Personality and Music:
An Examination of the Five-Factor Model
in Conjunction with Musical Preference

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Human beings appear to possess innate abilities to recognize, react to, and understand music, and as an individual develops, the impact of music usually becomes significantly pervasive. Music is a phenomenon that is evident, in some form or another, in all cultures; its existence precedes the beginnings of human history. Given that music has been maintained for ages and continues to play a significant role in everyday life, it seems logical to ponder what needs music fulfills and why it is such an important component of human existence. In the words of Hodges (1999), “Music is a universal trait of humankind. Throughout the ages it has played a significant role in the lives of people in every part of the globe” (p. 29).

For most lay individuals, as well as researchers, it is not difficult to recall the many everyday situations involving music and the variety of ways it is experienced. And yet music has been consistently under-studied by those professionals who deal with subjective, human phenomena: social and personality psychologists. Between 1965 and 2002, in the most noteworthy social and personality journals, music was listed as an index term or subject heading only seven times (Rentfrow & Gosling, 2003). Rentfrow and Gosling (2003) provide their perspective on this issue as follows: “We believe that an activity that consumes so much time and resources and that is a key component of so many social situations warrants the attention of mainstream social and personality
psychologists” (p. 1236). In recent times, “music psychology” has become an expanding field and musical phenomena are now gaining proper recognition. One direction that music research has ventured involves a focus on the interaction between personality and musical preference.

In a recent study conducted by Rentfrow and Gosling (2003), participants were asked to complete a number of questionnaires used to probe for information about lifestyle and leisure preferences. One question asked how much participants believed music preferences reveal about their own and others’ personalities. The findings demonstrated that music preferences were thought by participants to provide more insight into their own and others’ personalities than TV preferences, books and magazine preferences, and movie preferences. Only hobbies and activities were believed to reveal more. This prominent belief that music preference can provide accurate psychological information has been supported by a number of studies that have uncovered significant correlations between certain music preferences and particular personality traits.

In their work *Psychological Foundations of Musical Behavior*, Radocy and Boyle (2003) extensively review current explanations of a variety of musical behaviors, cognitions, and attitudes. In a chapter examining musical preference perspectives, the authors assert, “Personal preferences for certain foods, paintings, home décor, clothing, and music are rooted in individual biological needs, cultures, training, and experience” (p. 362). The authors conclude from the musical preference research that “Psychologists may use expressed musical preferences to assess personality via deviations from population trends regarding musical choices” (p. 362). Radocy and Boyle cite the early work of Cattell and Anderson (1953), who claimed that aesthetic reactions could
differentiate “psychotics” from “normals.” They also review the research of Hahn (1954), who reported that musical choices reflect clinical personality assessments. Later research has tended to focus on the relationships between various aspects of personality and musical preference.

In a discussion of how to define “good” music, Radocy and Boyle (2003) propose that the matter can be viewed from several different angles. One perspective is that music should be evaluated in regard to its intrinsic value. The structure and form of a musical piece dictates its artistic quality. An opposing view is that music is an ambiguous art form that acquires value and meaning from the individuals who experience it. The emotional and cognitive responses of a listener determine the “quality” of a piece. A third perspective represents a combination of the other two: musical quality is defined by aspects of its form as well as by individual responses. The way in which an individual conceptualizes “good” music influences the type of music he or she will seek out. Radocy and Boyle illustrate this point with the assertion that “some people want complexity. Some want simplicity. Some want strong narrative suggestions; some want an exercise in tracking and labeling musical form” (p. 365).

Radocy and Boyle (2003) contend that musical preference is “more than an interaction of inherent musical characteristics and individual psychological and social variables” (p. 371). They cite the work of Abeles (1980) who, after a thorough review of the pertinent literature, concluded that personality factors and emotional states were related to preference, but not in a clear-cut fashion. Music preference might be influenced by previous experiences, group identification, mass media, and self concept, among other things. The authors cite the theory forwarded by LeBlanc (1980,1982), which
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conceptualizes musical judgment as a hierarchical process. LeBlanc asserts that music is
differently processed at seven different levels, only one of which involves personality
characteristics. Other levels include processing that is influenced by environmental
factors and processing that is influenced by an individual’s current mood state. The
theory developed by Walker (1980) similarly characterizes musical preference as only
indirectly related to personality factors (as cited in Kemp, 1996). Walker asserts that
liking is directly influenced by musical complexity. Preference is modeled by a bell
curve: there is an optimal level of complexity that is most enjoyable. Both very low
complexity and very high complexity are less enjoyable. Individuals have particular
optimal complexity levels, with deviations in either direction decreasing liking.
Simplistic music might produce boredom while overly complex music requires extensive
processing that can decrease the likelihood that an individual will continue attending to
the music.

In his work The Musical Temperament, Anthony E. Kemp (1996) provides a
concise overview of music psychology and research on musician personalities. He
devotes one chapter to an analysis of the research concerning musical preference and
listening styles. Kemp begins by discussing one of the earliest contributors to the research
literature, Raymond Cattell. The goal of his research was to develop a personality
inventory based on musical excerpts that would strike a balance between being an
objective inventory and a projective one. Cattell asserted that music satisfies deep,
unconscious needs, and preference could be used as a window into this elusive area of the
personality. Along with his co-workers, Cattell developed the IPAT Music Preference
Test (Cattell and Anderson, 1953. As cited in Kemp, 1996). Using a large group of
students and adults, the researchers had participants reveal their preference for a number of 30-second musical themes. From the responses, they identified 11 factors that could be interpreted as personality traits existing at what might be considered a subconscious level (cognitions were minimally involved in the responses). Cattell’s test has been criticized on the grounds that the factors do not have any coherent musical meaning and they appear unrelated to the factors assessed in other personality inventories.

Kemp discusses another early investigator, Cyril Burt, whose theory related extraversion and introversion to musical preference. Burt (1939) “maintained that stable extraverts would be attracted to music that possessed dynamic equilibrium, solidity, and weight and a certain predictability, as well as balance and brightness” (Kemp, 1996, p. 123). Burt used the designation “stable” as the opposite of neurotic, which in turn is called “unstable.” He further suggests that music that creates cognitive associations would likewise be appealing to stable extraverts. Such music evokes and ties together certain thoughts and memories. In discussing the stable introverts, Burt suggests that they are “more likely to take an intellectual stance, valuing aspects of form rather than emotional expression with the listener appearing to take a cold and critical stance to pieces” (Kemp, 1996, p. 123). Stable introverts are attracted to musical pieces that “reveal a feeling of unity” (p. 123). For both types he identifies the preferred period as classical, but illustrates the differences by suggesting composers that each would prefer (due to the particular characteristic qualities of their music).

Burt’s theory also addresses the musical qualities preferred by unstable extraverts and introverts. Such types are thought to prefer music primarily from the romantic period. The unstable extravert is “more likely to be attracted to programme music of a more
emotional and sensational kind” (p. 124). Music that involves vivid colors, strong contrasts, and flowing passages is most enjoyable for them. The unstable introvert is described as being “drawn to impressionistic pieces” (p. 124). The unstable introvert searches for music that will arouse deep emotions and will allow a listener to withdraw into an internal world that is protected from reality. Kemp observes that Burt’s findings suggest that introverts are prepared to be more involved and do more work with the music they hear. On the other hand, the extravert “chooses music that generally makes fewer demands, and offers experiences in which the self is less than totally engaged” (p. 126)

Payne (1967) is another researcher cited by Kemp who focused on psychological differences between those who preferred classical and those who preferred romantic styles. Payne’s hypothesis was that stable individuals would show a preference for classical styles and neurotic individuals would prefer romantic styles. She found that neuroticism was in fact a powerful factor mediating classical and romantic musical preference. Payne suggested that a person’s disposition to feel anxious might consistently influence whether or not he or she is attracted to classical or romantic music. Kemp notes that in Payne’s view, “the terms ‘classical’ and ‘romantic’ can be applied to music of any period and need not be restricted to that of the eighteenth and nineteenth centuries” (p. 125). “Classical” music is defined by a focus on form, whereas “romantic” music focuses on feeling.

Kemp describes the early work of Keston and Pinto (1955), who measured how intellectual introversion (marked by a tendency to think analytically and theoretically) and social extraversion relate to musical preference. Intellectual introversion was found
to bear a strong relationship with a measure of preference for serious, classical music as opposed to more popular styles. Social extraversion was not found to be significantly related to the preference measure. Later research conducted by Payne (1980) supports such findings. Kemp remarks that, “Amongst trained musicians and those familiar with music, introverts preferred music with a formal structure while extraverts preferred music with human emotional overtones” (p. 127).

