

## **Selected Aspects of Musical Listening Habits of A College Population in Texas**

### ***Introduction: The Demographics in the State of Texas and at Texas State University***

Texas is one of the 50 states of the United States of America. It is the second largest state in the US, both in terms of population as well as area. Texas has an area of 696,200 km<sup>2</sup> and a rapidly growing population of an estimated 22.8 million residents (July 2005).<sup>1</sup> The population is almost evenly split between females (50.05%) and males (49.95%). In terms of ethnicity in July 2005, the population was comprised of 49.12% Whites, 35.61 Hispanics, 6.99% Blacks, 3.90% Others, and of 4.38% with an unknown ethnicity. Although the largest ethnic group is still of white European origin, a large (and rapidly growing) population is of Hispanic ethnicity, which may possibly be reflected in certain musical listening habits. In terms of age groups, Texas had the following estimated distribution in 2005<sup>2</sup>: ages 1-17: 27.16%; ages 18-23: 9.18%; ages 24-29: 8.92%; ages 30-39: 14.74%; ages 40-49: 14.66%; ages 50 and older: 25.34%.

Texas State University-San Marcos is the flagship university of the Texas State University System.<sup>3</sup> In Spring 2005, 25,023 students were enrolled at the university, 14,148 (56.54%) female and 10,875 (43.46%) male students. The ethnic composition of the student body was as follows: 17,664 White students (70.59%), 4,742 Hispanic students (18.95%), 1,241 Black students (4.96%), 705 Other (2.81%) students, and 701 students of unknown ethnicity (2.80%). In terms of age groups, the university had (in 2005) the following student numbers: ages 1-17: 1 (0%); ages 18-23: 14,499 (57.94%); ages 24-29: 6,763

---

<sup>1</sup> The demographic information on the State of Texas is taken from the website of the Texas State Data Center and Office of the State Demographer, <http://txsdc.utsa.edu>, last accessed on July 6, 2009. The data presented here are estimates for the summer (July 1) of 2005 – the year the survey discussed in this book was administered. The methodology for the demographic data estimates is described in details on the website mentioned above.

<sup>2</sup> These age groups are used here to match the age groups used for the survey that is discussed in this book. The percentages are based on the data by the Texas State Data Center and Office of the State Demographer (see above).

<sup>3</sup> The following data has been taken from the website of Institutional Research at Texas State University-San Marcos (<http://www.ir.txstate.edu>, last accessed on July 7, 2009). Despite the fact that faculty and staff participated in the survey for this study (in a very low percentage), please note that the university data only includes students, but not faculty or staff, because the data for faculty and staff have not been available.

(27.03%); ages 30-39: 2,342 (9.36%); ages 40-49: 987 (3.94); ages 50 and older: 431 (1.72%). Compared to the demographic information for the entire State of Texas, Texas State University-San Marcos had a slightly higher percentage of female students and a lower percentage of male students, a higher percentage of White students and a lower percentage of Hispanic and Black students. Reflecting the emphasis on undergraduate and graduate education, the university had higher percentages of students ages 18 through 29, compared to the general population in the State of Texas. Table 1 displays these demographic data of the State of Texas and of Texas State University-San Marcos, in comparison to the demographic data of the participants in this study (see the next chapter).

		State of Texas	Texas State University-San Marcos	Survey Participants
<b>Overall Population</b>		22,859,968	25,023	260
<b>Gender</b>	<b>Female</b>	50.05%	56.54%	49.6%
	<b>Male</b>	49.95%	43.46%	49.6%
	<b>Unknown</b>	0%	0%	0.8%
<b>Ethnicity</b>	<b>White</b>	49.12%	70.59%	71.5
	<b>Hispanic</b>	35.61%	18.95%	20.8
	<b>Black</b>	6.99%	4.96%	4.6
	<b>Other</b>	3.90%	2.81%	2.7
	<b>Unknown</b>	4.38%	2.80%	0.4
<b>Age</b>	<b>1-17</b>	27.16%	0%	[no participants]
	<b>18-23</b>	9.18%	57.94%	85.4
	<b>24-29</b>	8.92%	27.03%	9.6%
	<b>30-39</b>	14.74%	9.36%	2.7%
	<b>40-49</b>	14.66%	3.94%	1.5%
	<b>50-59</b>	25.34%	1.72%	0.8%

**Table 1: Demographic Data (Percentages) from the State of Texas, Texas State University-San Marcos, and the Survey Participants**

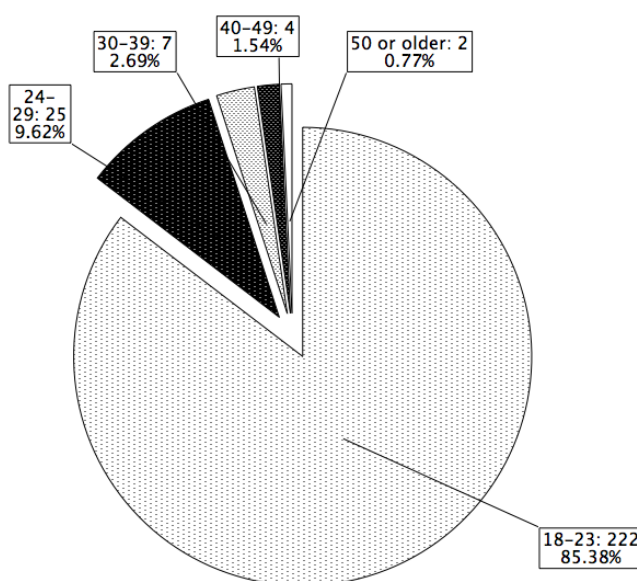
***The Demographic Make-Up of the Texas Survey Participants***

The survey for this study was administered during the Spring 2005 semester, which started in January and ended in early May. The survey was primarily given to undergraduate students taking general education courses, especially “Introduction to Fine Arts”, but also to students in undergraduate music theory courses in order to include some music majors and in selected graduate courses to include students older than 23 years old. In addition, the survey was given to

a random sample of faculty and staff, only few of whom decided to complete the survey.

The total number of survey subjects was 260, exactly 129 (49.6%) of whom were female and 129 (49.6%) were male.<sup>4</sup> Thus, the sample consisted of equal numbers of males and females. The majority of the sample (222 students; 85.4%) consisted of individuals between the ages 18 and 23. Only 25 subjects were between 24 and 29 years old; the remaining age categories had fewer than 10 subjects each, as displayed in Figure 1. In terms of ethnicity, 71.8% of the sample (186 subjects) were White, 20.8% (54 subjects) were Hispanic, 4.6% (12 subjects) were African-American, and 2.7% (seven subjects) were of Asian or other ethnicity; see Figure 2.<sup>5</sup> Because of the low participation of persons of African-American, Asian, and other ethnicities, only White as well as Hispanic ethnicities have been considered in this chapter for possibly detecting ethnicity differences in answering certain survey questions.

