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THE ASSOCIATION BETWEEN TYPES OF MUSIC ENJOYED AND COGNITIVE, BEHAVIORAL, AND PERSONALITY FACTORS OF THOSE WHO LISTEN

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A community sample of 358 individuals completed questionnaires that assessed preference for 30 different styles of music, a number of demographic variables, involvement with singing or playing an instrument and a number of personal variables including: intelligence, spirituality, self esteem, social skills, locus of control, conscientiousness, agreeableness, extraversion, openness, emotional stability, hostility, and depression. Factor analysis of the 30 music styles resulted in 8 factors: Rebellious (e.g., punk, grunge, heavy metal), Classical, Rhythmic & Intense (e.g., hip-hop & rap, pop, rhythm & blues), Easy Listening, Fringe (e.g., electronic, ambient, techno), Contemporary Christian, Jazz & Blues, and Traditional Christian. A series of correlations, partial correlations and regression analyses reveal an almost comprehensively negative personal profile for those who listen to the Rebellious and Rhythmic & Intense categories of music. Results further produce an almost comprehensively positive profile for those who listen to Classical music. Useful insight is also provided on the traditional versus contemporary Christian music controversy. Results are discussed and suggestions for future research provided.

Rentfrow and Gosling (2003) conducted an extensive study of the importance of music, the settings where music is most frequently experienced, groupings of different styles of music, and correlates with a variety of cognitive, personality, demographic, and situational variables. They express surprise that so little research has explored the link between music and human experience and reveal that of 11,000 journal articles published (in personality and social psychology journals) between 1965 and 2002, only seven had "music" listed as an index term. They further quote Raymond Cattell who states "So powerful is the effect of music . . . that one is surprised to find in the history of psychology and psychotherapy so little experimental, or even speculative, reference to the use of music" (Cattell & Saunders, 1954, p. 3).

Rentfrow and Gosling's (2003) efforts begin by establishing the importance of music. With a sample of 74 undergraduates they found that of eight popular leisure activities (music, movies, books/magazines, TV, food, sleeping, hobbies, shopping) music ranks as the most important. They further discovered that the majority of people enjoy music while performing many different activities such as relaxing at home, driving, studying, working, hanging out with friends, exercising, and others.

The purpose of the present study is to replicate portions of the Rentfrow and Gosling (2003) study with a community (rather than undergraduate) sample and to explore additional questions raised by their research. Specifics follow:

1. Rentfrow and Gosling factor analyzed 14 different styles of music into four different categories based on subjects' enjoyment of each style; however, the present study starts with 30 different styles of music and factor analyzes based on listener preference and the amount of time spent in volitional listening.
2. A number of personal constructs used by Rentfrow and Gosling also are employed in the present study, including intelligence, self esteem, depression, level of wealth, and personality constructs from The Big 5 Personality Inventory.
3. The present study also includes measures for spirituality, social skills, locus of control and hostility.
4. Multiple regression analyses and partial correlations are used to further uncover associations among variables.
5. Measures of musical participation are included that assess whether or not the subject sings or plays an instrument, how well they sing or play and how much time they spend practicing.

The present study is largely exploratory and formal hypotheses are not offered. It is anticipated that findings of former studies will be substantiated, but the literature is still quite thin and there is not a strong rationale for inclusion of hypotheses. Another difficulty is that since our factor analysis begins with twice as many music styles as Rentfrow and Gosling, it is unlikely that their factor structure will be duplicated. Since many analyses are based on the factors that emerge, direct comparison of results may be problematic.

Relevant Literature

Considerable research involves the effects of music on neurological and biological functioning (e.g., Bharucha & Mencl, 1996; Chaffin & Imreh, 2002; Deutsch, 1999; Rider, Floyd & Kirkpatrick, 1985; Standley, 1992; Todd, 1999), and clinical psychologists have explored the affect of music in a therapeutic setting (e.g., Chey & Holzman, 1997; Diamond, 2002, Hilliard, 2001). However, little research has been conducted that examines the associations between listener preference for different styles of music and personal, behavioral, and cognitive factors.

Factor Analysis
Rentfrow and Gosling (2003) factor analyzed 14 different styles of music. The following four factors emerged (the authors and their associates selected the name for each factor): Factor 1, Reflexive & Complex (classical, jazz, blues, folk); Factor 2, Intense & Rebellious (alternative, rock, heavy metal); Factor 3,

Upbeat & Conventional (country, pop, religious, sound tracks); Factor 4, Energetic & Rhythmic (hip-hop/rap, soul/funk, electronic/dance).

The difficulty of their structure is that it creates some unusual groupings (e.g., religious and pop), some very broad groupings (e.g., classical, jazz, blues, folk), and seems limited in its ability to facilitate the study of the influence of different tastes in music. For instance, the restricted factor structure is unable to address the decades-long controversy between proponents of contemporary Christian music and traditional Christian music. In the present study, 30 different styles of music are considered, allowing for more meaningful classifications.

In the paragraphs that follow, when the actual factors of Rentfrow and Gosling are named, they are capitalized and include the ampersand (e.g., "Reflexive & Complex" "Intense & Rebellious"). Otherwise, when general styles of music are mentioned they are represented with lower case (e.g., "classical," "rebellious").

Extraversion

Rentfrow and Gosling (2003), with a sample of 1383 undergraduates, found that extraversion is significantly and positively associated with Upbeat & Conventional and Energetic & Rhythmic types of music. No other studies were found that addressed the association between music and extraversion.

Agreeableness

Rentfrow and Gosling (2003) found agreeableness significantly and positively associated with Upbeat & Conventional music. By contrast, Dyce and O'Conner (1994) discovered that those who listen to rebellious music are more arrogant and more dominant. Adding support to these results, Bryant (2004) found that those who listen to the rebellious styles of music are more likely to have negative sex stereotyping and more adversarial attitudes toward others. In addition, Anderson, Carnagey, and Eubanks (2003), in an experimental study, found that undergraduates exposed to songs with violent lyrics experience greater hostility and violent thoughts than those who hear similar but nonviolent songs.

Conscientiousness

Rentfrow and Gosling (2003) found that those who listened to Upbeat & Conventional music are more conscientious. Conscientiousness does not correlate significantly with other styles of music and other studies have not explored the association.

Openness

Rentfrow and Gosling (2003) found that openness to experience is characteristic of those who listened to the Reflexive & Complex and Intense & Rebellious music, whereas those who listen to Upbeat & Conventional music are less likely to be open to other styles.

Self Esteem

Two different research projects (Schellenberg, 2004; Costa-Giomi, 2004) discovered that those who take piano lessons have higher self esteem than those who do not. Rentfrow and Gosling (2003), however, found no significant association between self esteem and listening to any of the music styles.

