrals was gathered, it was de-duplicated and checked for overlap with the list of people who had already completed the survey. In all, five waves of snowball sample invitations were released. Within each wave, three reminder messages were sent to sample members who had been sent an initial invitation, but not yet responded.

To increase their incentive to respond, the snowball sample members were offered a \$5 Amazon e-gift card for completing the online interview. We had not offered this incentive to either the Musicares list members or the ALC list members as we were concerned about inducing fraudulent responses. In addition, these sample members were not told that the fellow musicians they were referring for the survey would be offered this \$5 incentive. We expected that fraudulent responses would be much less likely for the snowball sample members because they had, in a sense, been “pre-screened” by the people who referred them for the survey.

In addition to the referrals from the Musicares and ALC list samples, there were 27 snowball respondents who themselves provided an additional 67 referrals, bringing the total number of snowball invitations to 562. Of these, 136 people opened the online survey, of whom 126 were eligible to take the survey (based on the two screener questions) and 92 completed the interview. Thus, the total number of completed interviews from all three sources used for the survey is 1,227.

### *Sample Representativeness*

To explore whether the sample was representative of musicians living in the US, we compared the distributions of several key demographic variables to benchmark characteristics from the American Community Survey (ACS), pooled over the years 2012-16. Specifically, we used the ACS national estimates for the population of US adults in the standard occupational classification (SOC) for musicians (27-2040). This occupational category includes two sub-categories: Music Directors and Composers (27-2041) and Musicians and Singers (27-2042). According to the most recently available ACS 5-year estimates, there are 263,438 adult American workers who are employed as musicians or composers. If we examine how this population is distributed in terms of age, sex, income and other demographic characteristics, we can evaluate how accurately our sample of 1,227 survey respondents corresponds to the population of musicians in the US. The Appendix Table below shows how the national distributions compare with the unweighted distributions in our sample.

The table shows that our sample turns out to be closely representative of the US population of musicians in terms of race, sex, Hispanic ethnicity, and marital status. Younger musicians and those born outside the US are somewhat under-represented, as are those with lower education levels and lower incomes. Given this high degree of correspondence between the sample and the

national population of musicians in terms of demographic characteristics, we decided *not* to derive sampling weights for the survey data for purposes of this analysis. Thus, all statistics for surveyed musicians contained in this report are unweighted. While it is possible that our sample of musicians differs from the national population of musicians in important respects that are not reflected in the demographic characteristics that we have examined in the ACS, at least in terms of income and educational attainment, our sample appears more advantaged than the national population of musicians.

**Appendix Table: Comparison of MIRA Musician Sample to U.S. Population of Musicians from ACS**

2012-2016 ACS WEIGHTED 5-YEAR ESTIMATES - PUBLIC USE MICRODATA SAMPLE				
OCCUPATION= 27-2040				
AGE 18 AND OLDER				
	U.S.		SAMPLE (Unweighted)	
RACE	<u>263,438</u>	<u>Percent</u>	<u>1,227*</u>	<u>Percent</u>
White alone	207121	79%	941	78%
Black or African American alone	32865	12%	159	13%
Native American	1072	0.4%	11	1%
Asian or Pacific Islander	10250	4%	10	1%
Two or more races	6733	3%	70	6%
Some other race alone	5397	2%	15	1%
HISPANIC	263,438			
Not Spanish/Hispanic/Latino	241,134	92%	1158	95%
Hispanic	22,304	8%	58	5%
SEX	263,438			
Male	172,032	65%	791	65%
Female	91,406	35%	434	35%
MARITAL STATUS	263,438			
Married	127,579	48%	596	49%
Widowed	10,219	4%	16	1%
Divorced	28,675	11%	202	17%
Separated	5,170	2%	23	2%
Never married or under 15 years old	91,795	35%	375	31%
AGE	263,438			
18-24	29,665	11%	8	1%
25-29	26,697	10%	62	5%
30-34	26,517	10%	110	9%
35-39	20,101	8%	121	10%
40-44	20,041	8%	121	10%
45-49	19,837	8%	119	10%
50-54	21,552	8%	119	10%
55-59	25,495	10%	166	14%
60-64	26,462	10%	194	16%
65-78	47,071	18%	184	15%