Recognizing that research has shown a consistent connection between extraversion and musical preference, Kemp seeks to further elucidate the relationship by focusing on an important related factor: sensation-seeking. In relating sensation-seeking to listening preference, Kemp asserts that, “Because of their higher arousal thresholds, extraverts may actively seek out situations in which they need to find higher levels of stimulation, which might prove quite uncomfortable for the more introverted” (p. 127). To examine the issue in greater depth, Kemp turns to the work of Litle and Zuckerman (1986) on sensation-seeking. Using their own music preference scale these researchers found that those high in sensation-seeking prefer rock music and particularly dislike soundtrack music. They concluded that those high in sensation-seeking need to immerse themselves in music rather than utilizing it simply as a background. Those who scored high on the subscale “experience seeking” were more likely to have diverse preference patterns and to experience music intensely.

When discussing differential listening strategies, Kemp cites the research of Hargreaves and Coleman (1981). Using a number of musical extracts in a range of styles, these researchers delineated two distinct listening strategies: “objective – analytic” and “affective.” The former was “considered to involve objective or technical reactions to the
Those adopting the “affective” strategy, on the other hand, responded to music more emotionally and were generally more musically naïve. Kemp refers to the work of Smith (1987) to illustrate how the different strategies influence preference. His research showed that music experts and novices respond to different aspects of musical pieces, not just to the same aspects at different levels of complexity. Smith differentiates between syntactic and non-syntactic listening. The former involves “an ability to ‘go along’ with a composer, to engage vicariously in his or her craft” (Kemp, 1996. p. 129). Syntactic listeners appreciate the construction of musical pieces and the composer’s techniques. Non-syntactic listening, on the other hand, involves emotional responses and an appreciation of the whole, rather than the individual parts. The cognitive structuring that individuals possess seems to influence how they listen to music, and thus might influence their musical preference. Hemispheric dominance, functioning mostly in the analytical left brain or holistic right brain, has also been shown to influence listening style.

Kemp suggests that Jung’s types are illuminating in regard to the relationship between musical preference and specific personality types. He cites the research of Hedden (1973), which revealed that those who exhibit affective responses to music were more likely to show a preference on the Myers-Briggs Type Indicator for feeling. Those listeners that experienced music more objectively and analytically were characterized by a preference for thinking. Lewis and Schmidt (1991) expand on the relationship between preference and Jungian types with their findings that those individuals utilizing a variety of listening styles show a preference for intuition (as cited in Kemp, 1996). Kemp notes
that the sensing type has been found to relate to more conservative and conventional attitudes concerning music listening.

In discussing important shortcomings of prior music research, Kemp points out the general lack of interest among researchers in “popular” forms of music. Instead, they have chosen to focus on what they consider “serious” forms of music and to ignore forms that they believe are representative of an inferior culture. Kemp discusses the fact that some styles are believed to be “overrun by drugs, promiscuity, and anti-social and violent behavior amongst a small section of the adolescent population” (p. 135). The misunderstandings and apparent biases directed at those who prefer popular music suggest the need for focused research that will provide more accurate information concerning the psychological characteristics of these overlooked groups.

Kemp cites Hansen and Hansen (1991) as important researchers in the area of popular music. They present three theoretical models as possible explanations for links between rock and punk music and observable personality factors. One theory is that “people’s preferences may be largely determined by their personality characteristics – a tendency to gravitate to particular styles according to their currently held beliefs about themselves and their perceptions of social reality” (p. 135). A second, contrasting possibility is that “frequent exposure to certain powerful forms of music might actually shape a person’s attitudes and personality” (p. 135). The third explanation is that music preference might both reflect and shape personality as well as other characteristics.

“Young people may gravitate toward heavy metal music because they possess attributes that attract them to some aspect of the content, and these attributes are strengthened through frequent exposure” (Hansen & Hansen, 1991. As cited in Kemp, 1996. p. 135).
Kemp cites the work of Rawlings et al. (1995) to illustrate enterprising research on specific “popular” genres. These researchers hypothesized that individuals high on psychoticism (as measured by the Eysenck Personality Questionnaire) would show a preference for more aggressive styles such as hard rock and heavy metal. Those low on psychoticism (also referred to as tender-minded) were predicted to prefer less aggressive music and music that was consonant. The results indicated that liking for hard rock was positively linked with psychoticism, extraversion, impulsiveness, and venturesomeness. Preferences for dance music, easy listening, and classical music were negatively linked to psychoticism.

In another study conducted by Rawlings et al. (1995), researchers examined how participants reacted to harsh, dissonant chords as well as pleasant, consonant chords played in isolation (as cited in Kemp, 1996). The data suggested that liking for dissonant, harsh chords was positively related to psychoticism. Those who preferred consonant chords, in contrast, tended to be low on psychoticism and to be empathic. An important outcome of the findings was the separation of psychoticism into two separate factors. One is negatively related to empathy while the other is associated with extraversion, impulsiveness, and venturesomeness. The first factor was negatively related to “softer” forms of music. The second factor was linked to hard rock. The high degree of volume associated with hard rock might explain its connection with the second factor, for extraverts seek out higher levels of stimulation.

Kemp reports that findings from Wheeler (1985) demonstrate that “liking for rock music was not generally linked to preferences for any other kind of music” (p. 137). Results also showed that such liking was negatively linked to obedience, ambition,
preference for precision, order, and intellectual understanding. In summing up the research of Hansen and Hansen (1991), Kemp asserts that “heavy metal fans were characterized by less interest in cognitive endeavors, higher male hypersexuality, and Machiavellianism (manipulative, cynical, or amoral forms of behavior)” (p. 137). Those preferring punk rock were less accepting of authority and more prone to crime than heavy metal fans. In light of such research it might seem appropriate to conclude that those who prefer hard rock and other such genres possess deviant personal attributes that direct their preference. Hansen and Hansen (1991) suggest, though, that it is more likely that such music has negatively influenced their personal qualities and behavior.

As evidenced earlier, particular activities and media preferences are also believed to provide insight into an individual’s personality. A relevant study by North and Hargreaves (2007) has revealed how musical preference is linked to other lifestyle patterns that highlight personal tendencies. The researchers enlisted participants to complete a survey of their musical preferences and provide data concerning their media preferences, leisure interests, and music usage. The findings seemed to support the “high-art”/“low-art” divide, with individuals consistently preferring one or the other in regards to TV station preference, literature preference, leisure activity preference, and so forth. The researchers speculate that fans of particular genres might represent “taste cultures,” which are groups of individuals with shared beliefs and values that are expressed through similar activities and interests. As the authors remark, “We might expect that participants with a taste for ‘high-art’ musical forms (such as…classical music) might also enjoy other relatively intellectual media objects, whereas participants with a taste for ‘low-art’ music might also have other relatively low-culture media preferences” (p. 181).
The first variable in the North and Hargreaves study was daily newspaper preference. The important findings were that fans of R&B, dance/house, indie, and DJ-based music were more likely to express a preference for a “low-culture” newspaper. This type of publication is well represented by the “Sun,” a newspaper known for simplifying major issues and championing particular political opinions. Fans of “high-art” music such as opera, classical music, and jazz were more likely to prefer “high-culture” newspapers. The “Daily Telegraph” is considered a typical example of a “high-culture” publication. It is described as representing the “British right-wing ‘establishment’” (p. 183).

North and Hargreaves found that radio stations were preferred based on the degree to which the music they tended to play coincided with an individual’s preferences. Those with clear genre preferences also preferred distinct television stations and specific magazines. The time spent reading, watching TV, and listening to the radio also differed in relation to music preference. The types of TV shows and books that the respondents most enjoyed were linked to different musical preferences. The type of leisure activities they enjoyed—including such categories as non-domestic, indoor entertainment, and open air cerebral (e.g., taking a scenic walk or tending a garden)—was shown to vary with musical preference. The predominate location where participants listened to music also was related to their musical preference. The data, in sum, demonstrated that musical preference is connected with a number of other preferences and behaviors, all of which, like music preference itself, provide insight into an individual’s personal characteristics.

In regard to lifestyle patterns, it is also relevant to consider whether or not personality differences influence the ways in which people use music in their everyday
lives. A study conducted by Chamorro-Premuzic and Furnham (2007) sheds some light on this question. These researchers suggest that music can serve a number of functions, including emotional regulation and coping as well as the consolidation of an identity. The purpose of their research was to explore the ways in which personal motives for seeking musical stimuli and typical music usage might be linked to established personality traits and intelligence measures. Through the data provided by a “use of music” inventory the researchers found three major use patterns. The emotional use factor refers to the employment of music for emotional regulation. The rational/cognitive factor is defined by intellectual engagement with music (focusing on performers, structure, etc.). The background music factor, lastly, was defined by the tendency to play music while working, studying, or performing other tasks.