Depression

La Torre (2003) found that adults who listen to classical, jazz, and popular styles of music exhibit lower levels of depression. Rentfrow and Gosling's (2003) research verified those results for Upbeat & Conventional music but not for Reflexive & Complex music. By contrast, Hendrichs and colleagues (1999) found that junior high students who listen to rebellious music are more likely to have suicidal thoughts and higher levels of depression.

Spirituality

From both anecdotal and research evidence, music and spirituality are shown to be closely related. For instance, Vroon (2004) and Boehm (2002) discuss the uplifting and inspiring function of music to enhance the worship service. Bryant (2004), in a study of 144 African American adolescents, found that a higher level of spirituality is associated with rejection of the rebellious styles of music. Lipe (2002), in a meta analysis of 52 articles dealing with spirituality, music, and health found that sacred and inspirational music is associated with higher levels of spirituality and better health.

Social Skills

Resnicow, Solovey, and Repp (2004) found a strong positive correlation between ability to understand the mood of classical piano music and emotional intelligence, the essence of social skills. By contrast McNamara and Ballard (1999) discovered that those who listen to rebellious music experience greater hostility, negative stereotyping, and antisocial behavior.

Locus of Control

Rentfrow and Gosling (2003) did not include locus of control in their study but they did discover that the type of music listened to is often closely associated with an individual's social identity. Wann and Wilson (1999; also see Benjamin, 1999) found that those with a more internal locus exhibit personal characteristics more consistent with the styles of music to which they listen. This effect is found to be particularly robust with those who listen to rebellious music. If they have a more internal locus they tend to exhibit more of the qualities espoused by the music. We could not find research evidence that the same principle applies for other styles of music.

Intelligence

Research links listening to Reflective & Complex with greater intelligence (Rentfrow & Gosling, 2003), higher IQ (Schellenberg, 2005), and better math skills (Ross, 1936). Those who listen to rebellious music are more likely to

have lower grades in school (Hendrichs, Robinson, Bradley, & Davis, 1999), lower levels of education (Noah, 1998), and lower levels of intelligence (Rentfrow & Gosling, 2003).

Summary of Related Literature

The need to further explore the effect of music on cognitive, personal, and social functioning is well established. The present study replicates portions of the Rentfrow & Gosling (2003) study and extends beyond to include a factor analysis of 30 different styles of music, the inclusion of a more extensive set of cognitive and personality variables, employs correlations, partial correlations, and regressions analyses to understand the interactive influence of music and personality, and includes the effect of singing and playing an instrument.

Method

A sample of 358 subjects, 203 women (57%) and 155 men (43%), participated in the study. Ethnic breakdown included 254 Caucasians (71%), 26 Asians (7%), 41 African Americans (12%), 12 Hispanics (3%) and 23 others (7%). About 33% of subjects were students from a central Alberta (Canada) liberal arts university whereas other subjects were mostly from the local community. Age of the subjects ranged from 18 to 70 with a mean age of 32.9.

Instruments and Data Collection

An 8-page questionnaire was prepared for participants in the study. The first page included instructions, a statement of confidentiality, a statement of informed consent, and 10 demographic items. The second page included 30 different styles of music, and two columns of lines to identify both the level of enjoyment and the amount of volitional listening of each type (see Appendix). The third page included questions about participation in music ("Do you sing or play an instrument? How well do you sing or play? How many hours a week do you practice?"). The remainder of the questionnaire consisted of 150 questions that measured the variables of interest. The form concluded with an expression of appreciation for participation.

Eleven undergraduates (called "researchers") in a research methods course collected data. Each researcher was assigned certain on-campus personnel (randomly selected students/faculty/staff), and further was allowed to collect data from anyone else in the community.

Potential subjects were contacted in person, by telephone, or by email and were asked to participate. If they agreed, the researcher provided the questionnaire and read aloud key aspects of the instructions to them. Subjects then read the informed consent statement, and if they consented, the questionnaire was left with them to complete at their convenience. Researchers were responsible for the return of forms.

Demographics and Variables

Demographics included gender, age, number of children, ethnicity, marital status, level of education, religious denomination, approximate family income, profession and number of hours per week spent working or studying.

Music Styles

Thirty different styles of music were listed (see the Appendix for a complete list). Blanks were provided to identify the level of enjoyment of each style on a 7-point scale with anchors of 1 ("dislike intensely"), 3 ("neutral or unacquainted"), and 7 ("enjoy intensely"). A second set of blanks allowed subjects to indicate how often they volitionally listened to each style of music on a 5-point scale with anchors of 1 ("never") to 5 ("saturated and immersed in it").

The primary predictor variables are described below. Each of them, except locus of control and intelligence, has several items reverse coded to control for response bias.

Spirituality

Spirituality is assessed by the 18-item George-Mabb-Walsh Spirituality Questionnaire (George, Mabb, & Walsh, 1996). The 18 questions are scored on 7-point scales; anchors for these questions vary based on their content. The final Spirituality measure is the mean of the 18 items with "1" indicating a low level and "7" indicating a high level of spirituality.

Self esteem

Self esteem is assessed by the 20 questions from the Rosenberg Self Esteem Scale (Rosenberg, 1965). The 20 questions are scored on 7-point scales; anchors vary based on the content of the questions. The final Self Esteem measure is the mean of the 20 items with 1 indicating low self esteem and 7 indicating high self esteem.

Social Skills

Social Skills is assessed by the 16 items from the Carlsmith Social Skills Scale (Carlsmith, 1976). The 16 items are scored on 7-point scales; anchors vary based on the content of the questions. The final Social Skills measure is the mean of all 16 items with 1 indicating poor social skills and 7 indicating excellent social skills.

Locus of Control

Locus of Control is assessed by the 12 questions from the Locus of Control Scale, Short Form (Rotter, 1971). The 12 items are comprised of two statements, one reflecting an external locus and the other an internal locus. Subjects circled the statement that most closely reflected their position. The final Locus of Control measure is the sum of the "internal" responses and varies between 1 (extreme external locus) and 12 (extreme internal locus).

Intelligence

Intelligence is assessed by the 13 items of the abstract thinking scale of the 16 Personality Factor Questionnaire (Cattell, 1993). Each item is in multiple choice format and consists of analogies, sequence completions and group memberships. The final Intelligence score is the sum of correct responses.

The Big Five Personality Inventory

The 44-item Big Five Personality Inventory (Cervone, Shadel, & Jencius, 2001) is used to assess Conscientiousness, Agreeableness, Extraversion, Openness, and Emotional Stability. Each trait is measured by 8 to 10 statements (e.g., "I persevere until the task is done") and subjects indicate to what extent they agree or disagree with the statement. Each statement is scored on a 5-point scale with anchors of 1 ("strongly disagree"), 2 ("somewhat disagree"), 3 "neutral"), 4 ("somewhat agree"), and 5 ("strongly agree"). The final score for each of the five traits is the mean of the questions that measures that trait. Thus, 1 is associated with little of that quality and 5 with a great deal.

