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thesis entitled

THE RELATIONSHIP BETWEEN INVOLVEMENT WITH
POPULAR MUSIC MEDIA AND
ANTISOCIAL BEHAVIOR OF CONVICTED FELONS

presented by

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has been accepted towards fulfillment
of the requirements for

MASTERS degree in MUSIC THERAPY

Roger C. Hornbeck
Major professor

Date 12-5-97

THE RELATIONSHIP BETWEEN INVOLVEMENT WITH POPULAR MUSIC MEDIA AND ANTISOCIAL BEHAVIOR OF CONVICTED FELONS

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A THESIS

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

MASTER OF MUSIC THERAPY

Department of Music

1997

ABSTRACT

THE RELATIONSHIP BETWEEN INVOLVEMENT WITH
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This is an investigation of 150 male prisoners' use of popular music media and their behavior in the Michigan prison system. Inmates' involvement with popular music genres, time spent listening, investment in music, singing, and time in prison were surveyed. Aggressive and antisocial behaviors were measured by the change in each inmate's screening points since incarceration. Screening points are used to determine security level and parole eligibility. Music categories were country; heavy metal; rock or oldies rock; rap; and soul, rhythm and blues, or blues. Subjects preferred the rock and soul music categories. A significant relationship was found between listening to rap music and to music from the soul group ($p < .001$). Listening to music from either the rap or soul groups was positively related to change in screening points ($p < .05$). The need to view music in its social context considering its idiosyncratic interaction with the individual listener is discussed. Further study more clearly defining music genres is recommended.

To all dedicated music therapists,
especially those who work in prisons.

ACKNOWLEDGEMENTS

Without the support and wisdom of many special people, this project would never have been completed. First, I want to thank Roger Smeltekop, my graduate advisor, for literally years of help and sage advice.

Bob Unkefer and Dale Bartlett, my longstanding music therapy mentors, both retired during this process, but were invaluable resources, both past and present. Michael Largey, who became recently involved, offered a unique, musicological perspective.

I also want to express a great deal of appreciation to my colleagues in prison mental health work, who patiently encouraged me for so long, and especially those who helped in collecting the data.

I will always be indebted to my family, the one I was blessed to be born into and that which I was fortunate to marry into, who provided both tangible and intangible support through the arduous journey that culminated with this thesis.

Mostly, I am grateful to my wife, Kathy, for endless hours of typing, editing, and consultation. Her prayers, perseverance and quiet sacrifice, steadfastly affirming my efforts, unquestionably provided the catalyst that I

repeatedly relied upon to reawaken the motivation that I needed to finish.

Finally, I want to thank my children, Kim, Rob, and Mark, who were willing to allow me time to myself, and who tolerated less than ideal conditions until they could get all of their dad back.

Lastly, I credit my dog Coda, a black Labrador Retriever, who refrained from eating any of the important data, and sometimes stopped barking when I wanted her to. I still hold her responsible, however, for the numerous hours of lost sleep, and my bloodshot eyes, as she stomped on me in the early morning hours to let her out when I thought I finally had some time to sleep.

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Introduction

Very few studies have been undertaken involving prisoners as subjects and music related topics. As will be shown, there has been a substantial basis for concern voiced by the public regarding presumed connections between popular music media and antisocial behavior. Perhaps the difficulty quantifying such behavior has discouraged researchers. The prison population, with time-tested and successful use of screening points, presents a unique opportunity to address this problem.

Since prisoners have clearly demonstrated antisocial tendencies, focusing specifically on their music-related behaviors should represent a real world picture of the way music media are used by individuals who engage in antisocial behaviors.

By investigating correlations within this population's use of popular music media, patterns of relationships may emerge between antisocial characteristics and characteristic usage of music. Adjusting the data to control for demographic information, musical style, and specific kinds of involvement with popular music, offers at least an

initial step toward defining the real life influence of music on certain types of human behavior.

Background: Concerns About the Effects of Music

Interest and concern regarding the effects of music on people date back throughout history. Early investigators such as Aristotle (Loomis, 1943), Plato (1967), Kant, Hegel and many others (Hofstadter & Kuhns, 1964) examined philosophical explanations of the effect of exposure to music.