After analyzing the data, Chamorro-Premuzic and Furnham found that both IQ and an intellectual activity inventory correlated positively with the cognitive use factor. Openness to experience was also positively correlated with this factor. Neuroticism was positively correlated with the emotional use factor where as conscientiousness was negatively related to it. The expectation that extraversion would be correlated with background use of music was not confirmed. Overall, the data support the proposition that the way people use music is influenced by distinct personality traits and personal attributes.

Similar to Litle and Zuckerman (1986), Nater, Krebs, and Ehlert (2005) examined how sensation-seeking scores might be related to musical preference. Their study was importantly different, though, in that it was also designed to establish relationships between sensation seeking scores and psychological as well as physiological reactions to
music. Nater, Krebs, and Ehlert (2005) hypothesized that participants with high levels of sensation-seeking would prefer aggressive and arousing music over peaceful music and would show less psychophysiological reactivity to aggressive music. Reactivity was assessed through heart rate, electrodermal activity, skin temperature, and pulse volume amplitude. The authors claimed that people who seek out markedly arousing music tend to be high on sensation-seeking. This construct represents “a behavioral tendency to actively seek out a variety of stimuli that induce the positive experience of arousal” (p. 240). Evidence suggests that high sensation seekers might have a low resting level of arousal and so require significantly more arousal to reach an optimal level.

The general findings of Nater, Krebs, and Ehlert’s (2005) work were as follows. Renaissance music (the peaceful music sample) was shown to induce an increase in calmness. Heavy metal music (the aggressive music sample) led to greater restlessness. In regards to sensation-seeking, those who scored higher on the scale exhibited a higher state of arousal during the exposure to slow and peaceful music. Those scoring high on the experience-seeking scale (one of four sensation-seeking subscales), which indicates a tendency to pursue novel environmental stimuli, felt more relaxed and cheerful during the heavy metal trial. High boredom susceptibility scorers felt less sad and less activated during the heavy metal trial. Overall, participants that scored high on sensation-seeking felt less aggressive and less activated during the heavy metal trial. Participants were shown to have distinctly different physiological reactions to the two different musical samples, but the differences were not related to the sensation-seeking variables. The data did show that personality characteristics influenced psychological responses to particular music styles.
Further evaluating the connection between musical preference and the sensation-seeking construct, Weisskirch and Murphy (2004) studied the preferred genres of college students as well as their sensation-seeking level and other related variables. In their discussion of the connection between sensation-seeking and engaging in risky behaviors, these researchers refer to past research suggesting that strong emotional responses to music are linked to an increase in risky behaviors (Roberts et al., 1998). The general findings showed that reggae, oldies, and alternative were the most-liked styles of music. The least liked were country, electronic/dance, and ska music. As for sensation-seeking, there were positive correlations between total sensation seeking and liking of heavy metal, punk, reggae, and ska music. There were positive correlations between the novelty subscale and liking electronic/dance, heavy metal, Latin, reggae, ska, and world music. The intensity subscale was positively correlated with liking heavy metal and punk and negatively correlated with liking Latin, oldies, R&B, and pop/rock. Those who listened most often to punk had significantly higher sensation-seeking scores and intensity subscale scores. In explaining these results, the researchers note that, “punk is loud and raucous, and is still seen as being out of the mainstream” (p. 5). As for reggae, the authors suggest that liking “was also related to higher sensation seeking, perhaps because it is outside the norm for this sample of mostly Euroamerican and Hispanic students” (p. 5).

Focusing on the emotions invoked by different musical styles, Rawlings and Leow (2007) examined connections between psychoticism, sensation seeking, and musical reactions. The researchers note that few studies have examined the “possible link between personality and the emotions expressed in music” (p. 3). Summarizing previous
findings, they note that a preference for styles such as rap, hip hop and heavy rock tends to characterize persons who enjoy risky behaviors such as drug use and vandalism (Arnett, 1991; Rentfrow and Gosling, 2003) as well as individuals who engage in violence and aggression (Rubin et al., 2001). These musical styles have sometimes been lumped together and considered “problem” or “deviant” music. Rawlings and Leow note that psychoticism has been consistently linked with liking of such styles. Sensation-seeking has also been linked with preference for “deviant” styles but the relationship has not been as consistently supported.

To categorize the emotional nature of the musical pieces used in their study, Rawlings and Leow adopted the circumplex model of emotion. The authors offer an explanation of the model as follows, “According to Russell’s (1980) view, the various emotions may be arranged around a circle, which can be summarized by the two continuous dimensions of valence or pleasantness and arousal or activation” (p. 6). These two dimensions divide the circle into four quadrants. The first quadrant is labeled relaxing/peaceful emotions (pleasant, non-arousing), the second quadrant exciting/festive (pleasant, arousing), the third quadrant unsettling/disconcerting (unpleasant, arousing), and the fourth boring/unstimulating (unpleasant, non-arousing).

Because previous findings suggested that psychoticism is related to a liking for unpleasant stimuli, the researchers hypothesized that those scoring high on psychoticism would prefer musical pieces representing the two bottom quadrants. They found that, “With respect to liking and familiarity, and, substantially, pleasantness, P [psychoticism] was significantly correlated with ratings in the lower half of the circumplex,” that is, the unsettling and boring quadrants. (p. 23). Contrary to the initial prediction, there was not a
correlation between psychoticism and a dislike of music from the top quadrants. Sensation seekers were not found to show greater appreciation for music from the “arousing quadrants” and this outcome also contrasted with the initial prediction. Thus people high on psychoticism were found to prefer music that was either disturbing or boring, whereas low scorers preferred either peaceful or festive music.

Rentfrow and Gosling (2003) conducted an ambitious series of studies on musical preference in hopes of identifying how the importance of music (to an individual) and musical preference might be related to a number of personality dimensions. The researchers saw their efforts as “the first crucial steps to developing a theory of music preferences – a theory that will ultimately explain when, where, how, and why people listen to music” (p. 1236). They stress the prevalence of music in peoples’ everyday lives and underscore the importance of exploring such a pervasive human phenomenon. One of their studies was designed to evaluate lay beliefs about music. Another involved factor analyzing musical preferences in order to identify underlying listening patterns.

After conducting the factor analysis, Rentfrow and Gosling found four well differentiated factors: “reflective and complex,” “intense and rebellious,” “upbeat and conventional,” and “energetic and rhythmic.” They then correlated these four factors with a variety of personality variables. The “reflective and complex” preference pattern, which consisted of liking classical, jazz, blues, and folk music, was positively correlated with openness to new experiences, self-perceived intelligence, verbal ability, and political liberalism. It was negatively correlated with social-dominance orientation and athleticism. The “intense and rebellious” preference factor--alternative, rock, heavy metal--was positively related to openness to new experiences, athleticism, self-perceived intelligence, verbal ability, and political liberalism.
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intelligence, and verbal ability. The “upbeat and conventional” pattern, constituted by country, pop, religious, and soundtrack music, was positively correlated with extraversion, agreeableness, conscientiousness, conservatism, self-perceived physical attractiveness, and athleticism. It was found to be negatively correlated with openness to new experiences, social dominance orientation, liberalism, and verbal ability. The “energetic and rhythmic” pattern—rap/hip hop, soul/funk, electronica/dance—was positively related to extraversion, agreeableness, “blirtatiousness” (“the tendency to respond to others quickly and effusively” [Swann & Rentfrow, 2001]), liberalism, self-perceived attractiveness, and athleticism. It was negatively correlated with social dominance orientation and conservatism.

Following an analysis of the data, Rentfrow and Gosling noted “the absence of substantial correlations between music-preference dimensions and emotional stability, depression, and self-esteem, suggesting that chronic emotional states do not have a strong effect on musical preferences” (p. 1249). These researchers speculate that personality dimensions determine to some degree the particular genres that people are attracted to and that mood states may influence the type of music within a genre that is listened to at a given time.

In much of the preference research, teenage listeners—an important segment of the music-listening population—have been strikingly underrepresented. Noting that “The typical adolescent spends over 10,000 hours listening to music, an amount of time similar to that spent in class by the time they graduate from high school” (Davis, 1985; Mark, 1988), Schwartz and Fouts (2003) endeavored to explore how adolescents’ music preferences were related to personality style as well as the developmental issues they
were dealing with. These researchers put forward the general hypothesis that “adolescents prefer listening to music that reflects specific personalities and the developmental issues which they are facing” (p. 205). They identified three preference groups: those preferring heavy music qualities, those preferring light music qualities, and those possessing an eclectic preference. Individuals from each group are thought to gravitate toward a particular style because “they have particular personality characteristics, issues, and/or needs that are reflected in the music they choose or that the music satisfies” (p. 206).