The income of the Texas survey subjects was relatively low, due to the fact that almost all of them were students: 65% of them had an income of less than \$10,000; among those, 29.2% (of the overall population) had an income of less than \$2,000. See Table 2 for complete income information. No significant gender or ethnicity differences could be observed in terms of income.

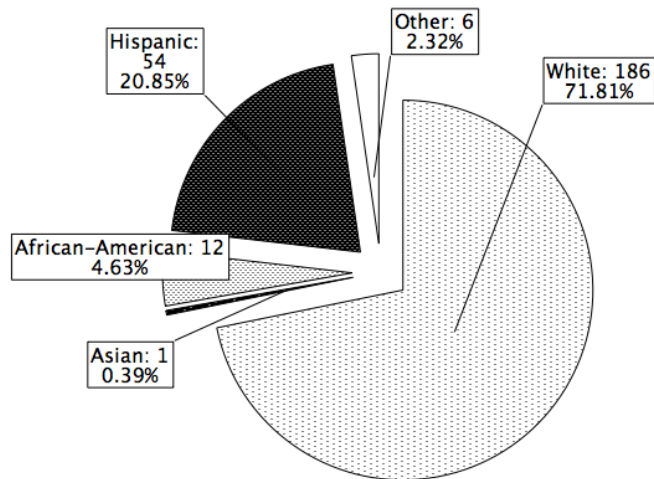


**Figure 1: Numbers and Percentages of Survey Participants in Age Groups**

---

<sup>4</sup> Two subjects (0.8%) chose not to answer the gender question.

<sup>5</sup> One subject chose not to answer the ethnicity question. It was excluded from the percentage calculation.



**Figure 2: Ethnicity of Survey Participants**

Income	Number of Subjects	Percentage
Less than \$2,000	76	29.2
\$2,000 - \$10,000	93	35.8
\$10,001 - \$20,000	42	16.2
\$20,001 - \$40,000	19	7.3
More than \$40,00	30	11.5

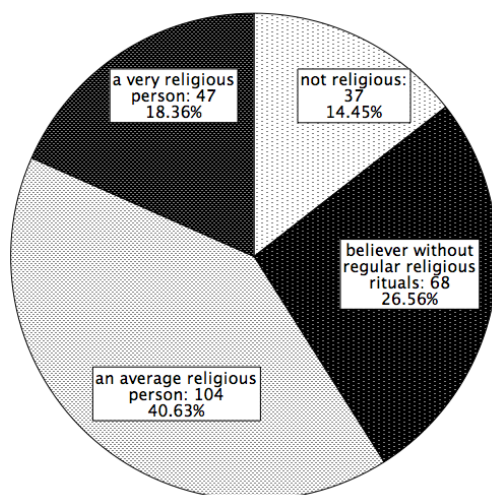
**Table 2: Income of Survey Participants**

Undergraduate (Bachelor) students were in the majority (93.4%) of the sample. The sample consisted of only four graduate students and 13 faculty. Of the 13 faculty, four were tenured, four were un-tenured (tenure-track) faculty, and five held (non-tenure track) instructor positions. See Table 3.

University Status	Frequency	Percentage
Tenured Faculty	4	1.5
Non-Tenured Faculty	4	1.5
Instructor	5	1.9
Undergraduate Student	242	93.1
Graduate Student	4	1.5
Unknown	1	0.4

**Table 3: University Status of Survey Participants**

The majority of the survey participants rated themselves to be religious. Only 37 subjects (14.45% of the subjects with valid answers to this question) classified themselves as not religious. See Figure 3.<sup>6</sup>



**Figure 3: Self-Assessed Religiousness of Survey Participants**

### ***Musical Background and Experience of the Survey Participants***

Of the Texas survey participants, 43.6% (113) have played an instrument. An additional 26.3% (68) still play an instrument. Thus, 69.9% had practical experience in music performance. Only 30.1% (78) have never played an instrument.<sup>7</sup> However, Table 4 shows a gender difference in the answers to this question. While there is no significant gender difference in the percentage of those who never played an instrument, a much higher percentage of male subjects reported that they are still playing an instrument, compared to female subjects; thus, a higher percentage of female subjects gave up playing an instrument.

Of the entire sample, 51% (132) have been a member in a musical (performance) group. And additional 11.2% (29) are still members of a music ensemble. Thus, 62.2% of the subjects who provided an answer to this question<sup>8</sup> have been performing music in ensemble settings (of which band and choir in middle or high school likely played an extraordinary role). 37.8% (98) of the subjects did not play in an ensemble. For this question, too, gender differences

---

<sup>6</sup> Four subjects chose not to answer the question on religion. These subjects were excluded from the percentage calculation.

<sup>7</sup> One subject did not answer this question. It was excluded from the percentage calculation.

<sup>8</sup> One subject did not answer this question. It was excluded from the percentage calculation.

can be observed; see Table 4. While fewer female than male subjects had never participated in any ensemble, a much higher percentage of male subjects reported to be still active in an ensemble, compared to female subjects.

	All Subjects	Female Subjects	Male Subjects
Never played an instrument	30.1%	31.8%	28.1%
Have played an instrument	43.6%	53.5%	34.4%
Still play an instrument	26.3%	14.7%	37.5%
Never been and active member a band	37.8%	35.7%	39.5%
Was an active members of a band in the past	51%	62%	40.3%
Still an active member of a band	11.2%	2.3%	19.4%

**Table 4: Gender Differences in Instrumental Performance Background**

Comparing the results of the question on playing an instrument in general and on performing in an ensemble, one can observe that only 20 subjects (11%) of the 181 subjects who have played or still play an instrument have not performed in an ensemble setting. In other words, 89% of all subjects with instrumental experience have performed in an ensemble setting. To show a statistical correlation between having played a musical instrument and having belonged to an ensemble, the Spearman correlation test was used, which resulted in a statistically significant correlation (Spearman's  $\rho = .610$ ,  $df = 172$ ,  $p < .001$ ). It goes to support that a majority of individuals who have played an instrument did, at one time, belong to an ensemble.