More recently, scientific advances have permitted more sophisticated approaches targeting specific effects, and specific qualities in music. Stimulative and sedative music were compared in a study by Caspy, Peleg, Schlam and Goldberg (1988). They found sedative music reduced the effect of frustration on performance while stimulative music did not. Smith and Morris (1976, 1977) found stimulative music increased worry and emotionality, concluding that "the effects of music are to be understood in terms of cognitive processes such as worry, expectancy and concentration, rather than primarily on the basis of the arousal or reduction of physiological-affective responses to musical stimuli" (Smith & Morris, 1977, p. 1052).

The process of classifying music in this manner without controlling for idiosyncratic responses was questioned in a study by Taylor (1973). He found that a subject's

physiological response to music agreed with expressed responses only at the level of chance. When physiological measures were monitored in a study by Davis and Thaut (1989), relaxation and reduced anxiety were reported by subjects when measured arousal increased. The response of the subjects was to a wide variety of musical styles and volume levels, chosen by the subjects themselves. An explanation given was that changes in arousal in response to the music was perceived as pleasant. This was also offered by Schubert (1996) to account for the enjoyment of negative emotions in music.

It is important to recognize the individual nature of the influence of music stimuli upon the listener. This includes elements of the music itself as well as the influence of preference, past associations, familiarity, and characteristics of the particular subject involved.

Nonetheless, expressed responses to music, in general, include relaxation (Arnett, 1991a; Avery, 1979; Davis, Gfeller, & Thaut, 1992; Davis & Thaut, 1989; Thaut, 1989, 1992), improved mood (Asmus, 1985; Larson & Kubey, 1983; Thaut, 1989), dissipation of anger and frustration (Arnett, 1991a; Avery, 1979), and changes in thought or insight (Thaut, 1989). A study by Peretti and Kippschull (1991) even describes the influence of various music styles upon the social behavior of mice.

That music affects people would seem to be universally accepted. Changes in music styles, especially with the

advent of commercially available popular music, gives rise to concerns over the possibility of its detrimental effects.

In a discourse written almost 50 years ago, Riesman (1950) expressed concerns that popular music was portraying life for youths "as a happy-go-lucky time of haphazard clothes and haphazard behavior" (p. 62) where "the very real problems of being young are evaded" (p. 362). At this time the music of his disdain was the rebellious "hot jazz" (p. 369).

Popular music has been tied to the socialization process, especially during adolescence (Avery, 1979; Christenson & Lindlof, 1983; Larson & Kubey, 1983; Lull, 1985). Concern over this link results in further piquing the interest of parents and authorities as to the content and influence of popular music.

It is interesting to note that during adolescence, involvement with popular music increases significantly, while television viewing decreases (Avery, 1979; Larson & Kubey, 1983; Lull, 1985). Involvement with popular music is related to popularity and decreased academic achievement in youth (Brown & O'Leary, 1971; Burke & Grinder, 1966; Larson & Kubey, 1983). In fact, Burke and Grinder (1966) found grade point average inversely related significantly ($p < .001$) to amount of time listening to popular music.

It is important to recognize that involvement with popular music may preclude other uses of time, such as time spent with family or in academic pursuit. Without strictly

focusing on the correlational nature of these studies, spurious conclusions could be made as to the effects of the music itself. Clearly, social factors surrounding involvement with popular music must be considered when explaining related behavior.

In a discussion of the impact of rock music, Lull (1985) states, "personal involvement with music enhances socialization to the values and lifestyle models embraced by it. The position taken here is that active use of a medium increases its effect as an agent of socialization" (p. 368). The values and lifestyle models presented by popular music have been the source of great concern due to themes of sex, violence, substance abuse, and nihilism.

In 1967, supported by the Georgia State Legislature, a coalition of radio station owners, citizens' groups, rural broadcasters' associations, and the Executive Council of the Episcopal Church, campaigned to rid the record industry of "filth" (Robinson & Hirsch, 1969, p. 42). As rock music persisted into the early 1980s, a preacher named Gary Greenwald led a crusade which included the smashing of rock records and tapes that he claimed contained satanic messages when played backward. It was thought that the messages influenced behavior subliminally (Martin & Segrave, 1988; Tisdall, 1983; Vokey & Read, 1985). Legislators in Arkansas, California, and Texas became sufficiently concerned to pass or introduce legislation that required warning labels or

restrictions on recordings with backward messages (Vokey & Read, 1985; Walker, 1985).