EMBARGOED UNTIL 9 AM EST, JUNE 22, 2018

2012-2016 ACS WEIGHTED 5-YEAR ESTIMATES - PUBLIC USE MICRODATA SAMPLE				
OCCUPATION= 27-2040				
AGE 18 AND OLDER				
	U.S.		SAMPLE (Unweighted)	
EDUCATION	Count	Percent	Count	Percent
8th grade or lower	4,220	2%	4	0.3%
9th-12th	10,331	4%	25	2%
HS grad	41,493	16%	76	6%
Some college	65,843	25%	273	22%
Associate's degree	13,085	5%	86	7%
Bachelor's degree	74,361	28%	375	31%
Master's degree	43,398	16%	275	23%
Professional degree beyond a bachelor's degree	4,119	2%	10	1%
Doctorate degree	6,588	3%	93	8%
NATIVITY				
Native	232,965	88%	1130	93%
Foreign born	30,473	12%	85	7%
Personal Income Past 12 Months				
Less than 5000	39,930	15%	68	6%
Between 5000 and 7499	13602	5%	46	4%
Between 7500 and 9999	10,963	4%	35	3%
Between 10000 and 12499	17,989	7%	61	5%
Between 12500 and 14999	9,892	4%	67	6%
Between 15000 and 19999	21,442	8%	71	6%
Between 20000 and 24999	21,486	8%	97	8%
Between 25000 and 29999	16,394	6%	85	7%
Between 30000 and 34999	15,458	6%	74	6%
Between 35000 and 39999	11,511	4%	68	6%
Between 40000 and 49999	20,828	8%	113	9%
Between 50000 and 59999	14,048	5%	107	9%
Between 60000 and 74999	15,264	6%	115	10%
Between 75000 and 99999	11,258	4%	108	9%
Between 100000 and 149999	8,205	3%	58	5%
150000 or more	15,168	6%	18	2%

EMBARGOED UNTIL 9 AM EST, JUNE 22, 2018

2012-2016 ACS WEIGHTED 5-YEAR ESTIMATES - PUBLIC USE MICRODATA SAMPLE				
OCCUPATION= 27-2040				
AGE 18 AND OLDER				
	U.S.		SAMPLE (Unweighted)	
Household Income Past 12 Months				
Less than 5000	5982	2%	39	3%
Between 5000 and 7499	3,023	1%	34	3%
Between 7500 and 9999	2,748	1%	20	2%
Between 10000 and 12499	5,238	2%	29	2%
Between 12500 and 14999	4,385	2%	37	3%
Between 15000 and 19999	8,391	3%	53	4%
Between 20000 and 24999	9,689	4%	62	5%
Between 25000 and 29999	9,120	3%	57	5%
Between 30000 and 34999	9,730	4%	49	4%
Between 35000 and 39999	11,006	4%	60	5%
Between 40000 and 49999	19,930	8%	101	9%
Between 50000 and 59999	20,206	8%	99	8%
Between 60000 and 74999	26,683	10%	121	10%
Between 75000 and 99999	33,473	13%	148	13%
Between 100000 and 149999	36,741	14%	179	15%
150000 or more	34,348	13%	94	8%
*Note: Total count of musicians from ACS is 263,438 and maximum sample size for MIRA Survey of Musicians is 1,227; some sample distributions for musicians may not sum to 1,227 due to missing data.				

Table 1: Sources and Shares of Music-Related Income

	Earned Income From	Share of Music- Related Income	Median Amount Earned
	(1)	(2)	(3)
Live Performances (Non-Religious)	80.8%	41.6%	\$5,427.50
Audio/Video Recordings	35.6%	3.6%	\$850.00
Songwriting/Composing	28.8%	4.2%	\$850.00
Salary from Band/Symphony/Ensemble	18.1%	4.9%	\$4,000.00
Merchandise Sales	27.4%	2.7%	\$500.00
Producing	14.7%	2.3%	\$2,000.00
Session/Sideman Fees	34.6%	4.0%	\$1,000.00
Fan Funding/Patronage	7.3%	1.3%	\$2,800.00
Sponsorship	5.0%	0.4%	\$2,000.00
YouTube Monetization	7.2%	0.1%	\$53.00
Streaming Royalties	28.1%	1.5%	\$100.00
Sheet Music Sales	6.0%	0.2%	\$112.50
Ringtones Revenue	3.7%	0.0%	\$300.00
Church, Choir, Other Religious	38.2%	15.9%	\$8,000.00
Record Label Advance	4.5%	0.3%	\$4,000.00
Give Music Lessons	41.8%	12.0%	\$4,000.00
Other Music Related	14.6%	5.1%	\$7,000.00

Note: This table reports the fraction of musicians who reported earning income from the listed source. The sample includes musicians from the MIRA survey who live in the US, are age 18+, have non-missing age, have non-zero sources of music-related income, and have positive music-related earnings. Column 3 additionally includes only observations who reported positive earnings from that source. Shares may not add to one due to rounding. Samples include up to 787 observations.