Citing earlier research, Schwartz and Fouts point out that adolescents preferring heavy music exhibit more emotional problems and more anger (Epstein et al., 1990). In addition, they note that such youths also have more sympathetic views of suicide, homicide, and Satanism (Wass et al., 1989). Light music has been described as ranging “from slow emotional ballads with important developmental themes to rhythmic melodies designed for dancing” (Schwartz and Fouts, 2003. p. 207). Research suggests that those who prefer music from this category tend to face more body image issues, self-esteem issues, and issues related to peer acceptance. Schwartz and Fouts contend that the eclectic music preference is characterized by the use of music to both reflect and validate an individual’s mood as well as to alter it. Those with such a preference pattern use music in different ways at different times and in different contexts. These earlier findings supported Schwartz and Fouts’s speculations concerning the personality profiles and developmental difficulties faced by adolescents in the three separate groups.

In their own research, Schwartz and Fout used a music inventory that assessed preference for certain musical qualities (that represented more general musical styles) and a validated adolescent personality inventory. They obtained responses from 164
participants. The results showed that adolescents preferring heavy music were significantly more tough-minded and overly assertive in their relationships with others. They were less concerned, if not indifferent, to the feelings of others. They were more moody, pessimistic, overly sensitive, and disconnected. They were found to be more likely to act on impulse and disregard the rights of others. Furthermore, people preferring heavy music were more uncomfortable in their familial relationships and were experiencing more familial problems. They were more disrespectful of others and the rules of society. A final finding was that those who preferred heavy music had more doubts in their ability to be successful in academic endeavors.

Adolescents preferring light music were significantly overly responsible, rule-conscious, and conforming in their relationships with others. They were found to struggle more with their developing sexuality, felt more uncomfortable toward sexual relationships, and were more concerned about being accepted by, or fitting in with, their peers. The eclectic group did not score significantly different on any of the scales, suggesting that “the eclectic group experienced fewer issues associated with their personalities and/or in their development” (p. 210).

In summing up the ways in which the separate music styles provide for certain related needs, Schwartz and Fouts observe that heavy music can capture the intense emotions and thought patterns of its fans and contains messages that validate their feelings. Light music consistently expresses particular themes that those who prefer it can associate with and that help them feel less emotionally alone. Adolescents with an eclectic preference appear to be better adjusted, a conclusion suggested by their more flexible use of music. These findings, Schwartz and Fouts assert, can have important
practical utility. It might be possible for instance, if one knows an adolescent’s musical preference, to gain a sense of his or her internal reality and understand the problems that he or she might be facing.

In recent years, the Five-Factor model has become a renowned conceptualization of personality and is commonly employed in research. As Digman (1990) remarks, “the five-factor theory is among the newest models developed for the description of personality, and this model shows promise to be among the most practical and applicable models available in the field of personality psychology” (as cited in Popkins, 1998). Over decades of research, convergent findings have illustrated the utility of considering personality to be comprised of five major traits. It has been stated that “the Five-Factor Model has provided an important organising framework for personality research in recent years” (Rawlings and Ciancarelli, 1997, p. 121). As this assertion suggests, the model has become increasingly popular in the field and it appears that it will continue to maintain a prominent place in personality research.

The Five-Factor model perspective conceptualizes personality as a variable combination of five major traits: Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness. Neuroticism represents maladjustment, with its opposite being emotional stability. Neurotic individuals are those who tend to experience negative affect and are prone to coping poorly with stress. Extraversion is defined by a tendency to be sociable and assertive and to enjoy excitement. Introversion, represented by lower scores on the factor, is characterized by a tendency to be reserved. Introverts are more apt to prefer being alone and do not often experience the high spirits that extraverts do.
Individuals who are *Open to Experience* are curious about the world (their inner world as well as the outer world) and tend to have lives that are experientially richer. “Closed” individuals tend to be more conventional in behavior and conservative in outlook. They are more likely to prefer familiar routines. The *Agreeableness* trait is characterized by an eagerness to help others and a tendency to be more sympathetic. Those low on agreeableness are egocentric, skeptical of the intentions of others, and competitive rather than cooperative. The fifth factor, *Conscientiousness*, represents a tendency to be purposeful, strong-willed, and determined. Individuals who are high on this trait tend to exhibit higher academic and occupational achievement. Those low on conscientiousness are not as concerned with sticking to moral principles and are less focused when working toward their goals. Some evidence shows that they are more hedonistic (Costa & McCrae, 1992).

It is here useful to examine previous music research that has adopted such a conception of personality. In a study conducted by Rawlings and Ciancarelli (1997), participants completed a musical preference scale as well as the revised NEO Personality Inventory (NEO-PI-R). The researchers judged that the NEO-PI-R was most appropriate for the study because of its growing use in research and popularity as a measure of the five factors. Rawlings and Ciancarelli examine previous findings and underscore the many studies that have suggested a relationship between extraversion and musical preferences. They also point out that analysis of the openness factor in relation to musical preference has rarely been conducted.

Rawlings and Ciancarelli (1997) correlated musical preference with scores on the five factors as well as with scores on the facet scales that represent each factor. The
NEO-PI-R measures the five factors in terms of scores on the six facet scales that make up each factor. The results of Rawlings and Ciancarelli’s research revealed that the combination of liking popular music and having a narrow breadth of preference was linked with a tendency to be less open to experience, to be extraverted, and to show less intense interest in music. The rock music preference factor was associated with a relative dislike of other genres and a tendency to have experienced little or no musical training. Also, this preference was linked with being male and scoring lower on conscientiousness. The breadth of preference pattern was linked with a tendency to be open, agreeable, and extraverted. A combination of narrow breadth of preference and relatively high scores on the other factors was linked with scores on the extraversion facet scales E5, excitement seeking, and E2, gregariousness. Dislike of popular music was found to be negatively correlated with E1, warmth and E6, positive emotions. Rock music and to some degree breadth of preference were positively correlated with E5, excitement seeking. Breadth of preference was found to be positively related to O2, aesthetics, and O5, ideas. Rock music was positively associated with O6, values, and O4, actions. The popular music factor was positively correlated with A1, trust. The researchers observe that the data support previous findings: extraversion and openness were found to have the strongest relationships with musical preferences, whereas the other factors seemed to exert far less of an influence. When two preference patterns showed similar relationships with one of the five factors, they were generally correlated with different facets of the factor. At least two of the five factors showed a significant relationship with particular preference patterns, and the connections offer insight into how certain personality traits might predispose an individual to seek out certain musical forms.
Thus, as we have seen, research into musical preference has focused on a diversity of psychological variables. Some researchers have examined the ways in which musical preference relates to broad personal dispositions (extraversion/introversion, analytic/holistic), some have explored its relation to other preferences (e.g., daily newspaper of choice) and activities (e.g., favoring outdoor recreational activities), and some have focused on selected personality constructs (sensation seeking, psychoticism). Others have explored the relationship between musical preference and more broadly comprehensive personality models. While findings have not always been conclusive and sometimes inconsistent, there is an array of convergent data showing that some relationships have been consistently shown.

There seems to be specific personality traits and dispositions that are correlated with preference for a certain style of music. Researchers have offered logical interpretations of the data, suggesting as to why individuals with certain personality characteristics might be drawn to a particular genre. With hopes of further validating such findings and assessing additional variables that might influence taste in music, I undertook to examine the relationship between musical preference and particular facet scales of the NEO-PI-R. I have selected scales that have been most consistently related to musical preference. I have also chosen ones that represent traits that I hypothesize might play an important role in influencing musical preference. The purpose of my present study is to extend previous findings (by involving more variables) and examine the nature of the associations between particular personality factors and certain musical preferences. On the basis of my data I will be able to speculate as to how a certain style might satisfy
certain psychological needs and how certain personality traits might be reflected and shaped by certain styles.

Method

Participants

All participants in the current study were students attending Wheaton College. A request for involvement was made to all students present in one of three particular psychology classes. Other participants were part of a convenience sample of students who were directly contacted and agreed to be involved in the research.

Materials

Participants were supplied with a packet of materials that included a demographic information form, a musical preference inventory, a modified personality inventory, a separate answer sheet for the personality inventory, and an envelope in which to return all of these materials. Responses were made by filling in appropriate circles with a pencil or pen. The forms were read by a scanner apparatus and a software program was used to compile the data.

The musical preference inventory presented was the Short Test of Musical Preference (STOMP). This scale was developed by Rentfrow and Gosling (2003) for the purpose of measuring preference for particular well-recognized musical genres. The researchers chose to measure preference at the genre level because they believed that when individuals discuss their musical preferences they generally first express them in terms of genres. They originally identified 14 genres and 66 subgenres by consulting a group of recruited judges and analyzing the categories listed at various online music stores. Research with the scale found that only 7% of the participants were familiar with
all the specific subgenres, whereas 97% of participants were familiar with the 14 basic
genres (e.g. heavy metal, country, pop). These findings confirmed the utility of
measuring preference at the genre level and the final version of the scale was comprised
of the 14 musical genres that were most consistently recognized. The scale assesses the
degree of liking for music categorized as alternative, blues, classical, country,
electronica/dance, folk, heavy metal, rap/hip-hop, jazz, pop, religious, rock, soul/funk,
and soundtrack.