When asked if they received additional music instruction (lessons) besides the instruction in elementary, middle, or high school 55% (143 subjects) of the survey participants reported that they did not, while 12.3% (32 subjects) were self-taught, 28.5% (74 subjects) had received additional instruction in the past, but not any more, and 4.2% (11 subjects) reported to still take music lessons. This question also exposed gender differences, as displayed in Table 5. Significantly more female students reported that they had received no additional instruction besides in elementary through high school. A much higher percentage of male subjects reported to be self-taught, compared to female subjects, and more male subjects were still taking lessons than female subjects.

<b>Additional Music Instruction besides the one in Elementary, Middle, or High School?</b>	<b>All Subjects</b>	<b>Female Subjects</b>	<b>Male Subjects</b>
No additional music instruction	55%	64.3%	45.7%
Self-Taught	12.3%	4.7%	20.2%
Yes, in the past, but not any more	28.5%	29.5%	27.9%
Yes, and still taking lessons	4.2%	1.6%	6.2

**Table 4: Gender Differences in Additional Music Instruction**

Of those subjects who had any additional music instruction besides that in elementary, middle, or high school, 56.1% reported having had less than one year of additional instruction, 22% reported having had one to two years of additional instruction, 10.4% three to four years of additional instruction, 4% five to six years, and 7.5% more than six years. No significant gender differences could be observed for this question.

When asked if at least one of their parents had additional music instruction besides the one in elementary, middle, or high school, 31% answered “yes”, while 68.6% answered with “no”.

### ***Music Media for Listening***

The questionnaire contained four questions related to music media. Asked how many recordings (CDs, DVDs, tapes) the participants own, 62 subjects (23.9%)<sup>9</sup> reported owning less than 50 recordings. A large group of 72 subjects (27.8%) owned between 50 and 100 recordings each, while 63 subjects (24.3%) owned between 101 and 200 recordings. Of all subjects, 25 (9.7%) owned between 201 and 300 recordings, and 37 subjects (14.3%) owned more than 300 recordings. However, a look at gender and ethnicities revealed the following differences: Female subjects owned fewer recordings than male subjects, and Hispanic subjects owned fewer recordings than White subjects. Specifically, 58.1% of all female subjects owned up to 100 recordings, and 41.9% of all female subjects owned more than 100 recordings. This contrasts with 45.3 of all male subjects owning up to 100 recordings, and 54.7% of the male subjects owned more than 100 recordings. Similarly, 55.6% of the Hispanic subjects owned up to 100 recordings and 44.4% of all Hispanics owned more than 100 recordings, while 50.3% of all White subjects owned up to 100 recordings and 49.7% owned more than 100 recordings. For a detailed statistical breakdown, see Table 5.

---

<sup>9</sup> One subject did not answer this question. It was excluded from the percentage calculation.

Number of Recordings	All Subjects	Female Subjects	Male Subjects	White Subjects	Hispanic Subjects
<50	23.9%	26.4%	21.1%	24.3%	24.1%
50-100	27.8%	31.8%	24.2%	25.9%	31.5%
101-200	24.3%	22.5%	26.6%	26.5%	24.1%
201-300	9.7%	8.5%	10.2%	11.4%	5.6%
>300	14.3%	10.9%	18.0%	11.9%	14.8%

**Table 5: Gender and Ethnicity Differences in the Number of Recordings Owned by Survey Subjects**

Asked if they purchased any recordings – and how many – over the past six months, 32 subjects (12.3%) denied having bought any recordings, 79 subjects (30.4%) reported having purchased one or two recordings, 58 subjects (22.3%) acknowledged the purchase of three or four recordings, 31 subjects (11.9%) had bought five or six recordings, and 60 subjects (23.1%) indicated to have bought more than six recordings. Here, too, some gender and ethnicity differences in the answers could be observed: A much higher number of female subjects purchased fewer recordings, while a higher number of male subjects purchased a greater volume of recordings. Similarly, a higher number of White subjects purchased fewer recordings, while a higher number of Hispanic subjects purchased a greater volume of recordings. See Table 6.

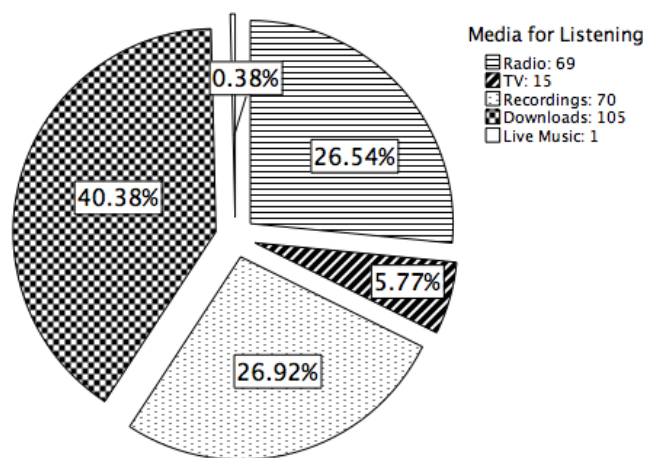
Number of Recordings	All Subjects	Female Subjects	Male Subjects	White Subjects	Hispanic Subjects
no	12.3%	10.1%	14.0%	11.8%	14.8%
1-2	30.4%	36.4%	24.8%	32.3%	27.8%
3-4	22.3%	23.3%	21.7%	23.1%	18.5%
5-6	11.9%	10.9%	13.2%	11.3%	13.0%
>6	23.1%	19.4%	26.4%	21.5%	25.9%

**Table 6: Gender and Ethnicity Differences in the Number of Recordings Purchased by Survey Subjects Within the Past Six Months**

About 70% of all subjects indicated that they use the internet for downloading music, while about 30% of the subjects claimed that they have not been downloading music from the internet. While there were no significant ethnicity differences for downloading music from the internet, significant gender differences are present: Fewer females (63%) download music from the internet; about 77% of all males reported that they download music from the internet.



The survey participants were also asked, which media they use the *most* listening to music; the choices given were (1) radio, (2) TV, (3) personal collected of purchased recordings, (4) personal collection of downloaded music or burned CDs, or (5) live music. Figure 4 shows that “personal collections of downloaded music or burned CDs” are used by more than 40% of the subjects as the single most frequently used media. These are followed by radio as well as “personal collections of purchased music recordings” (about 27% each), and then TV (6%) and then live music (0.4%). In terms of gender and ethnicity differences, more females – compared to males – as well as more Hispanics – compared to Whites – rely on the radio as their primary music listening source. More males as well as more Whites rely on downloads or burned CDs as their primary source. See Table 7.