Table 2: Hours Spent on Music-Related Work

	Musicians	Male	Female	White	Non-White
	(1)	(2)	(3)	(4)	(5)
Hours Performing	14.13	14.93	12.56	14.33	13.45
Hours Traveling	5.70	6.07	4.97	5.78	5.20
Hours Composing	4.37	5.28	2.71	3.82	6.58
Hours Giving Lessons	3.60	2.83	4.96	3.66	3.20
Non-Music Work Hours	7.85	7.40	8.69	7.31	10.08

Note: This table reports the distribution of reported average work hours in the past seven days for musicians. The sample includes musicians from the MIRA survey who live in the US, are age 18+, have non-missing age, and have non-zero sources of music-related income. Respondents who reported 0 hours of work for all categories, or whose sum of these categories was larger than 168 are excluded. Samples include up to 1,117 observations.

Table 3: Favorite and Least Favorite Aspects About Being a Musician

	Musicians
<i>Panel A: Likes</i>	(1)
Artistic Expression	81.0%
Performing	70.3%
Audience Appreciation	48.7%
Collaborating	63.7%
Financial Rewards	22.6%
Other	17.8%
<i>Panel B: Dislikes</i>	
Unknown Career Trajectory	38.6%
Time Management	16.2%
Financial Insecurity	70.0%
Opportunity Costs	35.3%
Dealing with Logistics	24.2%
Working/Collaborating with Others	1.6%
Time/Effort into Getting Paid	25.3%
Time/Effort into Marketing Oneself	40.6%
Unstable Fan Base	13.3%
Other	13.0%

Note: This table reports the share of musicians who marked characteristics of being a musician that they like the most and like the least. The sample include musicians from the MIRA survey who live in the US, are age 18+, have non-missing age, and have non-zero sources of music-related income. Samples include up to 1,116 observations.

Table 4: Discrimination and Sexual Harassment

	Male		Female		White		Non-White	
	Musicians	National	Musicians	National	Musicians	National	Musicians	National
<i>Panel A: Discrimination</i>	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Discriminated Because of Race?	24.4%	16.9%	26.0%	11.1%	13.9%	10.6%	63.3%	36.0%
Discriminated Because of Sex?	12.6%	10.7%	71.8%	27.8%	31.6%	14.0%	39.2%	31.7%
<i>Panel B: Sexual Harassment</i>								
Victim of Sexual Harassment?	16.8%	11.0%	67.1%	42.0%	33.7%		37.5%	

Notes: The musicians sample in column 1 contains all respondents living in the US, aged 18+, have non-missing age, and non-missing gender or race. The national sample in panel A comes from the Princeton Self-Employment Survey and contains respondents who are self-employed and aged 18+. The national sample in panel B comes from a 2017 Gallup survey on sexual harassment and includes respondents aged 18+. Samples include up to 929 observations in the musicians samples, up to 986 observations in the Princeton Self-Employment Survey, and up to 558 observations in the Gallup survey.

Table 5: Mental Health and Depression

	All Respondents	
	Musicians (1)	National (2)
<i>Panel A: Have Little Interest in Doing Things</i>		
Not at All	55.7%	76.4%
Several Days	30.7%	15.8%
More than Half the Days	9.5%	4.3%
Nearly Every Day	4.2%	3.6%
<i>Panel B: Feeling Down, Depressed or Hopeless</i>		
Not at All	49.0%	76.7%
Several Days	37.6%	17.0%
More than Half the Days	8.5%	3.6%
Nearly Every Day	4.8%	2.6%
<i>Panel C: Trouble Sleeping or Sleeping Too Much</i>		
Not at All	38.8%	60.5%
Several Days	39.4%	24.3%
More than Half the Days	13.5%	7.3%
Nearly Every Day	8.3%	8.0%
<i>Panel D: Feeling Tired or Having Little Energy</i>		
Not at All	26.0%	45.8%
Several Days	48.3%	38.2%
More than Half the Days	15.0%	8.4%
Nearly Every Day	10.6%	7.7%
<i>Panel E: Feeling Bad About Yourself</i>		
Not at All	52.7%	83.9%
Several Days	30.4%	11.2%
More than Half the Days	9.8%	2.5%
Nearly Every Day	7.2%	2.4%
<i>Panel F: Trouble Concentrating on Things</i>		
Not at All	62.8%	84.1%
Several Days	25.1%	10.5%
More than Half the Days	7.3%	2.8%
Nearly Every Day	4.8%	2.6%
<i>Panel G: Thoughts you Would be Better Off Dead</i>		
Not at All	88.2%	96.6%
Several Days	8.4%	2.3%
More than Half the Days	1.9%	0.7%
Nearly Every Day	1.4%	0.4%