Hostility

Hostility is measured with the 15 items selected from the State Hostility Scale (Anderson, Deuser, & DeNeve, 1995). Fifteen statements are presented and subjects indicate to what extent they agree or disagree with each statement. Each statement is scored on a 5-point scale with the same anchors as those used in the Big 5 Personality Inventory. The final Hostility measure is the mean of the 15 items with 1 representing low levels of hostility and 5 indicating high levels.

Depression

Depression is assessed by the 14 statements that measure depression from the Anxiety and Stress Scale (Lorbond & Lorbond, 1995). Scales, scoring and the final measure are identical to those for Hostility. Thus, 1 represents low levels of depression and 5 represents high levels.

Description of the Analyses

Analyses include computation of standard psychometrics (mean, skewness, and kurtosis). Following this, reliability (coefficient alpha) of multiple indicator variables was computed and adjustments made if necessary. The 30 styles of music then were factor analyzed to determine the groupings to be used in analyses that follow. A correlation matrix of all relevant variables was computed. Partial correlations were computed when necessary to increase clarity. Finally, multiple regression analyses helped determine which personal factors were most closely associated with each type of music.

Psychometrics and Validity

All continuous variables demonstrated excellent psychometric validity. Kurtosis and skewness values range from -.546 to +.461 (excellent for any analyses) except for depression which still falls within an acceptable range (skewness = 1.215, kurtosis = 1.144).

The 10 multiple-indicator variables retained all indicators for final analysis except for Emotional Stability, in which one item was removed prior to calculating the final measure. The reliability values (coefficient alpha) for each of the 10 variables are: Spirituality (.90), Self-esteem (.86), Social Skills (.76), Conscientiousness (.81), Agreeableness (.80), Extraversion (.88), Openness (.80), Emotional Stability (.84), Hostility (.87), and Depression (.93).

Factor Analysis of the 30 Music Styles

Thirty different types of music were factor analyzed to determine the groupings of different music styles (based on subject ratings of enjoyment and amount of listening). A single value was computed for each subject for each music style. The two scores (enjoyment [1 – 7 scale] and volitional listening [1 – 5 scale]) were multiplied to provide the values used for factor analysis. Thus, scores ranged from 1 (despise the music and never listen to it) to 35 (enjoy intensely and saturated & immersed in it). The two numbers were multiplied (rather than summed or averaged) because researchers believed that the multiplied numbers allowed for greater variability. The multiplied numbers also produced a cleaner final factor structure.

Principal components analysis was performed on participant ratings of each style. The Kaiser-Meyer-Olkin measure of sampling adequacy was .80, excellent for factor analysis. Bartlett's test of sphericity confirmed that variables did not form an identity matrix, $\chi^2(435) = 5141.608, p < .0001$. Using the Kaiser rule (eigenvalues greater than 1) and Varimax rotations, a clear factor structure emerged on the first analysis. The names chosen for some of the factors were derived from the Rentfrow and Gosling terminology. For new factors, names were determined by consensus of the four authors. Eight factors were accepted as the final solution accounting for 67% of the total variance. The eight factors are listed below, and factor loadings are included in parentheses. The factor structure is also displayed on Table 1.

1. *Rebellious:* grunge (.838), heavy metal (.831), punk (.826), alternative (.749), classic rock (.732);
2. *Classical:* classical piano/organ (.861), choral (.815), classical instrumental (.812), opera/ballet (.729), Disney/Broadway (.473);
3. *Rhythmic & Intense:* hip-hop/rap (.814), pop (.796), rhythm & blues (.783), reggae (.721);
4. *Easy Listening:* 20th century popular (.750), country (.696), soft rock (.613), disco (.562), folk/ethnic (.439), swing (.428);

5. *Fringe:* electronic (.801), ambient (.761), techno (.714), new age (.501);
6. *Contemporary Christian*: soft contemporary Christian (.850), hard contemporary Christian (.766);
7. *Jazz & Blues*: blues (.752), jazz (.693); and
8. *Traditional Christian*: hymns & Southern gospel (.666), gospel (.659),

Table 1

Factor Loadings of the 30 Music Styles on Eight Varimax-Rotated Components

Music Style	Music-preference dimension							
	Rebellious	Classical	Rhythmic & Intense	Easy Listening	Fringe	Contemporary Christian	Jazz & Blues	Traditional Christian
Grunge	**.838**	-.049	.065	-.022	.219	.097	.002	-.046
Heavy metal	**.831**	-.055	-.011	-.041	.023	-.006	.148	-.034
Punk	**.826**	.034	.029	-.027	.156	.057	-.009	-.078
Alternative	**.749**	.058	.292	.005	.168	.206	-.102	-.107
Classic rock	**.732**	-.071	.001	.258	.056	-.130	.282	-.056
Piano	-.053	**.861**	-.041	-.047	.007	-.028	.054	.080
Choral	-.038	**.815**	-.104	-.034	.071	.036	-.051	.127
Classical instrumental	.004	**.812**	-.144	-.073	.181	.012	.127	.043
Opera/ballet	.023	**.729**	.056	.143	.055	.158	.079	-.069
Disney/Broadway	-.033	**.473**	.115	.337	-.094	.222	.221	-.016
Hip-hop & rap	.178	-.675	**.814**	-.078	.022	-.048	.017	.077
Pop	.100	-.013	**.796**	.254	.114	.015	-.029	-.074
Rhythm & blues	-.073	-.010	**.783**	.165	.092	.085	.310	.033
Reggae	.060	-.091	**.721**	-.021	.058	.001	.271	.046
20th century popular	.161	.111	.039	**.750**	.023	.027	.182	-.101
Country	-.015	-.155	-.034	**.696**	-.007	.082	-.198	.001
Soft rock	-.101	.062	.329	**.613**	.110	.346	.107	-.260
Disco	.013	.089	.254	**.562**	.177	-.114	.227	.147
Folk/ethnic	-.136	.024	-.326	**.439**	.256	.158	.327	.021
Swing	.150	.354	.036	**.428**	.066	-.174	.403	.306
Electronic	.361	.095	.118	.114	**.801**	.009	-.022	.064
Ambient	.098	.088	-.021	-.003	**.761**	.135	.217	-.128
Techno	.299	.045	.252	.141	**.714**	-.114	-.145	-.129
New age	-.039	.286	.054	.111	**.501**	.423	.145	-.432
Soft contemp. Christian	-.035	.103	-.015	.086	.023	**.850**	-.003	.242
Hard contemp. Christian	.371	.086	.017	.072	.073	**.766**	-.004	.078
Blues	.142	.030	.314	.100	-.001	-.044	**.752**	.027
Jazz	.111	.288	.216	.109	.097	.102	**.693**	.035
Hymns & Sn. Gospel	-.287	.241	-.100	.022	.004	.267	.021	**.666**
Gospel	-.156	.056	.401	-.131	-.001	.288	.158	**.659**

Note. $N = 358$. The highest factor loadings for each dimension are listed in boldface type.