**Figure 4: Single Media that Are Used Most Frequently for Listening**

Medium	All Subjects	Female Subjects	Male Subjects	White Subjects	Hispanic Subjects
Radio	26.5%	34.1%	18.6%	24.2%	33.3%
TV	5.8%	7.8%	3.9%	5.4%	7.4%
Purchased Recordings	26.9%	25.6%	27.9%	26.3%	25.9%
Downloads or Burned CDs	40.4%	32.6%	48.8%	43.5%	33.3%
Live Music	0.4%	0%	0.8%	0.5%	0%

**Table 7: Gender and Ethnicity Differences in the Single Most Used Medium for Music Listening**

***Musical Listening Habits of the Texas Population Sample***

The largest group (90 subjects, 34.6%) of the Texas sample indicated listening to music one to two hours per day. Sixty-five subjects (25%) listen to music two to three hours every day, and 40 subjects (15.4%) listen to music more than 4 hours per day. Finally, 36 subjects (13.8%) indicated listening to music three to four hours every day, and the minority of 29 subjects (11.2%) listens to music less than one hour per day. Thus, the approximate average of music listening per day for the overall Texas sample is between 1.5 and 2 hours. No gender differences could be observed for the listening time per day. However, there are slight ethnicity differences: While Whites spend slightly less time listening to music per day, Hispanics spend slightly more. Furthermore, a statistically significant correlation was found between the number of music recordings owned and the number of hours an individual listens to music each day (Spearman’s rho = .383, df = 359, p < .001).

Asked about the attendance of live concerts during the past three months, the following answers were given by the overall Texas sample: see Table 8.

	No	Yes: 1-2 events	Yes: 3-5 events	Yes: 6 or more events
<b>Pop (rock, R&amp;B, reggae, ...)</b>	139 (53.5%)	94 (36.2%)	17 (6.5%)	10 (3.8%)
<b>Underground / Alternative music / Punk / Heavy metal</b>	172 (66.2%)	57 (21.9%)	22 (8.5%)	7 (2.7%)
<b>Jazz</b>	180 (69.2%)	67 (25.8%)	10 (3.8%)	1 (0.4%)
<b>Hip-hop / Rap / Rave concert</b>	202 (77.7%)	44 (16.9%)	6 (2.3%)	8 (3.1%)
<b>Country &amp; Western music concert</b>	146 (56.2%)	81 (31.2%)	21 (8.1%)	11 (4.2%)
<b>Folk Music concert (e.g., Tejano)</b>	212 (81.5%)	40 (15.4%)	5 (1.9%)	3 (1.2%)
<b>Brass (Band) music concert</b>	196 (75.4%)	54 (20.8%)	7 (2.7%)	3 (1.2%)
<b>Art Music concert (e.g., classical)</b>	179 (68.8%)	71 (27.3%)	6 (2.3%)	4 (1.5%)
<b>Opera / Operetta / Musical</b>	221 (85%)	32 (12.3%)	5 (1.9%)	4 (1.5%)

**Table 8: Live Concert Attendance Within the Past Three Months**

Pop as well as Country & Western events were the highest reported of attendance by the sample. Underground / Alternative music / Punk / Heavy metal concerts were also relatively well visited, and so were Art Music concerts and Jazz concerts. Less frequently visited were Brass (Band) concerts, Hip-Hop / Rap / Rave concerts, and Folk Music concerts. The least frequently visited events were Opera / Operetta / Musical.

The following Table (9) shows the mean values of preference ratings of various musical styles. These ratings were completed on a scale from 1 to 4, “1” being “do not like”, “2” being “do not like and do not dislike (neutral)”, “3” being “I like the music”, and “4” being “I love the music very much”.<sup>10</sup>

The Pop / Rock style was the highest rated in preference by the sample, followed by Hip-hop. Underground / alternative / Progressive Rock as well Country & Western were also rated high, but both of them had relatively high standard deviations from the mean value. The sample rated the historically older art music styles (Medieval / Renaissance, Baroque), Folk Music, Opera, as well as 20<sup>th</sup> Century Art Music as the least preferred styles.

<b>Musical Style</b>	<b>Mean Value (scale from 1 to 4)</b>	<b>Standard Deviation</b>
Pop / Rock	3.11	0.858
Hip-hop / Rap / House	2.79	1.027
Underground / Alternative / Progressive Rock / Heavy Metal	2.77	1.104
Country & Western	2.69	1.149
Jazz	2.64	0.913
Heavy Metal / Hard Rock	2.48	1.058
Classical Music (1750-1820)	2.36	0.950
Romantic Music (1820-1900)	2.27	0.958
Brass (Band) Music	2.23	0.855
Popular Dance Music (Disco, House, Techno, Rave, ...)	2.23	0.998
20 <sup>th</sup> Century Art Music	2.15	0.927
Opera / Operetta / Musical	2.10	0.970
Baroque Music (1600-1750)	2.08	0.953
Folk Music (e.g., Tejano)	2.06	0.934
Medieval / Renaissance Music (through 1600)	1.93	0.900

**Table 9: Ratings of Musical Styles by the Overall Texas Sample**

The preferences of the musical styles by female and by male subjects were not the same. Underground / Alternative / etc. was the most preferred style by male subjects, but ranked much lower in preference by female subjects. Pop / Rock was the most preferred style by female subjects. Heavy Metal was ranked significantly higher by male subjects than by female subjects. Female subjects ranked Popular Dance music slightly higher than male subjects. Similarly, Clas-

---

<sup>10</sup> The original survey contained a fifth possible answer: “I do not know this music and I cannot say.” For calculations of the mean values, this fifth possible answer was not considered.

sical music as well as Opera was ranked slightly higher by female subjects. But male subjects ranked Jazz slightly higher than female subjects. See Table 10.