In examining various aspects of heavy metal rock music, Walser (1993) reflects on the public's reaction:

> the debates surrounding heavy metal and the people who make it--over meaning, character, behavior, values, censorship, violence, alienation, and community--mark metal as an important site of cultural contestation. This is most obvious when attacks come from groups with overt moral missions. (p. x)

It is prudent, in light of the social conflict over popular music, for the claims and counterclaims to be considered in the context of the possible agendas and intentions of those involved.

The presence or influence of backward satanic messages has been investigated since, at least, the late 1970s. The concept of subliminal perception was supported by Shevrin and Dickman (1980) in a review of literature directed toward the existence of a psychological unconscious. Thorne and Himelstein (1984), drawing upon prior evidence of the power of suggestion (O'Mahony, 1978), found that subjects heard messages when told they were present significantly more than the control group. An extensive series of studies by Vokey and Read (1985) found no evidence to support the influence of backward messages or subliminal messages, satanic or otherwise. Walser (1993) offers the following explanation:

> charges of secret messages may persist because we as a society have afforded ourselves no other ways of explaining music's power to affect us. Subliminal manipulation substitutes for a conception of music as a social discourse; since we are trained not to think of

> music, or any other art, as symbolic discourse, drawing its power from socially grounded desires and contestations, we fall back on a kind of mysticism to explain the effects that music undeniably produces. Such effects may be acceptable when they are created by dead "great" composers, but they are perceived as dangerously manipulative when produced by others, such as heavy metal musicians. (p. 147)

Still, trends in popular music remained an increasing source of concern for researchers, politicians, and the public at large. Lull (1982) surveyed listeners of new wave music and found frequent references to being (in the right mood, described as) "rowdy, crazy, radical, energetic, hyped-up, when you feel like fooling around, when you want to dance, when you're drunk or stoned" (pp. 127-128) as appropriate conditions for listening. The resurgence of heavy metal rock and roll in the 1980s included lyrics and behavior sufficient to prompt congressional hearings in 1985 (Lerner, 1987; Martin & Segrave, 1988; Stuessy, 1990), and the formation of the Parents Music Resource Center (Bruning, 1985) to advocate for warning labels on explicit music materials.

Speaking to this pressure to put warning labels on albums, Berry and Wolin (1986) in the Harvard Journal on Legislation stated, "This action appears harmless, but it unnecessarily concedes the disputable point that rock lyrics are a major cause of the problems of youth in America" (p. 619). The controversy was widespread, with numerous viewpoints on the effects of rock music.

During the congressional hearings on record labeling, Senator Trible, referring to suggestive lyrics, stated, "the effect on a troubled child, however, can be disastrous, pushing that child over the emotional precipice, and to the extent that individual attitudes are influenced, this becomes a very real social problem" (Record Labeling, 1985, p. 3).

Senator Gore, in these hearings, asserted, "the kind of material in question is really very different from the kind of material which has caused similar controversies in past generations. It really is very different" (Record Labeling, 1985, p. 5). The explicit nature of sex and violence in music was discussed as various individuals contributed to the hearings with graphic displays of album covers, lyrics, music videos and examples of heavy metal rock.

Tipper Gore, who also made a statement at the hearing, was prompted to publish a book on the subject. She cites rock music referring to, "Devil worship and the occult, sadistic sex, murder, rape, and suicide" (Gore, 1987, p. 49). She goes further to assert that

> the healthy mature personality may in fact be minimally affected by violent messages. But for many malleable teens and preteens who are searching for identity and who are beset by conflicts about authority, drugs, sex, religion, and education, a big dose of heavy metal messages like these can be extremely harmful. (Gore, 1987, p. 56)

A great deal of attention was drawn to rock music as a result of this book, including Hersch (1987), who suggests,

"perhaps the problem is more one of tastelessness than imminent danger...her arguments easily misread as a call for censorship" (p. 80). It should be observed that Gore herself does not see censorship as a solution (Gore, 1987). Others question whether the lyrics of heavy metal music as a whole actually center around drugs, suicide or violence (Walser, 1993).