The personality inventory presented to participants in the present study
was constructed by selecting a broad subset of facet scales from the Revised NEO
Personality Inventory (NEO-PI-R) described earlier. Each broad factor measured by the
NEO-PI-R is comprised of six facet scales, which together provide a fuller picture of an
individual’s personality. Taking into consideration previous findings and speculating as
to which facet scales might be useful to examine in relation to musical preference, I
selected 17 facet scales to comprise the adapted inventory. An additional reason for
leaving off certain facet scales was that this would ultimately result in an inventory that
would take less time to complete (which, in turn, would encourage more participation).
The Neuroticism facet scales chosen were anxiety, angry hostility, depression, and
impulsiveness. The Extraversion scales chosen were warmth, assertiveness, activity,
excitement seeking, and positive emotions. The Openness facet scales selected were
fantasy, aesthetics, actions, ideas, and values. The one Agreeableness facet scale included
was compliance. Order and achievement seeking were the two Conscientiousness facet
scales that were incorporated. The reduced inventory is comprised of 136 statements that
were used to identify how high or low an individual scored on the selected personality facet scales (see Table 1 below for more detailed descriptions of the 17 traits).

Table 1. Description of selected NEO-PI-R facet scales

<table>
<thead>
<tr>
<th>Name of Scale</th>
<th>Description</th>
<th>Sample Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>N1: Anxiety</td>
<td>“Anxious individuals are apprehensive, fearful, prone to worry, nervous, tense, and jittery.” Low scores are relaxed and do not dwell on problems.</td>
<td>“I often worry about things that might go wrong.”</td>
</tr>
<tr>
<td>N2: Angry Hostility</td>
<td>Angry Hostility represents the tendency to experience states as anger, frustration and bitterness. “Low scorers are easy going and slow to anger.”</td>
<td>“I am known as hot-blooded and quick tempered.”</td>
</tr>
<tr>
<td>N3: Depression</td>
<td>High scorers on the depression scale are prone to feelings of loneliness and hopelessness. They are also easily discouraged. “Low scorers rarely experience such emotions”.</td>
<td>“Sometimes I feel completely worthless.”</td>
</tr>
<tr>
<td>N5: Impulsiveness</td>
<td>“Impulsiveness refers to the inability to control cravings and urges”. Desires are often irresistible. Low scorers have a high tolerance for frustration and are better able to resist urges.</td>
<td>“Sometimes I do things on impulse that I later regret.”</td>
</tr>
<tr>
<td>E1: Warmth</td>
<td>“Warmth is the facet of extraversion most relevant to issues of interpersonal intimacy”. Warm people form close attachments easily and are affectionate as well as friendly. Low scorers are more formal, reserved, and distant.</td>
<td>“I have strong emotional attachments to my friends.”</td>
</tr>
<tr>
<td>E3: Assertiveness</td>
<td>“High scorers in this scale are dominant, forceful, and socially ascendant”. They are often group leaders. Low scorers prefer to remain in the background and let others do the talking.</td>
<td>“In conversations, I tend to do most of the talking.”</td>
</tr>
<tr>
<td>E4: Activity</td>
<td>High activity scorers possess a lot of energy and a need to keep busy. “Low scorers are more leisurely and relaxed in tempo”.</td>
<td>“My life is fast paced.”</td>
</tr>
<tr>
<td>E5: Excitement Seeking</td>
<td>High scorers crave excitement and stimulation. They enjoy bright colors and loud environments. “Low scorers feel little need for thrills and prefer a life that high scorers might find boring”.</td>
<td>“I like to be where the action is.”</td>
</tr>
<tr>
<td>Trait</td>
<td>Description</td>
<td>Example</td>
</tr>
<tr>
<td>------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>E6: Positive Emotions</td>
<td>High scores represent a tendency to experience emotions such as joy, happiness, love, and excitement. Low scorers are “less exuberant and high-spirited”.</td>
<td>“Sometimes I bubble with happiness.”</td>
</tr>
<tr>
<td>O1: Fantasy</td>
<td>“Individuals who are open to fantasy have a vivid imagination and an active fantasy life”. They daydream as a way of creating an interesting inner world. Low scorers are more focused and keep their minds on the task at hand.</td>
<td>“I have a very active imagination.”</td>
</tr>
<tr>
<td>O2: Aesthetics</td>
<td>“High scorers on this scale have a deep appreciation for art and beauty”. They have a wider knowledge and appreciation of the arts than low scorers. Low scorers are relatively uninterested in and insensitive to art.</td>
<td>“I am intrigued by the patterns I find in art and nature.”</td>
</tr>
<tr>
<td>O4: Actions</td>
<td>High scorers are characterized by a “willingness to try different activities, go new places, or eat unusual foods”. They prefer novelty to familiarity. Low scorers find change difficult and prefer to stick to routines.</td>
<td>“I think it’s interesting to learn and develop new hobbies.”</td>
</tr>
<tr>
<td>O5: Ideas</td>
<td>This trait represents intellectual curiosity. “High scorers enjoy both philosophical arguments and brain teasers”. Low scorers have limited curiosity and tend to narrowly focus their resources on limited topics.</td>
<td>“I often enjoy playing with theories or abstract ideas.”</td>
</tr>
<tr>
<td>O6: Values</td>
<td>“Openness to Values means the readiness to reexamine social, political, and religious values”. Individuals scoring low on this scale tend to accept authority and honor tradition. They are generally more conservative.</td>
<td>“I believe that laws and social policies should change to reflect the needs of a changing world.”</td>
</tr>
<tr>
<td>C2: Order</td>
<td>“High scorers on this scale are neat, tidy, and well-organized”. They like to keep things in their “proper” places. Low scorers have difficulty staying or getting organized and consider themselves unmethodical.</td>
<td>“I tend to be somewhat fastidious or exacting.”</td>
</tr>
<tr>
<td>C4: Achievement Striving</td>
<td>“Individuals who score high on this facet have high aspiration levels and work hard to achieve their goals”. They are diligent and tend to have a sense of direction in life. Low scorers are lackadaisical and not driven to succeed.</td>
<td>“I strive to achieve all I can.”</td>
</tr>
<tr>
<td>A4: Compliance</td>
<td>Higher scorers tend to defer to others, to inhibit aggression, and to be seen as meek and mild. Low scorers, on the other hand, are aggressive, prefer to compete rather than cooperate, and are not reluctant to express anger.</td>
<td>“When I’ve been insulted, I just try to forgive and forget.”</td>
</tr>
</tbody>
</table>

Adapted from Costa and McCrae (1992)
Procedure

The majority of the participants were invited during class time to be involved in the survey research. Three professors consented to briefly explain the research to students and to provide the packet of materials to any interested parties. Prior to receiving materials, participants were informed that participation was anonymous and completely voluntary and that they could stop taking the survey or leave answers blank at any point. Participants were made aware that by submitting the materials, they were acknowledging that they understood the nature of the research and were willing to have their responses combined with others for analysis. When the demographic information, the musical preference inventory, and the personality inventory had all been completed, participants were instructed to place all forms in a provided self-addressed envelope and have them mailed at the campus post office.

In total, 99 packets were administered and 41 surveys were returned. One respondent left a large section of the personality inventory blank and so that participant’s data was excluded. As a result, 40 sets of data were available for analysis.

Results

Analysis was carried out by transferring the data from the scanned answer sheets to SPSS 15.0. A factor analysis of participants’ musical preference responses was conducted to identify potential preference patterns. The purpose of a factor analysis is “to analyze interrelationships among a large number of variables and to explain these variables in terms of their common underlying dimensions (factors). The statistical approach involves finding a way of condensing the information contained in a number of original variables into a smaller set of dimensions (factors) with a minimum loss of
information” (Hair, et al., 1992 as cited in Thapalia, n.d.). On the basis of the factor analysis, individual factor scores were subsequently calculated so that the relationships between those scores and personality factor and facet scores could be examined (with the increased likelihood of observing significant correlations). After an initial factor analysis a Varimax rotation was performed, resulting in the six-factor structure (accounting for 73.08% of the total variance) shown in Table 3.