For the sake of clarity, when we refer to one of the eight factors, the words are capitalized and the ampersand used when appropriate; for example, "Rhythmic & Intense, Contemporary Christian." The words "factor" or "component" or "category" are employed to identify the different factors: for example, "The Jazz & Blues factor was found to be . . . ." When referring to one of the 30 styles, the name of the styles are lower case (unless it is a proper noun); for example, "punk," "ambient style."

There are surprisingly few alternative loadings and those that do occur are easily explained. For instance, the Disney/Broadway style with a primary loading on Classical has an alternative loading on Easy Listening. New age music is included in the Fringe category but is also heavily associated with Contemporary Christian. Swing and folk/ethnic, which loads onto the Easy Listening factor, has strong alternative loadings on Jazz & Blues.

A series of partial correlations of the eight primary factors (correlations between all pairs of factors with the other six controlled for) was computed. See Table 2 for the complete matrix. We found that those who listen to Rebellious music are more likely to listen also to Rhythmic & Intense ($r = .115, p =.015$), Fringe ($r = .308, p < .001$), Contemporary Christian ($r = .201, p < .001$), and Jazz & Blues ($r = .171, p = .001$), but less likely to listen to Classical ($r = -.098, p = .033$), and Traditional Christian ($r = -.293, p < .001$).

Listening to Classical music is associated with avoiding Rebellious music ($r = -.098, p = .033$), and Rhythmic & Intense music ($r = -.247, p < .001$), and greater involvement with Fringe ($r = .228, p < .001$), Jazz & Blues ($r = .261, p < .001$), and Traditional Christian music ($r = .204, p = .002$).

The strongest correlations were found between the Rhythmic category and Jazz & Blues ($r = .345, p < .001$) and between Contemporary Christian and Traditional Christian. ($r = .332, p < .001$). The former correlation is easy to understand since both styles of music share many of the same musical ideas. The latter, however, might seem unusual since often there is antagonism between the proponents of Contemporary and Traditional Christian music. It is likely that the high correlation is due to the reality that many churches include both styles of music in their services and each camp is frequently exposed to the other style.

The strongest negative correlation is found between Rebellious music and Traditional Christian music ($r = -.293, p < .001$). Since there is a strong but opposite association between Contemporary Christian music and Rebellious music ($r = .201, p < .001$), it sheds light on why there may be discord between the two groups.

Correlations Between Factors

Rebellious. Listening to Rebellious music is associated with being younger ($r = -.365, p < .001$), working less ($r = -.112, p = .019$), having less education ($r = -.112, p = .018$), lower levels of spirituality ($r = -.187, p < .001$), lower self esteem ($r = -.091, p = .045$), poorer social skills ($r = -.091, p = .045$), an external locus ($r = -.126, p = .009$), a marginally lower IQ ($r = -.082, p = .062$), being less

conscientious ($r = -.242, p < .001$), less agreeable ($r = -.223, p < .001$), having lower emotional stability ($r = -.094, p < .040$), and being more hostile (($r = .183$, $p < .001$).

Rhythmic & Intense. Those who listen to Rhythmic & Intense styles of music produce an almost identical profile as those who listen to Rebellious music. The only notable differences are a much stronger negative correlation with IQ ($r = -.241, p < .001$), and a stronger association with hostility ($r = .314$, $p < .001$), and depression ($r = .148, p = .003$).

Classical. Those who listen to Classical music produce an almost opposite profile, item by item, than those who listen to Rebellious and Rhythmic & Intense. Those who prefer classical music are found to be more likely to sing ($r = .291, p < .001$), play an instrument ($r = .316, p < .001$), be more educated ($r = .199, p < .001$), work more ($r = .118, p = .014$), are more spiritual ($r = .307, p < .001$), have better social skills ($r = .187, p < .001$), have more internal locus ($r = .171, p < .001$), have higher intelligence ($r = .121, p < .012$), are marginally more agreeable ($r = .077, p = .076$), and are less hostile ($r = -.091, p = .046$). There is no significant correlation with sex or age.

Other categories. No other category of music produces nearly so distinctive a pattern of correlates as the three just described. The Easy Listening category is associated with being female ($r = -.279, p < .001$), having less education ($r = -.216, p < .001$), and lower intelligence ($r = -.207, p < .001$). Contemporary Christian listeners are found to be younger ($r = -.313, p < .001$) and more spiritual ($r = .314, p < .001$). Both Christian categories (Contemporary and Traditional) are found to be more likely to sing ($r = .254, .375, p < .001$), and play an instrument ($r = .149, .105, p = .003, .026$). The Traditional Christian listeners are even higher in spirituality ($r = .388, p < .001$) than their contemporary counterparts. In fact the Traditional Christian listeners produce the two highest correlations in the data set with their high level of spirituality and enthusiasm for singing. See Table 2 for the complete correlation matrix.

Discussion

The negative profiles of those who listen to Rebellious and Rhythmic & Intense music might seem at first glance to be both extreme and unexpected. But the reality is that the increasing volume of literature finds a similar profile. The issue of causality remains a conundrum. Correlational analyses are always open to the issue of undeterminable causality, however, sometimes the research suggests likelihood of direction. But it is not true in this study: Music, emotion, and personality are so closely intertwined that it is difficult to separate the individual influence of one on the other (Trainor & Schmidt, 2003).