Vernden, Dunleavy, and Powers (1989) criticized the approach by Gore and others saying, "reducing the heavy metal critique to a question of the moral implications of certain lyrics or suggestive 'beats' is an inadequate strategy for exploring connections between kinds of rock and delinquency" (p. 75). They assert that there is a need for studies including the relationship between music and listener, "within the context of the day to day experiential domain of audience members" (p. 76).

A review by Gross (1990) assigns heavy metal music to the category of youth music with a focus on power and protest, echoing earlier ideas by Weinstein (1983). Gross does concede that "the fascination with the dark side of life, that appears to be so inherent in the heavy metal subculture, is by no means healthy" (p. 129). He contends that most listeners are not adversely affected.

In addressing changes in popular music, Stuessy (1990) expressed concern as well:

> "All a matter of degree", you may say. Little by little, inch by inch, year by year, we have

> "progressed" from Elvis swiveling his hips, through Hendrix humping his guitar and Morrison exposing himself, to W.A.S.P. simulating intercourse with a saw blade....Even though not all agree as to when and where the line is crossed, many reasonable people agree that things have gotten a bit out of hand. Rock and roll has gradually become something different in kind, not simply different in degree....Certainly there is an element of hatred in much of today's rock that simply has not been present in any style of music previously. Something is different. (p. 397)

Weinstein (1991) devotes a great deal of time to the explanation of lyrics that were misinterpreted by public figures to infer relationships to Satan and suicide. She attributes this misinterpretation to the link with suicide that led to court cases against rock musician Ozzy Osbourne and the band Judas Priest. After much publicity, the cases were dismissed (Billard, 1990; Dee, 1987; Murphy, 1986; Walser, 1993; Weinstein, 1991). Expert witnesses at the Judas Priest trial concluded that "the music had an influence, but that it was not proximate and was not subliminal. In addition, all the elements are protected constitutionally" (Litman & Farberow, 1994, pp. 497-498).

The possible connection between music and suicide may have prompted studies by other researchers. A correlation was found between white suicide and country music ($r = .54$, $p < .05$) by Stack and Gundlach (1992, p. 214). This study resulted in a debate involving numerous academic journal publications (Maguire & Snipes, 1994; Mauk, Taylor, White, & Allen, 1994; Snipes & Maguire, 1995; Stack & Gundlach, 1994a, 1994b, 1995). While those who discounted Stack and Gundlach's results directed attacks on procedures and

theories of this study, Stack and Gundlach maintained their original position supporting the relationship between white suicide and country music. Heavy metal music was also implicated as being associated with suicide (Martin, Clarke, & Pearce, 1993; Stack, Gundlach, & Reeves, 1994).

It is clear that a link between music and suicide or aggression does not necessarily imply a causal relationship. Arnett (1991a) stated, "rather than being the cause of recklessness and despair among adolescents, heavy metal music is a reflection of these" (p. 96). Rob Halford of the band Judas Priest commented that the effect of heavy metal music is therapeutic as a "catharsis for its audience" (Trzcinski, 1992, p. 18).

Nonetheless, the controversy continues. A 1995 poll showed 77% of those questioned were very, or fairly, concerned about media violence (Lacayo, 1995). This followed Senator Robert Dole's attack on Time Warner board members suggesting a stop to the production of certain rap music with themes of sex and violence (Lacayo, 1995). House speaker Newt Gingrich suggested that advertisers boycott radio stations playing this type of rap music (Lacayo, 1995).

The initial reaction of the chairman of Time Warner, Gerald Levin, was to defend rap as a "legitimate expression of street culture, which deserves an outlet" (Zoglin, 1995, p. 37), asserting that "music is not the cause of society's ills" (p. 37). He then declared that the company would

develop standards for labeling and marketing such music (Zoglin, 1995). A few months later, Time Warner announced they were no longer producing the rap music that had been criticized ("Time Warner," 1995).

Others defended the production of rap music pieces, characterizing them as "expressions of despair and hopelessness" (Pressley, 1992, p.93), asserting that rap can serve "to provide a means of psychosocial integration and spiritual transformation for its listeners" (p. 96).