Notes: The musicians sample contains all respondents from the MIRA survey who are living in the US, aged 18+, and have non-missing age. All responses refer to a respondent's reported feelings in the last 14 days. Nationally representative data come from the 2015-2016 National Health and Nutrition Examination Survey (NHANES), include respondents aged 18+ and use appropriate sampling weights. Samples include up to 1,202 observations in the musicians sample and up to 5,161 observations in NHANES.

Table 6: Alcohol Use

	All Respondents	
	Musicians	National
	(1)	(2)
Drinker	78.0%	46.0%
Non-Drinker	22.0%	54.0%
Frequent Drinker	31.3%	15.9%
Infrequent Drinker	68.7%	84.1%
Days Drank per Week in Past 12 Months	2.50	1.42
Drinks per Day in Past 12 Months	2.12	2.82

Notes: Musicians sample includes respondents from the MIRA survey who are living in the US, aged 18+, and have non-missing age. Drinker is one for all respondents who reported drinking at least one day per week, and zero otherwise. Frequent drinker is one for all respondents who reported drinking four or more days per week, and is zero otherwise. Drinks per Day in Past 12 Months is conditional on the days in which the respondent drank. Nationally representative data come from the 2016 National Survey on Drug Use and Health (NSDUH), and includes respondents aged 18+ and use appropriate sampling weights. Drinks per day in past 12 months is not available from NSDUH; consequently, the table shows drinks per day in past month based on NSDUH. Samples include up to 1,202 observations in the musicians sample and 22,884 observations in NSDUH.

Table 7: Drug Use

	All Respondents	
	Musicians	National
	(1)	(2)
<i>Panel A: Marijuana Use (age 18-59)</i>		
Ever Used	71.4%	57.2%
At Least Once Per Month for Past 12 Months	28.7%	28.2%
<i>Panel B: Other Drug Use in Past Month (age 18+)</i>		
Any of Below	5.4%	1.8%
Cocaine or Crack Cocaine	3.7%	0.7%
Ecstasy	1.4%	0.2%
LSD or Acid	1.8%	0.1%
Speed	1.3%	0.7%
Heroin or Opium	0.5%	0.2%
Meth	0.9%	0.3%

Notes: The musicians sample contains respondents from the MIRA survey who are living in the US and have non-missing age. The question "At Least Once Per Month..." is unconditional on ever using. The sample for "Any of Below" is further restricted to include only respondents who answered all remaining panel B questions. The type of pain medication question is conditional on taking pain medication the previous day. All national statistics use appropriate sampling weights. The national data in panel A come from the 2015-2016 National Health and Nutrition Examination Survey (NHANES). The national data in panel B come from the 2016 National Survey on Drug Use and Health (NSDUH). Samples include up to 1,195 observations in the musicians survey, up to 3,428 observations in NHANES, and up to 42,625 observations in NSDUH.

Table 8: Musicians' Injuries

	Ongoing Issue	Past Issue	Never an Issue
	(1)	(2)	(3)
Hearing Issues	22.2%	15.4%	62.4%
Repetitive Strain	23.0%	24.4%	52.6%
Back or Neck Injury	24.8%	25.0%	50.2%
Hand or Finger Injury	15.4%	27.1%	57.4%
Vocal Injury	6.2%	17.7%	76.2%
Any of the Above	50.0%	59.5%	19.1%

Notes: This table reports the share of musicians who have suffered one of the listed injuries. The sample includes musicians from the MIRA survey who live in the US, are aged 18+, and have non-missing age. The last row is restricted to observations who answered all injury questions. In the last row, columns 1 and 2 represent the fraction of musicians who have an ongoing or past issue, and column 3 represents the fraction of musicians who never had an issue. Samples include up to 1,199 observations.