Perhaps the closest thing to experimental evidence is a study completed by North and MacKenzie (2001) in which a herd of approximately 1,000 British milk cows was randomly divided into groups. Both groups were subjected to 12 hours a day of different styles of music for nine weeks. The cows that listened to gentle music (e.g., Beethoven's *Sixth Symphony (Pastoral)*, Simon & Garfunkle's *Bridge Over Troubled Water*, Danny Williams' *Moon River*) gave significantly more milk than the cows that listened to rock music (e.g.,

Table 2

Correlation Matrix of Key Musical Factor and Variables

Factor/Variable	sing	play	gender	age	educat	spiritual	esteem	soc skill	locus	IQ	conscie	agree	extrav	open	stable	hostile	depres
Rebellious	.067	.126	.114	-.367	-.124	.175	-.092	-.108	-.134	-.082	-.244	-.206	.059	.129	-.077	.177	.054
Rhythmic&Inten	.306	.087	-.041	-.406	-.100	-.154	-.032	.005	-.158	-.241	-.100	-.123	.060	.122	-.072	.314	.139
Classical	.291	.329	-.067	.071	.196	.302	.061	.193	.163	.118	.032	.010	.128	.011	.086	-.097	-.082
Easy listen	.124	.017	.104	.088	-.178	-.034	.080	.118	-.010	-.166	.115	.050	.086	.030	.077	.033	.061
Fringe	.170	.116	-.027	-.222	-.090	.048	-.062	.042	-.058	-.051	-.140	-.060	-.006	.197	.023	.107	-.041
CCM	.261	.163	-.089	-.313	-.090	.341	.121	.213	.137	-.061	.004	.038	.123	.015	-.045	-.005	-.052
Jazz&blues	.256	.160	-.045	-.080	-.004	.085	.014	.129	-.001	.127	-.073	-.053	.010	.387	.034	.460	.036
TCM	.369	.104	.012	.065	.468	.388	.026	.007	.493	-.077	.021	.160	.069	.332	-.043	.030	.251
Sing	1	.025	.410	.435	.075	.234	.014	.131	.008	-.025	-.022	.079	.006	.068	.207	.498	.075
Play		1	.004	-.330	.059	.000	.398	.002	.021	.321	-.129	.068	.453	.101	.258	.285	.078
Gender			1	.256	.074	.016	-.054	-.157	.056	.002	-.037	.037	.157	.238	-.035	.125	.041
Age				1	.113	.193	.154	.001	.146	.486	-.162	.002	.001	.000	.119	.009	.222
Education					1	.075	.103	.115	.201	.126	.235	.218	.018	.146	.050	.050	-.120
Spirituality						1	.026	.015	.000	.099	.001	.222	-.106	.003	.012	.172	.012
Self esteem							1	.134	.168	.297	.000	.000	.023	-.005	.070	.065	.161
Social skills								1	.001	.000	.078	-.004	.062	.466	.094	.110	.001
Locus									1	.149	.071	.466	.121	-.088	.072	-.307	-.106
IQ										1	.154	.250	.124	.149	.086	-.159	-.072
Conscientious											1	.351	.107	.002	.122	.001	.088
Agreeable												1	.168	.146	.011	-.243	-.232
Extraversion													1	.264	.182	.000	.000
Openness														1	.184	-.092	-.187
Emotional stab.															1	-.517	-.453
Hostility																1	.463
Depression																	1

Note. $N = 358$. Pearson correlations are shown directly to the right of each variable; one-tail significance is shown below, tabbed to the right, and in a smaller font.

Mud's *Tiger Feet*, Wonderstuff's *Size of a Cow*). The study illustrates the challenge of attempting to determine causality. While such an experiment might be allowed with bovines, it would probably be considered unethical (as well as impractical) to do it with humans.

The almost opposite profile of those who enjoy classical music is indeed unexpected. On 12 of the 15 personality variables those who listen to classical music end up (significantly) on the positive side of the ledger (and are neutral on the other three). Once again, causality is difficult to determine. A good deal of research has considered the fabled "Mozart effect." The present study lends support with the finding that those who play an instrument also possess greater intelligence than those who don't ($r = .084, p = .056$). Intelligence also is significantly associated with how well one plays ($r = .145, p = .003$) and how much one practices ($r = .132, p = .002$).

There is a strong parallel between those who enjoy classical music and those who play an instrument. Classical listeners are more likely than any other group to play an instrument; playing an instrument (a combination of "quality of playing" and "practice time") produces a pattern of positive correlations that almost are identical to those who listen to classical music. See Table 3 for details.

The absence of a strong pattern of personal correlates with Jazz & Blues or Traditional Christian music paints a different picture. Both groups are more likely to sing or play an instrument; The Jazz & Blues listeners are more open to experience and the Traditional Christian listeners are more spiritual. Otherwise, for the remaining 18 personality and demographic variables, correlates were no higher than .12. In this setting the absence of a strong pattern of personal correlates suggests the wide appeal of these styles of music. A unique profile does not emerge as, for instance, with the Rebellious or Classical listeners.

The Issue of Age

Four of the categories of music are heavily associated with a young audience: Rebellious music ($r = -.367, p < .001$), Rhythmic & Intense ($r = -.406, p < .001$), Fringe ($r = -.222, p < .001$), and Contemporary Christian ($r = -.313, p < .001$). The almost comprehensively negative profile of those who listen to Rebellious and Rhythmic & Intense music raises the issue of whether this profile simply parallels the personality profile of those who are younger. Recall that when the word "young" is used we are speaking of young adults. The youngest individual in the study was 18.

A look at the correlates with age provides initial support for this idea. A younger age is associated with singing more ($r = -.330, p < .001$), playing more ($r = -.216, p < .001$), being less educated ($r = .113, p = .016$), marginally less spiritual ($r = .075, p = .080$), having lower income ($r = .146, p = .003$), lower self esteem ($r = .103, p = .026$), poorer social skills ($r = .115, p = .015$), a lower IQ ($r = -.367, p < .001$), a more external locus ($r = .201, p < .001$), being less conscientious ($r = .235, p < .001$), less agreeable ($r = .222, p < .001$), marginally less emotionally stable ($r = .072, p < .086$), more hostile ($r = -.307, p < .001$), and more

Table 3

Bivariate Correlations (Above the Diagonal) and Partial Correlations (Below the Diagonal) for the Eight Categories of Music

Music category	Rebellious	Rhythmic & Intense	Classical	Easy listening	Fringe	CCM	Jazz & Blues	TCM
				Category of Music				
Rebellious	1.000	.204 (.000)	-.024 (.328)	.121 (.011)	.391 (.000)	.172 (.001)	.225 (.000)	-.227 (.000)
Rhythmic & Intense	.115 (.015)	1.000	-.050 (.174)	.220 (.000)	.226 (.000)	.051 (.168)	.410 (.000)	.180 (.000)
Classical	-.098 (.033)	-.247 (.000)	1.000	.197 (.000)	.235 (.000)	.203 (.000)	.271 (.000)	.237 (.000)
Easy listening	-.073 (.087)	.105 (.025)	.086 (.054)	1.000	.296 (.000)	.195 (.000)	.337 (.000)	.019 (.361)
Fringe	.308 (.000)	.156 (.002)	.228 (.000)	.176 (.000)	1.000	.230 (.000)	.230 (.000)	-.046 (.192)
CCM	.201 (.000)	-.090 (.045)	.071 (.091)	.144 (.003)	.128 (.008)	1.000	.114 (.015)	.289 (.000)
Jazz & Blues	.171 (.001)	.345 (.000)	.261 (.000)	.223 (.000)	-.018 (.336)	-.041 (.223)	1.000	.145 (.003)
TCM	-.293 (.000)	.244 (.000)	.204 (.002)	-.103 (.027)	-.093 (.040)	.332 (.000)	.073 (.086)	1.000

Note. $N = 358$. Bivariate correlations are shown above the diagonal and partial correlations are shown below the diagonal. Partial correlation in each instance is the correlation between two variables with the other six variables used as covariates. One-tail significance is shown below in parentheses.

depressed ($r = -.106, p < .022$). The profile is quite similar to that for Rebellious and Rhythmic & Intense listeners.