Table 2. Correlations between preferences for the 14 musical genres

<table>
<thead>
<tr>
<th></th>
<th>Classic-al</th>
<th>Blues</th>
<th>Country</th>
<th>Dance/Electronica</th>
<th>Folk</th>
<th>Rap/Hip-hop</th>
<th>Soul/Funk</th>
<th>Religious</th>
<th>Alternative</th>
<th>Jazz</th>
<th>Rock</th>
<th>Pop</th>
<th>Heavy Metal</th>
<th>Soundtracks/Theme songs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classic-al</td>
<td>1</td>
<td>.50**</td>
<td>-.07</td>
<td>.13</td>
<td>.08</td>
<td>-.07</td>
<td>.021</td>
<td>.02</td>
<td>.27</td>
<td>.26</td>
<td>-.02</td>
<td>-.24</td>
<td>.12</td>
<td>.04</td>
</tr>
<tr>
<td>Blues</td>
<td>.50**</td>
<td>1</td>
<td>.11</td>
<td>-.04</td>
<td>.13</td>
<td>-.17</td>
<td>.41**</td>
<td>-.07</td>
<td>-.10</td>
<td>.402*</td>
<td>-.10</td>
<td>-.42**</td>
<td>-.13</td>
<td>-.19</td>
</tr>
<tr>
<td>Country</td>
<td>-.07</td>
<td>.11</td>
<td>1</td>
<td>-.07</td>
<td>-.25</td>
<td>-.15</td>
<td>.02</td>
<td>.13</td>
<td>-.34*</td>
<td>-.31*</td>
<td>-.14</td>
<td>.10</td>
<td>-.22</td>
<td>.09</td>
</tr>
<tr>
<td>Dance/Electronica</td>
<td>.13</td>
<td>-.04</td>
<td>-.07</td>
<td>1</td>
<td>.31</td>
<td>.06</td>
<td>.29</td>
<td>-.02</td>
<td>.25</td>
<td>.20</td>
<td>.23</td>
<td>.14</td>
<td>.17</td>
<td>.11</td>
</tr>
<tr>
<td>Folk</td>
<td>.08</td>
<td>.13</td>
<td>-.25</td>
<td>.31</td>
<td>1</td>
<td>.17</td>
<td>.34*</td>
<td>.01</td>
<td>.30</td>
<td>.40*</td>
<td>.28</td>
<td>-.14</td>
<td>.02</td>
<td>.27</td>
</tr>
<tr>
<td>Rap/Hip-hop</td>
<td>-.07</td>
<td>-.17</td>
<td>-.15</td>
<td>.06</td>
<td>.17</td>
<td>1</td>
<td>.22</td>
<td>.04</td>
<td>.18</td>
<td>-.03</td>
<td>-.18</td>
<td>.33*</td>
<td>-.13</td>
<td>.11</td>
</tr>
<tr>
<td>Soul/Funk</td>
<td>.02</td>
<td>.41**</td>
<td>.02</td>
<td>.29</td>
<td>.34*</td>
<td>.22</td>
<td>1</td>
<td>.28</td>
<td>.32*</td>
<td>.37*</td>
<td>-.06</td>
<td>-.09</td>
<td>-.10</td>
<td>.03</td>
</tr>
<tr>
<td>Religious</td>
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<td>-.07</td>
<td>.13</td>
<td>-.02</td>
<td>.01</td>
<td>.04</td>
<td>.28</td>
<td>1</td>
<td>.14</td>
<td>-.01</td>
<td>-.27</td>
<td>.18</td>
<td>-.06</td>
<td>.18</td>
</tr>
<tr>
<td>Alternative</td>
<td>.27</td>
<td>-.10</td>
<td>-.34*</td>
<td>.25</td>
<td>.30</td>
<td>.18</td>
<td>.32*</td>
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<td>.41**</td>
<td>.29</td>
<td>-.07</td>
<td>.24</td>
<td>.13</td>
</tr>
<tr>
<td>Jazz</td>
<td>.26</td>
<td>.40*</td>
<td>-.31*</td>
<td>.20</td>
<td>.40*</td>
<td>-.03</td>
<td>.37*</td>
<td>-.01</td>
<td>.41**</td>
<td>1</td>
<td>.27</td>
<td>-.02</td>
<td>-.19</td>
<td>.14</td>
</tr>
<tr>
<td>Rock</td>
<td>-.02</td>
<td>-.10</td>
<td>-.14</td>
<td>.23</td>
<td>.28</td>
<td>-.18</td>
<td>-.06</td>
<td>-.27</td>
<td>.29</td>
<td>.27</td>
<td>1</td>
<td>.06</td>
<td>.35*</td>
<td>.10</td>
</tr>
<tr>
<td>Pop</td>
<td>-.24</td>
<td>-.42**</td>
<td>.10</td>
<td>.14</td>
<td>-.14</td>
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<td>-.02</td>
<td>.06</td>
<td>1</td>
<td>-.33*</td>
<td>.28</td>
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<tr>
<td>Heavy Metal</td>
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<td>-.13</td>
<td>-.22</td>
<td>.17</td>
<td>.02</td>
<td>-.13</td>
<td>-.10</td>
<td>-.06</td>
<td>.24</td>
<td>-.19</td>
<td>.35*</td>
<td>-.33*</td>
<td>1</td>
<td>-.24</td>
</tr>
<tr>
<td>Soundtracks/Theme songs</td>
<td>.04</td>
<td>-.19</td>
<td>.09</td>
<td>.11</td>
<td>.27</td>
<td>.11</td>
<td>.03</td>
<td>.18</td>
<td>.13</td>
<td>.14</td>
<td>.10</td>
<td>.28</td>
<td>-.24</td>
<td>1</td>
</tr>
</tbody>
</table>

Correlation method: Pearson.
* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).
Table 3. Rotated Component Matrix

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Classical</td>
<td>-.02</td>
<td>.81</td>
<td>.12</td>
<td>.04</td>
<td>.12</td>
<td>.14</td>
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<tr>
<td>Blues</td>
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<td>.69</td>
<td>-.36</td>
<td>-.39</td>
<td>-.21</td>
<td>-.04</td>
</tr>
<tr>
<td>Country</td>
<td>-.02</td>
<td>-.08</td>
<td>-.13</td>
<td>.09</td>
<td>-.83</td>
<td>.22</td>
</tr>
<tr>
<td>Dance/Electronica</td>
<td>.66</td>
<td>-.11</td>
<td>.33</td>
<td>.14</td>
<td>-.07</td>
<td>-.02</td>
</tr>
<tr>
<td>Folk</td>
<td>.66</td>
<td>.12</td>
<td>.00</td>
<td>.13</td>
<td>.26</td>
<td>-.17</td>
</tr>
<tr>
<td>Rap/Hip-hop</td>
<td>.19</td>
<td>-.40</td>
<td>-.31</td>
<td>.04</td>
<td>.56</td>
<td>.28</td>
</tr>
<tr>
<td>Soul/Funk</td>
<td>.79</td>
<td>.09</td>
<td>-.20</td>
<td>-.21</td>
<td>.03</td>
<td>.36</td>
</tr>
<tr>
<td>Religious</td>
<td>.08</td>
<td>.06</td>
<td>.07</td>
<td>.24</td>
<td>-.08</td>
<td>.82</td>
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<tr>
<td>Alternative</td>
<td>.37</td>
<td>.25</td>
<td>.39</td>
<td>.19</td>
<td>.55</td>
<td>.19</td>
</tr>
<tr>
<td>Jazz</td>
<td>.51</td>
<td>.50</td>
<td>-.22</td>
<td>.20</td>
<td>.31</td>
<td>-.23</td>
</tr>
<tr>
<td>Rock</td>
<td>.31</td>
<td>.02</td>
<td>.50</td>
<td>.27</td>
<td>.01</td>
<td>-.59</td>
</tr>
<tr>
<td>Pop</td>
<td>-.01</td>
<td>-.48</td>
<td>-.20</td>
<td>.63</td>
<td>.03</td>
<td>.10</td>
</tr>
<tr>
<td>Heavy Metal</td>
<td>-.00</td>
<td>.01</td>
<td>.85</td>
<td>-.31</td>
<td>.12</td>
<td>-.02</td>
</tr>
<tr>
<td>Soundtracks/Theme songs</td>
<td>.12</td>
<td>.08</td>
<td>-.07</td>
<td>.81</td>
<td>-.03</td>
<td>.07</td>
</tr>
</tbody>
</table>

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
Rotation converged in 12 iterations

The factor loadings in Table 3 suggest that Factor 1 represents a preference for soul/funk, dance/electronica, and folk music and hence will hereafter be referred to as soothing/upbeat. Factor 2 can be labeled cerebral/complex given the preference for classical, blues, and jazz music. Factor 3 can be termed the heavy metal/rock, for no other
preferences loaded on this factor. Factor 4 is considered the popular music factor, for it is constituted by a preference for pop and soundtrack/theme song music. Adopting terminology from previous research, I label factor 5 intense/rhythmic music, since rap/hip hop and alternative have the highest positive loadings on it. Country music exhibits a high negative loading on this factor which supports the assumption that the factor represents a dislike for “lighter” more positive forms of music. Factor 6 is labeled religious because it is represented by a preference for religious music and a dislike of rock music. The factor scores generated from the analysis were used in all subsequent statistical comparisons involving musical preference.