<b>Rankings by Female Subjects</b>	<b>Rankings by Male Subjects</b>
1. Pop / Rock (3.21; s=0.810)	<b>1. Underground / Alternative / Progressive Rock / Heavy Metal (3.04; s=1.042)</b>
2. Hip-hop / Rap / House (2.85; s=1.054)	2. Pop / Rock (3.03; s=0.885)
3. Country & Western (2.76; s=1.187)	3. Jazz (2.75; s=0.868)
4. Jazz (2.53; s=0.932)	4. Hip-hop / Rap / House (2.74; s=0.994)
<b>5. Underground / Alternative / Progressive Rock / Heavy Metal (2.52; s=1.104)</b>	<b>5. Heavy Metal / Hard Rock (2.70; s=1.072)</b>
6. Classical Music (2.44; s=0.962)	6. Country & Western (2.62; s=1.112)
<b>7. Popular Dance Music (Disco, House, Techno, Rave, ...) (2.32; s=1.048)</b>	7. Brass (Band) Music (2.28; s=0.870)
8. Romantic Music (2.30; s=0.940)	8. Classical Music (2.28; s=0.924)
<b>9. Heavy Metal / Hard Rock (2.26; s=1.005)</b>	9. Romantic Music (2.24; s=0.965)
10. Opera / Operetta / Musical (2.20; s=0.963)	<b>10. Popular Dance Music (Disco, House, Techno, Rave, ...) (2.16; s=0.945)</b>
11. 20 <sup>th</sup> Century Art Music (2.19; s=0.920)	11. 20 <sup>th</sup> Century Art Music (2.11; s=0.935)
12. Brass (Band) Music (2.17; s=0.824)	12. Baroque Music (2.10; s=0.966)
13. Folk Music (e.g., Tejano) (2.06; s=0.894)	13. Folk Music (e.g., Tejano) (2.08; s=0.980)
14. Baroque Music (2.06; s=0.930)	14. Opera / Operetta / Musical (1.99; s=0.958)
15. Medieval / Renaissance Music (through 1600) (1.94; s=0.930)	15. Medieval / Renaissance Music (through 1600) (1.91; s=0.870)

**Table 10: Mean Values of the Ratings of Musical Styles by Female and by Male Subjects (larger differences emphasized)**

Differences in the preferences by White subjects and by Hispanic subjects could also be detected. Hispanics prefer, on average, Folk Music (e.g., Tejano) much more than White subjects. Hispanics also show a higher preference for Hip-hop and for Popular Dance Music; slightly higher preferences are also existent for Underground / Alternative / etc. music. On the other hand, White subjects have a higher preference for Country & Western as well as a slightly higher preference for Classical Music and for Baroque Music. Both ethnicities, however, indicated the highest preference for Pop / Rock and the lowest preference for Medieval / Renaissance music. Additionally, Hispanic subjects also ranked Baroque Music as low as Medieval / Renaissance music. See Table 11.

Rankings by White Subjects	Rankings by Hispanic Subjects
1. Pop / Rock (3.16; s=0.820)	1. Pop / Rock (3.21; s=0.776)
<b>2. Country &amp; Western (2.86; s=1.136)</b>	<b>2. Hip-hop / Rap / House (3.04; s=1.027)</b>
3. Underground / Alternative / Progressive Rock / Heavy Metal (2.77; s=1.082)	3. Underground / Alternative / Progressive Rock / Heavy Metal (2.98; s=1.075)
<b>4. Hip-hop / Rap / House (2.71; s=0.998)</b>	4. Jazz (2.71; s=0.901)
5. Jazz (2.62; s=0.917)	5. Heavy Metal / Hard Rock (2.65; s=1.092)
6. Heavy Metal / Hard Rock (2.49; s=1.026)	<b>6. Popular Dance Music (Disco, House, Techno, Rave, ...) (2.60; s=1.053)</b>
7. Classical Music (2.42; s=0.938)	<b>7. Folk Music (e.g., Tejano) (2.49; s=1.067)</b>
8. Romantic Music (2.34; s=0.925)	<b>8. Country &amp; Western (2.40; s=1.062)</b>
9. Brass (Band) Music (2.23; s=0.822)	9. Brass (Band) Music (2.23; s=0.962)
10. 20 <sup>th</sup> Century Art Music (2.18; s=0.888)	10. Romantic Music (2.23; s=1.020)
11. Baroque Music (2.16; s=0.957)	11. Classical Music (2.22; s=0.963)
<b>12. Popular Dance Music (Disco, House, Techno, Rave, ...) (2.14; s=0.944)</b>	12. Opera / Operetta / Musical (2.16; s=0.987)
13. Opera / Operetta / Musical (2.11; s=0.950)	13. 20 <sup>th</sup> Century Art Music (2.16; s=0.998)
<b>14. Folk Music (e.g., Tejano) (1.96; s=0.853)</b>	14. Baroque Music (1.95; s=0.882)
15. Medieval / Renaissance Music (through 1600) (1.95; s=0.874)	15. Medieval / Renaissance Music (through 1600) (1.95; s=0.963)

**Table 11: Mean Values of the Ratings of Musical Styles by White and by Hispanic Subjects (larger differences emphasized)**

A Principal Component Analysis (PCA) was applied to the questions that pertained to preferences of music styles.<sup>11</sup> The PCA was used to determine if there were any relationships between the preferred music styles and ultimately reducing the fourteen styles into a smaller set of factors. Four factors were of statistical relevance<sup>12</sup>. See Table 12.

Factor 1 (“Classical / Art Music”) accounted for 35.746% of the variance and included the styles (genres) (a) Opera / Operetta / Musical, (b) Medieval / Renaissance Music, (c) Baroque Music, (d) Classical Music, (e) Romantic Mu-

<sup>11</sup> It is important to note that before any inferential statistics were run on the data, questions 14, 20-34, 40-46, and 75 of the original survey were re-coded in order to maintain a consistent scale throughout the questionnaire.

<sup>12</sup> The PCA produced 15 total factors, four of which had eigenvalues over 1.0. These four factors were Varimax rotated with Kaiser normalization. These four factors accounted for 64.664% of the variance among the survey questions on musical styles preferences. The questions with loadings of .45 or greater were included in a factor.

sic, and (f) 20<sup>th</sup> Century Art Music. Thus, this factor included questions with which the participants ranked their preferences for Western art and ‘classical’ styles of music. Individuals that preferred one type of art music generally enjoyed other types of Classical and Art styles as well.

Factor 2 (“Underground & Heavy Metal”) accounted for 12.908% of the variance and included (a) Underground / Alternative / Progressive Rock / Heavy Metal as well as (b) Heavy Metal / Hard Rock. Thus, Factor 2 only included two styles, but these two correlated strongly with one another and had a theme of underground, alternative, and heavy metal.

Factor 3 (“Jazz, Brass, Folk”) accounted for 8.81% of the variance and included (a) Jazz Music, (b) Brass (band) Music, and (c) Folk Music.

Finally, Factor 4 accounted for 7.2% of the variance and included Pop / Rock, Hip-hop / Rap / House, and Popular Dance Music (disco, house, techno, rave, etc.).

Country & Western loaded almost equally on two separate factors but it did not load on either factor above the .45 value guideline. This resulted in Country & Western being analyzed separately from the factors.