The solution is to run a series of correlations and use age as a covariate, thus mathematically eliminating the influence of age. To assist simplicity (and since their profiles are so similar) the Rebellious and the Rhythmic & Intense categories are combined. Results show that although including age

as a covariate weakens the effect in certain cases, the negative profile still remains essentially intact. Only two items diminish from significant to marginal or nonsignificant. They include: greater likelihood of playing an instrument goes from significant to nonsignificant ($r = .135, p = .005$, vs. $r = .032$, not significant), and lower emotional stability goes from significant to marginally significant ($r = -.096, p = .035$ versus $r = -.069, p = .097$). Table 4 compares the two profiles with and without the covariate.

In sum, although being young contributes to the negative profile of those who listen, its overall effect is minimal. Even with age eliminated as a consideration, listening to Rebellious and Rhythmic & Intense music is still associated with the negative profiles reported earlier.

Table 4

Combined Profile of Those Who Listen to Rebellious and Rhythmic & Intense Music, With and Without Age as a Covariate

	Correlations					
Variable/Factor	Age		Rebellious + Rhythmic & Intense (no covariate)		Rebellious + Rhythmic & Intense (age as covariate)	
Rebellious	-.367**	(.000)	.731	(.000)	.680	(.000)
Rhythmic & Intense	-.406**	(.000)	.817	(.000)	.776	(.000)
Classical	.071	(.091)	-.049	(.180)	-.015	(.387)
Easy Listening	.088*	(.048)	.224**	(.000)	.311**	(.000)
Fringe	-.222**	(.000)	.387**	(.000)	.327**	(.000)
Contemporary Christian	-.313**	(.000)	.137**	(.005)	-.024	(.329)
Jazz & Blues	-.080	(.065)	.418**	(.000)	.438**	(.000)
Traditional Christian	.009	(.435)	-.008	(.440)	-.004	(.468)
Sing	-.330**	(.000)	.253**	(.000)	.107*	(.021)
Play	-.216**	(.000)	.135**	(.005)	.032	(.272)
Gender	.035	(.256)	.038	(.235)	.064	(.113)
Education	.113*	(.016)	-.143**	(.003)	-.100*	(.029)
Income	-.146**	(.003)	-.070	(.095)	.081	(.063)
Work	-.009	(.435)	-.009	(.435)	-.085	(.054)
Spirituality	.075	(.080)	-.210**	(.000)	-.200**	(.000)
Self esteem	.103*	(.026)	-.077	(.074)	-.029	(.290)
Social skills	.115*	(.015)	-.060	(.127)	-.003	(.474)
Locus of control	.201**	(.000)	-.189**	(.000)	-.105*	(.024)
IQ	.126**	(.009)	-.206**	(.009)	-.179**	(.000)
Conscientiousness	.235**	(.000)	-.213**	(.000)	-.114*	(.016)
Agreeableness	.222**	(.000)	-.207**	(.000)	-.114*	(.016)
Extraversion	-.106*	(.023)	.076	(.075)	.028	(.302)
Openness	-.088*	(.049)	.160**	(.001)	.135**	(.005)
Emotional stability	.072	(.086)	-.096*	(.035)	-.069	(.097)
Hostility	-.307**	(.000)	.323**	(.000)	.206**	(.000)
Depressiveness	-.106*	(.022)	.129**	(.007)	.088*	(.049)

Note. $N = 358$. One-tail significance in parentheses to the right: $* < .05$, $** < .01$.

The Traditional Christian versus Contemporary Christian Controversy

While many may not be aware of it, over the past few decades in Christian churches, the traditional versus contemporary music controversy has grown. A good deal has been written discussing the issues (e.g., Lucarini, 2002; Fisher, 1992, 2004; Warren, 1995; Makujina, 2002). Regrettably, most of these discussions are anecdotal, but the present study sheds some light within a research context.

The factor structure and correlations suggest problems in two areas: First, there is a significant positive correlation between Contemporary Christian Music (CCM) and Rebellious music ($r = .201, p < .001$) whereas Traditional Christian Music (TCM) is negatively correlated ($r = -.293, p < .001$). The factor structure tells a similar story. Hard contemporary music has a substantial alternative loading on the Rebellious category (.371), while both components of TCM have negative factor loadings (-.287, -.156). This result suggests that the underpinnings of the two styles of music basically are antagonistic to each other.

A second issue involves "new age" music. Conservative fundamentalists fear that secular humanism, as exemplified by new age music, will undermine the faith of its adherents (e.g., Carter, 2005; Colson, 1999; Kilpartick, 1992; MacArthur & Goss, 1998; Martin, 1989; Pacwa, 1992). The factor structure shows a robust alternative loading of new age music on the Contemporary Christian Music category (.423). The factor loading for new age music on Traditional Christian Music is just the opposite, a loading of -.432. Again it appears that contemporary Christian music embraces a style of music that arouses fear in the traditional camp.

Confounding issues find that both those who listen to CCM and TCM are higher than normal in spirituality ($r = .341, .388, p < .001$) and there is a strong positive correlation between TCM and CCM ($r = .332, p < .001$). The latter finding is easy to explain: As mentioned earlier, many church services include both traditional hymns and some contemporary music in the same service. Regarding the former point, the fact that both sets of listeners are high in spirituality suggests only that individuals may have different avenues to spiritual fulfillment that others may not share.

Regression Analyses

Regression analyses provide a more accurate picture of the relative strength of different variables after the influence of other variables have been removed. Only the more relevant categories of music are included here. See Table 5 for complete regression results. Each of the following analyses includes all relevant variables as predictors in a stepwise procedure with a *p* to enter of .05 and a *p* to remove of .10. Beta weights are listed in parentheses following the naming of each variable followed by R and R^2 values.