To determine whether or not the demographic variables were answered with sufficient variability, frequencies were generated. In the case of sex, it was found that 32 participants were male and only 8 were female. This precluded a meaningful examination of sex effects on preference. As for the focus of academic study, participants predominately majored in a social science (23 as compared to 9 arts and humanities majors and 5 natural science majors). A univariate analysis of variance revealed that major did not significantly effect musical preference. Responses to music’s importance were well distributed, but it is interesting to note that only one participant rated music as “not at all” important. Pearson correlations were conducted and the results showed that the importance of music was positively correlated with the upbeat and soothing factor and the intense/rhythmic pattern (.52 and .44 respectively). Thus as liking for upbeat/soothing and intense/rhythmic music increased, the importance of music increased as well.
Analysis of the home region variable demonstrated a dramatic clustering of responses. Thirty-seven respondents identified themselves as from the Northeast whereas only one participant identified as from the South, and two identified as from the West. With virtually no variability in region, this variable was necessarily dropped.

Examination of the use variable revealed that participants used music predominately for emotional purposes or accompaniment (16 and 15 respectively). Only one participant described typical use of music as cognitive in nature. The results of a univariate analysis of variance identified typical use as having a significant effect (F=6.37, .02 significance) on the intense/rhythmic factor.

To determine how preferences were related to personality factors, the major concern of the present study, Pearson correlations were calculated between participants’ factor scores and their NEO facet and summed factor scores (see tables below).

Table 4. Correlations between Factor Scores and NEO-PI-R Scale Scores (Part I)

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 2: Cerebral/Complex</td>
<td>-0.20</td>
<td>-0.02</td>
<td>0.06</td>
<td>0.23</td>
<td>0.03</td>
<td>0.14</td>
<td>-0.13</td>
<td>-0.28</td>
<td>0.35**</td>
<td>0.27</td>
</tr>
<tr>
<td>Factor 3: Heavy metal</td>
<td>-0.21</td>
<td>0.22</td>
<td>0.03</td>
<td>0.27</td>
<td>0.11</td>
<td>-0.22</td>
<td>0.02</td>
<td>0.15</td>
<td>-0.03</td>
<td>-0.21</td>
</tr>
<tr>
<td>Factor 4: Popular</td>
<td>0.14</td>
<td>0.31</td>
<td>0.12</td>
<td>0.27</td>
<td>0.28</td>
<td>-0.36**</td>
<td>0.15</td>
<td>-0.05</td>
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<td>-0.31**</td>
</tr>
<tr>
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<td>0.04</td>
<td>0.00</td>
<td>0.04</td>
<td>0.01</td>
<td>0.50**</td>
<td>0.02</td>
<td>-0.13</td>
<td>0.32**</td>
<td>0.32*</td>
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<tr>
<td>Factor 6: Religious</td>
<td>-0.10</td>
<td>0.17</td>
<td>0.34*</td>
<td>0.05</td>
<td>0.17</td>
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<td>-0.14</td>
<td>0.27</td>
<td>0.16</td>
<td>-0.18</td>
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</table>

Correlation method: Pearson
* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).
Correlations between Factor Scores and NEO-PI-R Scale Scores (contd.)

<table>
<thead>
<tr>
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<tr>
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<td>.28</td>
<td>.17</td>
<td>.46**</td>
<td>.44**</td>
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<td>-.37*</td>
<td>-.44**</td>
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<tr>
<td>Cerebral/Complex</td>
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<td>.42**</td>
<td>.15</td>
<td>.25</td>
<td>.05</td>
<td>.38*</td>
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<td>-.01</td>
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<tr>
<td>Heavy metal</td>
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<td>.01</td>
<td>.06</td>
<td>.39*</td>
<td>.16</td>
<td>.35*</td>
<td>-.20</td>
<td>-.03</td>
<td>-.15</td>
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<tr>
<td>Factor 2: Cerebral/Complex</td>
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<td>.01</td>
<td>.06</td>
<td>.39*</td>
<td>.16</td>
<td>.35*</td>
<td>-.20</td>
<td>-.03</td>
<td>-.15</td>
</tr>
<tr>
<td>Factor 3: Heavy metal</td>
<td>.42**</td>
<td>.01</td>
<td>.06</td>
<td>.39*</td>
<td>.16</td>
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<td>-.12</td>
<td>-.20</td>
<td>-.41**</td>
<td>-.36*</td>
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Correlation method: Pearson
* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

Findings revealed that Factor 1, the upbeat/soothing factor, was positively correlated with scores on the excitement seeking scale (.35), the aesthetics scale (.35), the openness to values scale (.46), and the combined openness measure (.44). The factor was negatively correlated with scores on the order scale (-.35), the achievement striving scale (-.37), and the combined conscientiousness measure (-.44). Positive correlations appeared between factor 2, the cerebral/complex factor, and scores on the aesthetics scale (.42) as well as on the combined Openness to experience measure (.38). This factor was negatively correlated with scores on the compliance scale, a facet of agreeableness (-.45).

* All of the following correlations are significant at the .05 level with several significant at the .01 level.
Factor 3, the heavy metal pattern, was positively correlated with scores on the fantasy scale (.42), scores on the ideas scale (.39), and combined openness scores (.35). The heavy metal factor was negatively correlated with scores on the warmth scale (-.36) and on positive emotion (-.31).

Analysis revealed that the popular music factor (Factor 4) was positively correlated with scores on the warmth scale (.50), the excitement seeking scale (.32), the positive emotions scale (.42), and the combined extraversion scores (.44) A highly similar pattern of correlations appeared between the intense/rhythmic factor (Factor 5) and these four personality scales. The correlations were as follows: warmth (.41), excitement seeking (.32), positive emotions (.31), extraversion (.40). The sixth, religious factor was found to positively correlate with scores on the depression scale (.34) but was negatively related to scores on the openness to values scale (-.42), scores on the achievement striving scale (-.41), and combined conscientiousness scores (-.36).

Discussion

A clear finding in this study, seen elsewhere in the literature, is that musical preferences tend to form coherent patterns. The factor analysis of the 14 scales on the STOMP yielded six factors, all of which could be meaningfully described and treated as variables for correlation. These results are useful for demonstrating that, in most cases, multiple genres have a similar sort of appeal. Genres may not be as distinct as classifications imply and numerous interrelationships may exist. Furthermore, the genres that seem to be preferred independently provide useful information as well. It has been shown that those who prefer, for instance, rock music tend to not prefer other types of music. In the present study heavy metal and religious music essentially form their own
Factors, implying that there is something uniquely appealing about these types of music. Finding patterns similar to those noted by other researchers, such as the cerebral/complex pattern described in this study, implies that preferences exhibit some regularities and might group together meaningfully.

When comparing the patterns identified in the present study to those observed in a similar study conducted by Rentfrow and Gosling (2003), some notable similarities and differences become apparent. Rentfrow and Gosling administered the STOMP to 1,704 undergraduate students at the University of Texas at Austin. They conducted a factor analysis with a Varimax rotation, as was done in this study, and determined that four factors accounted for most of the total variance (59%).

The factor that Rentfrow and Gosling (2003) labeled “reflective and complex” was made up of blues, jazz, classical and folk music. The complex/cerebral pattern described in this study is almost identical, with the folk music loading being the only difference. Rentfrow and Gosling’s “intense and rebellious factor” was represented by rock, alternative and heavy metal which is similar to the heavy metal factor identified in this study, with the exception of the alternative-music loading. In the current study, soundtrack/theme song and popular music constituted the popular music factor. In Rentfrow in Goasling’s study, country, soundtrack, religious and pop music grouped together to create the “upbeat and conventional” factor. The fourth factor in their study, the “energetic and rhythmic” pattern, was defined by rap/hip-hop, soul/funk, and electronica/dance music. In the present study, soul/funk and electronica/dance formed a factor along with folk music. To summarize the differences observed in the present study, folk music was found to group with “upbeat” music and alternative was not found to be
related to heavy metal and rock, but rather formed a factor with rap/hip-hop. Also, religious music formed its own factor rather than grouping with other “popular” forms. Finally, country music was found to load negatively on the intense/rhythmic factor and did not exhibit a notable positive loading on any of the factors.