<b>Factors</b>	<b>How do you rate the following musical styles:</b>	<b>Factor Loadings</b>
<b>Factor 1</b>	Opera / Operetta / Musical	.651
	Medieval / Renaissance music (through 1600)	.805
	Baroque music (1600-1750)	.878
	Classical music (1750-1820)	.865
	Romantic music (1820-1900)	.883
	20 <sup>th</sup> Century Art music	.751
<b>Factor 2</b>	Underground / Alternative/ Progressive Rock/ Heavy Metal	.833
	Heavy Metal / Hard Rock	.838
<b>Factor 3</b>	Jazz	.604
	Brass (band) music	.536
	Folk Music (e.g. Tejano)	.738
<b>Factor 4</b>	Pop/Rock	.702
	Hip-hop/Rap/House	.757
	Popular Dance music (disco, house, techno, rave...)	.570

**Table 12: The Four Factors – Musical Styles and Factor Loadings**

Since the mean values of the ratings for female subjects and for male subjects of the styles “Underground / Alternative/ Progressive Rock/ Heavy Metal” and “Heavy Metal / Hard Rock” showed larger differences (as reported earlier in this chapter), it was speculated that there would be a gender difference for the preference of Factor 2. An independent samples t-test revealed significant mean differences between genders,  $t(249) = -3.962$ ,  $p < .001$ , for the preference of

heavy metal, hard rock, and underground music styles. There was a mean difference of .95 between the two groups, with males reporting a higher preference toward the particular music styles of factor 2. Concluding from the 95% confidence interval, 95 out of 100 samples, males reported between .478 and 1.42 points higher of a preference to heavy metal, hard rock, and underground music styles than females.

The sample was asked to classify as one of the following: not religious, a believer without regular religious rituals, an average religious person, or a very religious person. The majority of the sample considered themselves to be religious and only 14.2% of the sample classified themselves as “not religious”. An analysis of variance was used to determine if there were any significant differences between the groups of religiousness and music styles. The ANOVA resulted in statistically significant differences between the means of religiousness for the preference toward Country & Western music,  $F(3,248) = 6.931$ ,  $p < .001$ . Bonferroni post hoc test results showed statistically significant mean differences between the “not religious” group and all other groups of religiousness for the rated preference of Country & Western music. “Not religious” rated their preference for country music lower than all other groups. The group “believer without regular religious rituals” on average rated their preference for Country & Western music .848 points higher than the “not religious” group. The “average religious” group rated preference .946 points higher than the “not religious” group, and the “very religious” group averaged a .787 point higher preference for Country & Western music than the “not religious” group.

Musical experience and a preference of Western art music were hypothesized to have relation with one another. The sample was asked whether they had played a musical instrument in – and whether they had been an active member of – a musical group. 69.9 percent of the sample reported having playing an instrument at some point in the past or were still currently playing an instrument and 62.2 percent of the sample reported having belonged to a musical group or still belonged to a music group. Three Spearman bivariate correlation tests were run between Factor 1, musical instrument experience, number of additional years of music instruction other than in school and musical group membership. A statistically significant correlation was found between Factor 1 and musical instrument experience (Spearman’s  $Rho = .381$ ,  $df = 176$ ,  $p < .001$ ). Individuals who reported having never played an instrument rated a lower preference for classical and art music styles than those who have played an instrument. Furthermore, individuals currently playing an instrument rated higher preferences for art music than individuals who played in the past or have never played. There was also a significant correlation in the number of additional years of music instruction outside of elementary, middle, and high school an individual had and their rated preference toward Factor 1 musical styles (Spearman  $rho = .466$ ,  $df = 129$ ,  $p < .001$ ).

As discussed earlier, the questionnaire requested participants to report the number of times they attended music events for nine types of music, in the last three months. A Spearman bivariate correlation tested the nine types of music styles with the corresponding rated music preference. The strongest correlation between the attendance at a musical event and the rated preference of the similar music type was of the Country & Western music style. The Spearman correlation test yielded a statistically significant correlation (Spearman's  $\rho = .427$ ,  $df = 256$ ,  $p < .001$ ). The event attendance and rated music preference resulted in statistically significant correlations for the Underground / Alternative / etc. music style ( $r_s = .414$ ,  $df = 256$ ,  $p < .001$ ) and for the folk music style ( $r_s = .358$ ,  $df = 252$ ,  $p < .001$ ).

There was only one event that encompassed all art music styles, so in this case it was most sensible to use Factor 1 in the Spearman test as the corresponding music preference. There was a statistically significant correlation between the art and classical event attendance and the rated preference for the music styles in Factor 1 ( $r_s = .412$ ,  $df = 177$ ,  $p < .001$ ).

### ***Other Aspects Related to Musical Listening***

The survey participants were asked if music is an important social phenomenon. Four subjects (1.6%) answered with “no, by no means”, 55 subjects (21.4%) chose “yes, to a certain degree”, 124 subjects (48.2%) answered “yes, it is as important as any other art”, 35 subjects (13.6%) chose the answer “yes, it is a little more important than other arts”, and 39 (15.2%) indicated “yes, it is much more important than other arts”.<sup>13</sup> Thus, on a scale from 1 (“no, by no means”) to 5 (“yes, it is much more important than other arts”), the Texas subjects rated music as a social phenomenon as 3.19 ( $s=0.993$ ) – slightly above the median, meaning music is slightly more important as a social phenomenon as other arts.

The Texas survey population indicated that they often talk about music with their friends and fellows. Specifically, four subjects (1.5%) said that they “never” talk about music with their friends or fellows, while 107 subjects (41.3%) specified “occasionally” and 148 subjects (57.1%) chose “yes, quite often” as their answer.<sup>14</sup> Using the three possible answers as a scale from 1 (“no, never”) to 3 (“yes, quite often”), the subjects rated their talking about music at a mean value of 2.56 ( $s=0.528$ ).

Asked whether they notice if people around them (e.g., parents, fellows, friends) listen to other styles of music than they do, ten subjects (3.8%) said

---

<sup>13</sup> Three subjects did not answer this question. They were excluded from the percentage calculation.

<sup>14</sup> One subject did not answer this question. It was excluded from the percentage calculation.



“no, never”, 101 subjects (38.8%) indicated “occasionally”, and 149 (57.3%) answered with “yes, quite often”. Using the three answers as a scale from 1 to 3, the subjects rated their awareness of others listening to other styles of music at mean value of 2.53 ( $s=0.572$ ).

The subjects were also asked if there is a music that they dislike strongly in their environment. 94 subjects (37.2%) answered with “no” and 159 subjects (62.8%) with “yes”.<sup>15</sup> Thus, almost two thirds of all subjects dislike at least one musical style strongly.