Rebellious music. Those who listen to Rebellious music primarily are characterized as being younger ($\beta = -.313$), less spiritual ($\beta = -.159$), more open

Table 5

Regression Analyses with Each Music Category as the Criterion Variable

Criterion Variable	R	R²	Variable (β)	Variable (β)	Variable (β)	Variable (β)	Variable (β)	Variable (β)	Variable (β)
			Predictor Variables with Beta weights						
Rebellious	.455	.207	Age (younger) (-.313)	Spirituality (-.159)	Openness (.147)	Conscientious (-.140)	Gender-male (.095)		
Rhythmic & Intense	.558	.311	Age (younger) (-.271)	Hostility (.248)	Singing (.209)	Social Skills (.196)	Spirituality (-.192)	Intelligence (-.159)	
Classical	.491	.241	Play instrument (.263)	Age (older) (.186)	Spirituality (.184)	Singing (.182)	Openness (.134)		
Easy Listening	.389	.152	Intelligence (-.177)	Age (older) (.176)	Gender-female (-.166)	Singing (.164)	Education (-.158)	Depression (-.129)	Work (.100)
Fringe	.304	.092	Openness (.189)	Age (younger) (-.179)	Conscientious (-.111)				
Contemporary Christian	.517	.267	Spirituality (.396)	Age (younger) (-.302)	Education (-.138)	Openness (-.105)	Singing (.101)		
Jazz & Blues	.408	.166	Openness (.319)	Singing (.181)	Intelligence (-.111)	Agreeable (-.101)			
Traditional Christian	.512	.262	Spirituality (.342)	Singing (.318)	Depression (.153)	Age (older) (.104)			

Note. $N = 358$. All predictor variables are significant at $< .05$ level.

to experience ($\beta = .147$), less conscientious ($\beta = -.140$), and likely to be male rather than female ($\beta = .095, R = .455, R^2 = .207$).

Rhythmic & Intense. Those who listen to Rhythmic & Intense music are characterized as being younger ($\beta = -.271$), more hostile ($\beta = .248$), more likely to sing ($\beta = .209$), having better social skills ($\beta = .196$), measuring less spiritual ($\beta = -.194$), and less intelligent ($\beta = -.159, R = .558, R^2 = .311$).

Classical. Those who listen to Classical music are characterized as more likely to play an instrument (and to play it well, $\beta = .263$), to be more spiritual ($\beta = .184$), older ($\beta = .186$), more likely to sing (and to sing well, $\beta = .182$), and more open to experience ($\beta = .134, R = .491, R^2 = .241$).

Easy Listening. Those who listen to music in the Easy Listening category are characterized as less intelligent ($\beta = -.177$), older ($\beta = .176$), female rather than male ($\beta = -.166$), more likely to sing (and to sing better) ($\beta = .164$), less educated ($\beta = -.158$), less depressed ($\beta = -.129$), and hard working ($\beta = .100, R = .389, R^2 = .152$).

The results from other music styles may be viewed in Table 5.

Comparison of Correlates with the Rentfrow & Gosling Study

Due to the difficulties of comparison mentioned earlier, the following discussion is not central to the study. However, where comparisons with the Rentfrow & Gosling's (2003) factors are possible, they are included here. Comparisons were made for correlates with extraversion, agreeableness, conscientiousness, emotional stability, openness, self-esteem, depression, and intelligence in the present study to the following factors in Rentfrow & Gosling's research:

1. The Reflective & Complex factor (classical, jazz, blues, folk), compared with the present study's Classical factor (orchestral, piano/organ, ballet/opera, choral, Broadway and show tunes);
2. The Intense & Rebellious factor (alternative, heavy mental, rock), compared with the present study's Rebellious factor (grunge, heavy metal, punk, alternative, classic rock);
3. The Upbeat & Conventional factor (country, pop, religious, sound tracks), compared with the present study's Easy Listening factor (20th century pop, country, soft rock, disco, folk/ethnic, swing); and
4. The Energetic & Rhythmic factor (hip hop/rap, soul/funk, electronic/dance) compared with the present study's the Rhythmic & Intense factor (hip-hop & rap, pop, rhythm & blues, Reggae).

For the 32 possible comparisons, only six of them were statistically significant in both studies (all significant at the $p < .05$ level): Those who listen to

classical music (or Reflexive & Complex) were found to be more open to experience (r = .43, .24) and more intelligent (r = .08, .12). Those who listen to Rebellious music (or Rebellious & Intense) were found to be more open to experience (r = .17, .13). Those who enjoy easy listening music (or Upbeat & Conventional) were found to be more extroverted (r = .20, .09), more conscientious (r = .17, .12), and less depressed (r = -.08, -.13). For the Rhythmic & Intense category there were no significant matching correlations. Table 6 shows these data and also includes (in parentheses) the equivalent correlations for the student-only segment (N = 120) of the present study.

Gender differences

Men are more likely to listen to Rebellious music, (M = 7.30 vs. 5.85), $t(356)$ = -2.094, p = .037; whereas women are more likely to listen to Easy Listening (M = 10.10 vs. 8.15), $t(356)$ = 4.025, p < .001. Other differences: Women are more likely to sing, (M = 8.86 vs. 7.79), $t(356)$ = 2.684, p = .008; have better social skills, (M = 5.31 vs. 5.12), $t(356)$ = 2.924, p = .004; are more conscientious, (M = 4.04 vs. 3.84), $t(356)$ = 3.097, p = .002;l more agreeable, (M = 4.05 vs. 3.78), $t(356)$ = 4.205, p < .001; more extraverted (M = 3.49 vs. 3.30), $t(356)$ = 2.110, p = .036; and less depressed, (M = 1.80 vs. 2.04), $t(356)$ = -3.080, p = .002.

Conclusions and Future Research

Any research study must deal with the generalizability of its findings. The characteristics of the sample always are under scrutiny. The present sample may be skewed in at least two ways. There is an uncharacteristically large number of university undergraduates (33.4%). Also, since the university is a liberal arts Christian school, the level of spirituality could be considerably higher in the present sample than in a general community sample (see George, Mabb & Walsh, 1996). The need for a random or more generalizable sample is urged.

Nevertheless, this research has uncovered some useful findings. The factor structure (with a more complete set of music styles) has provided a solid outcome and the resulting eight categories appear to have face validity. Future studies will determine if a similar structure can be duplicated. The contrasts of personal correlates between those involved with the Rebellious and Intense & Rhythmic and Classical music provide a clarity that previous studies have only hinted at. The negative profile for these two factors and the positive profile for Classical listeners are clearly delineated. Even when age is controlled, the contrast is still extraordinary.