While the four factors identified by Rentfrow and Gosling (2003) coincide, for the most part, with four of the six factors described in the current study, the different make-up of their “upbeat and conventional” factor is meaningful. As noted, this factor is similar to the popular music factor here identified but is defined in addition by country and religious music. Regional differences might possibly help explain the discrepancy. Rentfrow and Gosling conducted their research at a major University in Texas. As in other southern states, religion tends to play a more significant role in the lives of individuals whom reside there and country is a more pervasive musical genre. The more frequent exposure to, and greater acceptance of, both religious and country music might explain why they are preferred along with “mainstream” musical genres. In the Northeast, the home region indicated by an overwhelming majority of the participants, religion tends to play a less prominent role in an individual’s life. This would mean that religious music is experienced less, played less, and has less meaning attached to it. In the case of country music, themes are presented and lifestyles are described that are less relevant to individuals from the Northeast. It is also probably played far less often, and since familiarity breeds liking, the lack of exposure might explain the generally low preference ratings that country music received in the present study.

Noting these regional differences, it is regrettable that the region variable did not show significant variability and could not be further examined. Given that culture and
peer groups influence preference, it would have been useful to explore how the region one is most exposed to (and subsequently peer/cultural groups) might shape and reinforce certain preferences. It was also unfortunate that the sex variable exhibited so little variability. Other studies have found that there are sex differences in relation to particular preferences (i.e., males more often prefer rock music) and it would have been useful to examine the sex effects.

It is not surprising that academic major did not affect preference because participants in each category did not represent a heterogeneous academic group, especially owing to the fact that specific majors were not recorded. It might also be the case that major is not so intimately related to personal characteristics that it would show a significant relationship to musical preference.

Participants were asked to rate the importance of music to ensure that music had some type of relevance in their lives. If music was consistently defined as unimportant, it would have been unlikely that preference would provide any useful information about a person. The findings that intense/rhythmic and soothing/upbeat music are preferred more as importance ratings go up possibly indicates that a deeper involvement in these genres is needed for the music to be most enjoyable.

The previously supported finding that an individual’s typical use of music is related to personality characteristics was not confirmed in this study. This might have been a direct result of the fact that a majority of participants identified themselves as either an emotional user or someone who uses music as accompaniment. The two other use types were seldom selected. Only the intense/rhythmic factor was affected by a participant’s typical use of music and this might have been due to the fact that
intense/rhythmic music is thought to contain strong emotional content which might predispose it to being used more for emotional purposes.

The relationships between preference factors and personality factors elucidated in the present study are similar, in many respects, to those suggested by past research. It has been suggested that preference for genres such as dance/electronica and soul/funk is related to higher extraversion scores. This was supported by the finding that the soothing/upbeat factor was positively correlated with scores on the excitement-seeking facet of extraversion. Dance and funk music have a direct relationship with another art form, dancing, and this might explain why those who prefer such types of music tend to score higher on the aesthetics scale. The tendency of the soothing/upbeat factor to be associated with a higher overall openness score might be partially explained by the fact that the pattern represents somewhat diverse genres. Dance/electronica and soul/funk share similarities but folk music is also included in the factor and is quite distinct. Preference for such variation fits well with a tendency to embrace diverse experiences. Especially in the case of electronica music, chords may be erratic and harsh. This might be part of the reason why liking such music is negatively correlated to scores on the order scale. It is not clear why the soothing/upbeat factor is negatively correlated with conscientiousness scores but it may be that such music is preferred by those who are less constrained (enjoy engaging themselves in music through dancing) and are not as concerned with structure (prefer to react emotionally to music).

The cerebral/complex factor represented a preference that other researchers have similarly identified. It is not surprising that individuals who prefer such genres as classical and jazz tend to score higher on the aesthetics scale and openness to experience
factor. Classical and jazz forms of music generally demand intricate processing and an appreciation of structure. This appreciation of form lies at the heart of the aesthetics factor. The fact that those who prefer cerebral/complex music tend to score lower on the compliance scale might be explained by the fact that such scoring represents aggressiveness and a willingness to compete. To succeed in intellectual pursuits and develop critical thinking skills, individuals often need to address issues with fervor and be willing to challenge as well as be challenged.

Fans of heavy metal music have often been characterized as more likely to be socially deviant and less empathic. The present study provided some support for the notion that being a fan of heavy metal music is associated with decreased social interests. The heavy metal factor was negatively correlated with scores on the positive emotions scale as well as the warmth scale. Heavy metal music presents vivid sounds and extreme messages so it is not surprising that individuals who prefer metal are also more likely to score high on a fantasy scale (represented by vivid imagination and active fantasy life). It appears contradictory to prior research that the heavy metal factor was positively correlated with openness to ideas and openness overall. It is generally held that heavy metal fans are less interested in cognitive endeavors and so higher idea scale scores seem to be somewhat inexplicable. It might be that, currently, heavy metal has been adopted as the music of choice by different sorts of individuals. As genres evolve it is not uncommon for fan bases to diversify and maybe more intellectually interested and open individuals have found enjoyment in new forms of heavy metal.

One of the most clear cut relationships established in previous research has been between preference for popular music and extraversion. The analysis presented in this
study shows that preference for popular music is, in fact, significantly linked with scores on several of the extraversion facet scales and extraversion overall. The interesting finding, though, was that the intense/rhythmic factor exhibited the same relationships with extraversion scores. Both factors were positively correlated with scores on the warmth scale, the excitement seeking scale, the positive emotions scale, and total extraversion scores. Researchers note that popular music generally involves themes of love and interpersonal interaction, so it follows that fans of such music would score more highly on the warmth and positive emotions scale. Also, because popular music is loaded with relationship and social themes, it would seem to attract individuals who tended to be more extraverted and thus crave social stimulation. Interpretation of the intense/rhythmic findings, though, presents some notable difficulties.

Research into preference for rap/hip hop and alternative music has generally demonstrated that fans of such music tend to be more tough-minded and disconnected (socially). Results from this study suggested somewhat of an opposite conclusion: such fans are more apt to form close attachments and experience positive emotions. One possible explanation for these seemingly contradictory findings is offered by a close examination of the two genres. Both rap/hip hop and alternative are comprised of heterogeneous artists, and this creates much in-group variation. While some music that can be considered rap or alternative would seem to be connected with more pessimistic and defiant themes, other forms from within the genres are more “mainstream” and positive. Both rap/hip hop and alternative may have become more widely appreciated forms of music and are now similarly experienced as other “popular” forms are. The
distinction between pop music and rap/alternative may have been, to some extent, blurred and this would result in the genres being related in identical ways to personality traits.

The sixth factor formulated in the current study represented a preference pattern seemingly unrecognized in other studies: a preference for religious music and a dislike of rock music. Results suggested that preferring religious music (and disliking rock music) was related to lower scores on the openness to values facet scale, the achievement striving scale, and overall conscientiousness. Due to the nature of religious music, it makes sense that such fans would tend to score lower on the values scale because lower scores are indicative of a tendency to accept authority and honor tradition. It is not readily apparent why fans of religious music seemed to be less motivated to strive for success and less purposeful. It is also not clear why preference for religious music was related to higher scores on the depression scale. These findings might be partially explained by the fact that religious music involves serious themes, including allusions to existential issues such as death, which depressed individuals may easily associate with. It may be possible that deeper religious involvement (which could lead to increased preference for religious music) might fulfill personal and emotional needs to such an extent that individuals do not need to strive for success and fulfillment in other areas of life.

The bulk of the present study was concerned with identifying the ways in which musical preference and personality traits might be related. Analysis of the data yielded numerous significant relationships and previous findings were supported. The results presented suggest that musical preference does seem to be influenced by, and to exert an influence on, personality. Much can be learned from examining how the characteristic features of music from a particular genre might attract a particular type of individual.
Beyond this, it is useful to know what kind of information musical preference provides about a person and his or her general emotional/cognitive needs.

As mentioned previously, it was a limitation that participants formed a somewhat homogenous group. More variation in sex, region of residence, and typical use, for instance, would have provided more insightful findings. Furthermore, the number of participants was far from ideal for a factor-analytic study, though the results were nonetheless distinct and interesting. It was also recognized that the surveys required a significant time commitment and it is not surprising that some individuals from a college student sample were unwilling to give the time.

It seems that significant benefits might be derived from future research that takes a qualitative approach to musical preference. If individuals identify, in an interview for instance, why they prefer certain types of music or what they find most appealing, the relationship between personality and preference may become better understood. It is useful to provide statistical evidence of a connection between personality characteristics and taste in music, but it would be more informative to be able to describe the relationship and how it functions. As music is a dynamic art form, it is necessary to continually reevaluate links between preference and personality. Musical genres evolve and new forms emerge so that research must be able to address the relationship changes that might result.

Music is a universal, subjective experience that offers insight into the human condition. The diversity of musical forms suggests that music can serve a number of functions and address many different needs. Because individual differences are such a crucial topic in the field of psychology it appears to be self-evident that researchers
should investigate individual differences in the experience of music. The current study has provided some insight into the relationship between personality traits and musical preference, but the picture is far from complete. Further efforts to understand musical preference have the potential to identify how music fulfills psychological needs and how internal realities are reflected in musical choices.
References