Another question was related to the functions of music, specifically which functions the subjects appreciate most in music. Six subjects (2.3%) chose the answer “I do not care about music, it does not have any function”, while 31 subjects (11.9%) selected “Music is merely entertainment” and 43 subjects (16.5%) selected “Music stimulates my feelings”. The vast majority (180 subjects; 69.2%), however, picked the answer “Music has many functions: it stimulates my feelings, thoughts and actions”.

To the questions whether they have noticed a change in their musical taste, 26 subjects (10.1%) responded “No, not at all”.<sup>16</sup> The vast majority – 211 subjects (81.8%) – admitted “Yes, I am becoming *more* tolerant fo, or interested in, other styles of music.” The minority of 21 subjects (8.1%) chose the answer “Yes, I am becoming *less* tolerant for, or disinterested in, other styles of music.

A set of question in the survey was dedicated to the value of certain capacities. These capacities are displayed in Table 13. The mean values are based on a scale from 1 to 5, “1” being “extremely important”, “2” being “very important”, “3” being “neutral”, “4” being “only a little bit important”, and “5” being “not at all important”. The most valued of these capacities is “the recognition of tones (pitches), rhythms, and harmonies”, followed by “the tolerance of different musical styles”. The mean value closest to the median identified “the love for different musical styles” and “playing a musical instrument or singing” as being assigned an average neutral value. However, the latter also had the highest standard deviation, which indicates a greater disagreement among the subjects on playing an instrument (or singing). Finally, “the love for the regional music (of a nation, ethnic or other social group, or culture)” and “knowledge about music history, theory and its effects” were valued, on average, with only little importance. The Spearman bivariate correlation test resulted in a statistically significant correlation between an individual’s experience playing a musical instrument (discussed earlier in this chapter) and how valuable they feel the

---

<sup>15</sup> Seven subjects did not answer this question. They were excluded from the percentage calculation.

<sup>16</sup> Two subjects did not answer this question. They were excluded from the percentage calculation.

capacity of playing a musical instrument or singing (Spearman’s rho = .386, df = 258, p < .001). In other words, those subjects who have played a musical instrument valued playing a musical instrument or singing higher.

<b>Capacities</b>	<b>Mean Values (Standard Deviations)</b>
The recognition of tones (pitches), rhythms, and harmonies.	2.32 (1.02)
The tolerance of different musical styles.	2.39 (0.97)
The love for different musical styles	2.44 (0.97)
Playing a musical instrument or singing	2.47 (1.08)
The love for the regional music (of a nation, ethnic or other social group, or culture)	2.59 (0.99)
Knowledge about music history, theory and its effects	2.66 (1.07)

**Table 13: Value of Specific Capacities – Mean Values on a Scale from “1” (“Extremely Important”) to “5” (“Not at all Important”)**

### ***Globalization and World Musics***

One set of (three) questions was related to globalization tendencies and World Musics. Specifically, one question dealt with the problem whether or not globalization is erasing the confines of the local (regional, national) musical traditions. The subjects were asked about their opinions on the increasing variety of different musical styles. The majority (145 subjects; 56.4%) chose the answer “It is good, music should change with time), while 95 subjects (37%) picked “It is natural for music to change, but the changed should be taken critically”.<sup>17</sup> A small minority of 17 subjects (6.6%) selected the answer “It is bad, music is part of a local culture and too many foreign influences could destroy its identity”.

In another question, survey participants were asked if music institutions (universities, radio stations and TV channels, concert agencies, etc.) should take more care to cultivate the national music. A majority of 152 subjects (59.8%) said “yes, that would be very beneficial for our culture”, while 102 subjects (40.2%) said “no, that is not necessary”.<sup>18</sup>

---

<sup>17</sup> Three subjects did not answer this question. They were excluded from the percentage calculation.

<sup>18</sup> Six subjects did not answer this question. They were excluded from the percentage calculation.

The survey informed the participants that, according to some studies, Western Art Music is in decline, while popular and World music cultures gain importance. The participants were then asked if they think Western Art Music has lost its function in society. Of them, 60 subjects (23.2%) chose “no, classical music is still highly esteemed and important”, while 95 subjects (36.7%) indicated “not really, it is equally esteemed as any other style of music”; but 104 subjects (40.2%) said “yes, it has become marginal”.<sup>19</sup>

### ***Modern Western Art Music***

A set of three questions were dedicated to modern Western art music. Asked how they enjoy contemporary (modern) art music, 25 subjects (9.7%) chose “no, not at all”, 55 (21.3%) chose “not really”, 104 (40.3%) selected “somewhat”, 58 (22.5%) said “I enjoy it”, and 16 subjects (6.2%) chose “I enjoy it very much”.<sup>20</sup> Using these five answers as a scale from 1 (“not, not at all”) to 5 (“I enjoy it very much”), the mean value of the answers by all subjects is 2.94 ( $s=1.037$ ) – thus, very slightly on the negative side.

Survey participants were also asked how many composers of 20<sup>th</sup> century art music they could name. Sixty-four subjects (24.6%) indicated that they cannot name any composer, 88 subjects (33.8%) would be able to name one or two 20<sup>th</sup> century composer, 78 subjects (30%) could name three to four composers. Only a small number of survey participants indicated that they would be able to name more composers: ten subjects (3.8%) said they could name five or six composers, and 20 subjects (7.7%) would be able to name more than six composers of 20<sup>th</sup> century art music. See Figure 5.

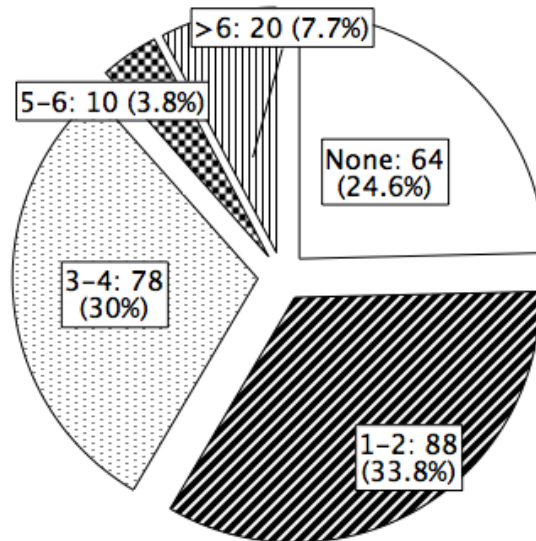
Finally, the survey asked how many Texan composers of 20<sup>th</sup> century art music a subject could name. The vast majority (161 subjects; 62.2%) said they could not name any, 40 subjects (15.4%) indicated that they could name one composer, 28 subjects (10.8%) could name two, six subjects (2.3%) could name three, and 24 subjects (9.3%) would be able to name more than three Texan composers of 20<sup>th</sup> century art music.