The issue of causality will continue to be a daunting challenge. It parallels the heavily researched topic of the influence of TV violence (for a review, see Anderson, Berkowitz, Donerstein, et al., 2003): Does watching violent TV generate more violence or do violent individuals watch violent TV? Whether we consider TV violence or the influence of music on personality, neither topic subjects itself well to experimental research. The bovine project men-

Table 6

Comparison of Correlations for Key Variables with Four Equivalent Factor in the George et al. and the Rentfrow and Gosling Studies

	Reflexive & Complex (R&G) and Classical (George et al.)		Intense & Rebellious (R&G) and Rebellious (George et al.)		Upbeat & conventional (R&G) and Easy listening (George et al.)		Energetic & Rhythmic (R&G) and Rhythmic & Intense (George et al.)	
	Rentfrow&Gosling	George et al.	Rentfrow&Gosling	George et al.	Rentfrow&Gosling	George et al.	Rentfrow&Gosling	George et al.
Extraversion	-.01	.08 (.09)	.04	.06 (-.09)	.20*	.09* (.00)	.21*	.06 (.00)
Agreeableness	.02	.08 (.11)	-.02	-.21* (-.23*)	.24*	.05 (.06)	.09*	-.12* (-.12)
Conscientiousness	-.04	.03 (.07)	-.03	-.24* (-.23*)	.17*	.12* (-.05)	-.02	-.10* (-.16*)
Emotional Stability	.06	.08 (-.05)	-.01	-.08 (.03)	-.06	.00 (-.06)	.00	-.07 (-.03)
Openness	.43*	.24* (.16*)	.17*	.13* (-.07)	-.11*	.03 (.07)	.04	.12* (.06)
Self Esteem	.01	.06 (-.02)	-.02	-.09** (-.13*)	.014	.08 (-.08)	.01	-.03 (-.07)
Depression	-.01	-.08 (-.16*)	.03	.05 (.04)	-.08*	-.13* (-.17*)	.02	.14* (.09)
Intelligent	.08*	.12* (.13)	.08*	-.08 (-.12*)	-.04	-.17* (-.11)	-.01	-.24* (-.31*)

Note. Rentfrow & Gosling: *N* = 1704; George et al: *N* = 359; Student segment of the George et al. study (in parentheses): *N* = 120. * *p* < .05

tioned earlier appears to be about as close as researchers have yet managed. If listening to a particular type of music does have an affect on personality, it would probably require immersion in that style of music for a number of years to yield an effect. It is unlikely that any randomly-selected set of individuals would subject themselves to that.

The findings on the Contemporary versus Traditional styles of Christian music may have uncovered two important pieces of the puzzle. The difficulty appears to be something real, not just semantics. The traditionalists probably do, at core, dislike the sound of the Contemporary Christian music, and their negative perception of secular humanism and the new age music exacerbate their discomfort.

The following is the sheet used by subjects to rate their level of enjoyment and amount of listening.

Thirty different styles of currently-available music are listed below. In the lines to the left, please indicate how much you like (or dislike) each musical style (note the 7-point scale below) and then how much time you spend listening to, singing, or playing each type (using the 5-point scale to the right). Your ratings should reflect only music that you choose to listen to. As such, music played by your children or overheard in a store, restaurant, or gym doesn't count.

Level of enjoyment
1 – dislike intensely
2 – dislike
3 – unacquainted or neutral
4 – enjoy somewhat
5 – enjoy
6 – enjoy greatly
7 – enjoy intensely

Amount of volitional listening or playing/singing
1 – never
2 – occasionally
3 – fairly often
4 – frequently
5 – saturated and immersed in it

1. ____ ____ Classical instrumental (e.g., orchestral, small ensemble, chamber, solo performance, movie scores)
2. ____ ____ Classical Piano or organ (e.g., Liszt, Chopin, Bach, Vaughn Williams, Tchaikovsky, Brahms, Gershwin)
3. ____ ____ Classical or sacred choral (e.g., Mozart's or Brahms's Requiems, *Messiah, Creation, Elijah*)
4. ____ ____ Ballet or Opera (e.g., *Nut Cracker, Swan Lake, Aida, Tanhauser, Porgy & Bess, Phantom of the Opera*)
5. ____ ____ Southern Gospel/hymns (e.g., Gaither, Heritage Singers, Heralds, standard hymns)
6. ____ ____ Gospel (e.g., Kirk Franklin, Fred Hammond, Bebe & Cece Winans)
7. ____ ____ Soft contemporary Christian (e.g., Michael W. Smith, Jars of Clay, Point of Grace)
8. ____ ____ Hard contemporary Christian (e.g., DC Talk, Switchfoot, Newsboys)
9. ____ ____ Country (e.g., Dolly Parton, Dixie Chicks, Garth Brooks, Tim McGraw, Faith Hill)
10. ____ ____ Folk (e.g., Peter Paul & Mary, Carpenters, Great Big Sea, River Dance)
11. ____ ____ Swing (e.g., Cherry Poppin' Daddies, Glen Miller, Duke Ellington, Benny Goodman, Artie Shaw)
12. ____ ____ Disco (e.g., Donna Summers, ABBA, Bee Gees)
13. ____ ____ Jazz (e.g., Harry Connick Jr., Ella Fitzgerald, Louis Armstrong, Norah Jones)
14. ____ ____ Broadway/Show tunes/Disney (e.g., *My Fair Lady, Sound of Music, Chicago, Music Man, Showboat*)
15. ____ ____ Popular songs—20th century (e.g., Beatles, Beach Boys, Elvis Presley, Sinatra, Berlin, Gershwin)
16. ____ ____ Soft Rock (e.g., Celine Dion, Jewel, Sarah McLachlan, Seal)
17. ____ ____ Rhythm & Blues (e.g., Stevie Wonder, Alicia Keys, Ray Charles, Boyz II Men)
18. ____ ____ Hip-hop/Rap (e.g., Jay-Z, 50 Cent, DMX, Tupac)
19. ____ ____ Pop (e.g., Prince, Madonna, Britney Spears, Justin Timberlake, Michael Jackson)
20. ____ ____ Blues (e.g., B.B. King, Etta James, Stevie Ray Vaughn)
21. ____ ____ Reggae (e.g., Sean Paul, Bob Marley, Shaggy)
22. ____ ____ Classical Rock (e.g., Queen, Led Zeppelin, AC/DC, Kiss, Def Leppard, Doors, Motley Crue)
23. ____ ____ Heavy Metal (e.g., Metallica, Rob Zombie, Ozzy Osbourne)
24. ____ ____ Punk (e.g., Pennywise, New Found Glory, Rancid)
25. ____ ____ Alternative (e.g., Our Lady Peace, No Doubt, 40 Foot Echo)
26. ____ ____ Grunge (e.g., Nirvana, Queens of the Stone Age, Pearl Jam)
27. ____ ____ Electronic (e.g., Portishead, Bjork, Moby)
28. ____ ____ Techno (e.g., Eiffel 65, Fatboy Slim, Eric Prydz)
29. ____ ____ New Age (e.g., Enya, Yanni, Zamphir)
30. ____ ____ Ambient (e.g., Café del Mar, Air)

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