These three questions also revealed statistically significant correlations between the enjoyment of modern art music and the number of composers of 20<sup>th</sup> century art music an individual can name (Spearman’s  $\rho = .363$ ,  $df = 258$ ,  $p < .001$ ).

---

<sup>19</sup> One subject did not answer this question. It was excluded from the percentage calculation.

<sup>20</sup> Two subjects did not answer this question. They were excluded from the percentage calculation.



**Figure 5: Number of Composers of 20<sup>th</sup> Century Art Music that Subjects Would be Able to Name**

### *Feelings about Certain Groups of People*

The final set of questions asked the survey participants how they felt about certain groups of people. The answers were given on a scale from 1 to 5, 1 being “I dislike them very much”, 2 being “I somewhat dislike them”, 3 being “neutral”, 4 being “I somewhat like them”, and 5 being “I like them very much”. The mean values of answers on this scale from 1 to 5 and their standard deviations are displayed in Table 14. The most ‘liked’ people are Americans and White People, while the most ‘disliked’ people are Prostitutes, Drug Addicts / Alcoholics, Left Radicals / ‘Anarchists’, and Right Radicals / ‘Skinheads’. Less than 10% of the sample reported intolerance for any ethnic group that was included in the questionnaire. Statistically significant correlations between the feelings about certain groups of people and other listening habits (such as musical styles) could not be found.

<b>Groups of People</b>	<b>Means (Standard Deviations)</b>
Americans	3.90 (1.10)
White People	3.81 (1.12)
Colored People	3.74 (1.12)
Italians	3.71 (1.00)
Black Africans / White African / African-Americans	3.71 (1.11)
Hispanics	3.71 (1.15)
Europeans	3.68 (1.02)
Africans	3.66 (1.07)
Germans / Austrians	3.63 (1.02)
Asians	3.63 (1.05)
Religious People	3.61 (1.09)
Hungarians	3.56 (1.01)
Canadians	3.55 (0.09)
Balkans	3.53 (0.98)
Non-Religious People	3.38 (0.95)
Romes (Gypsies)	3.35 (0.96)
Homosexuals	3.11 (1.15)
Nationalists	2.70 (0.95)
Prostitutes	2.31 (1.13)
Drug Addicts / Alcoholics	2.07 (0.97)
Left Radicals / ‘Anarchists’	2.03 (1.06)
Right Radicals / ‘Skinheads’	1.86 (1.01)

**Table 14: Feelings About People – Mean Values on a Scale from “1” (“I Dislike Them Very Much”) to “5” (“I Like Them Very Much”)**

***Conclusions: A Summary of Listening Habits of a Texas College Population***

The Texas population that took the survey discussed in this book consisted of 260 subjects, among which male and female subjects were almost evenly represented. It was comprised of a large (71.5%) White population and a representative (20.8%) Hispanic population. Other demographic groups were too small to draw any reliable conclusions; therefore, the focus of the discussions here were on the overall population as well as (if applicable) female-male-differences and White-Hispanic-differences.

The vast majority (69.9%) of the Texas survey population had practical experience in music making, and 51% had been a member of a music ensemble. Compared to female subjects, a much higher percentage of male subjects reported that they are playing an instrument. A much higher percentage of male subjects also reported to be still active in a musical ensemble. The majority of the population did not receive additional musical training besides that in elementary, middle, and high schools.

About three quarters of the population owned up to 200 recordings each. However, female subjects owned fewer recordings than male subjects, and Hispanic subjects owned fewer recordings than White subjects. The same is the case for recent purchases of recordings. In addition, about 70% of the Texas subjects use the internet for downloading music; but more males than females download music. Downloaded music and / or burned CDs are the single most frequently used media for listening, followed by radio and by personal collections of recordings. Interestingly, more females (compared to males) and more Hispanics (compared to Whites) rely on the radio as their primary music listening source.

The approximate average of music listening per day for the overall Texas sample is between 1.5 and 2 hours. While Whites spend slightly less time listening to music per day, Hispanics spend slightly more. Also, a statistically significant correlation was found between the number of music recordings owned and the number of hours an individual listens to music each day.

Pop music events as well as Country & Western events were the highest reported for concert attendance within the past three months. Underground / Alternative Music / Punk / Heavy Metal concerts were also well visited, and so were Art Music concerts and Jazz concerts. Similarly, the most preferred musical style was Pop / Rock, followed by Hip-hop / Rap / House, Underground / Alternative Music / Punk / Heavy Metal, and Country & Western. Underground / Alternative / etc. was the most preferred style by male subjects, but ranked much lower in preference by female subjects. Pop / Rock was the most preferred style by female subjects. Heavy Metal was ranked significantly higher by male subjects than by female subjects. Female subjects ranked Popular Dance music slightly higher than male subjects. But male subjects ranked Jazz slightly higher than female subjects. Hispanics prefer, on average, Folk Music (e.g., Tejano) much more than White subjects. Hispanics also show a higher preference for Hip-hop and for Popular Dance Music; slightly higher preferences are also existent for Underground / Alternative / etc. music. On the other hand, White subjects have a higher preference for Country & Western as well as a slightly higher preference for Classical Music and for Baroque Music.

A PCA was applied to the preferences of music styles and four Factors were identified. For each of the factors, specific characteristics or correlations could be identified. For example, significant gender differences were identified for the preference of heavy metal, hard rock, and underground music styles. Also identified were significant differences between religiousness and the preference of country music: “not religious” subjects rated their preference lower than the various “religious” groups. A statistically significant correlation between all Western Art Music styles and the experience of playing a musical instrument could also be found. Furthermore, individuals currently playing an instrument expressed higher preferences for Art Music than individuals who

played in the past or have never played an instrument. There was also a significant correlation in the number of additional years of music instruction outside of elementary, middle, and high school an individual had and the rated preference toward Art Music musical styles. Finally, there was a statistically significant correlation between the art and classical event attendance and the rated preference for the Art Music styles.

The survey revealed a positive attitude towards globalization and art music, although the majority of subjects also felt that music institutions should do more to cultivate the national music. Less than 10% of the sample reported intolerance for any ethnic group that was included in the questionnaire.

The answers to the questions related to 20<sup>th</sup> century art music – the enjoyment of music and the ability to name composers – suggest that about one tenth of the population is relatively well-educated in, and exposed to, 20<sup>th</sup> century art music.