Armstrong, (1993) in a comparison study, points to commonalties between country music and rap music. He observes that the emphasis on lyrics focusing on violence, masculinity, and the realities of the underclass is central to both types. This leads him to assert that "the emphasis that rap represents a unique 'subculture' and 'message' seems very much overstated" (p. 80).

A contrary theme is voiced by Brown and Hendee (1989) with respect to heavy metal rock music, stating that "rock music, reflective of the adolescent peer culture, symbolizes the adolescent themes of rebellion and autonomy" (p. 1662). They proceed to conclude that involvement in heavy metal music should be considered by physicians as an indication of adolescents' states of emotional and mental health, specifically "when other affective behavior of the adolescent suggests potentially destructive alienation" (p. 1663).

The notion that choice of musical style reflects emotional and behavioral characteristics of the listener has been addressed with regard to suicidal vulnerability and recklessness. Stack, Gundlach, and Reeves (1994) suggest "heavy metal music is marked by relatively high levels of alienation and despair. These themes of chaos reflect suicidogenic conditions already present in its audience" (p. 21).

Significant correlations were reported for females, between preference for heavy metal music and depression, self-harm and suicidal thought (Martin, Clarke, and Pearce, 1993). It should be noted that their study was a survey of 247 Australian high school students, of which only 27 females reported a preference for heavy metal music. Certainly investigation of social influences and further study with a greater sample would serve to bolster their findings. Recall that Stack and Gundlach (1992) reported a suicide link with country music as well.

Arnett (1991b) showed a relationship between certain kinds of reckless behavior and preference for heavy metal music stating, however, that "it seems likely that sensation seeking is the strongest link between reckless behavior and heavy metal music" (p. 588).

Others found evidence contrary to the idea that music choices reflect personal characteristics. A study with psychiatric criminal offenders led Brotons (1987) to conclude, "the contention that those with severe problems

select music reflecting those problems was partially refuted" (p. 35). She found no correlation between diagnosis and lyric content of selected music.

A study by Gowensmith and Bloom (1997) of 137 male college students, challenged the assertion that heavy metal fans are more angry, agitated, and aroused, reporting, "the results of this study do not support this speculation. No pretest differences were found among subjects' levels of state arousal, state anger, or trait anger" (p. 41). This was a self-report study and did not utilize physiological measurement devices.

Examining rebelliousness and defiance in high school students' preference for rock music videos, Bleich, Zillmann, and Weaver (1991) found "counter to expectations, highly rebellious students did not enjoy defiant rock videos more than their less rebellious peers" (p. 351). There was, however, significantly less preference for videos without defiant themes by rebellious students. This study involved both males and females and also asserted that "defiance and rebellion in adolescents is predominantly a male trait" (p. 363). It should be noted that they did not control for gender in the reporting of their results, other than to note that three times as many males were found to be rebellious than females.

The issue of gender effects appears to be conspicuous by its absence in the treatment of data from many studies concerning music preference and related personal attributes.

It would seem that, especially with heavy metal music and its predominant appeal to males, gender should be considered a central concern when viewing characteristics of subjects and their involvement with music.

When gender was controlled for, in a study of adolescent turmoil and its relationship to rap and heavy metal music, nearly all of the previously significant indicators disappeared (Took & Weiss, 1994). It is also interesting to note that the previously mentioned study by Gowensmith and Bloom (1997) involved only males and found no significant differences in anger or arousal, regardless of music preference.

It is essential that the music stimuli is not presented, to the exclusion of nonmusic factors, as the salient influence determining behavior without adequate controls. Rock music with lyrics promoting homicide, suicide, or Satanism was found to attract mostly white, urban males, whose parents either never married, or no longer are (Wass, Miller & Stevenson, 1989). Personality variables, school achievement, and substance abuse have been related to music choice as well (Arnett, 1991b; Brim, 1978; Roe, 1987, 1995; Took & Weiss, 1994).

The reporting of results, and even the design of studies, often reflect the underlying personal views of the researchers, whether intended or not. An extensive treatment of the public outcry over rock music by Martin and Segrave (1988) concludes,

> rock and roll is music that mom and pop don't like. The adult establishment can be relied upon to attack rock again and again in the future, but rock will survive. Youth will not let it die, or be tamed. Rock is too important for youth. It is the only thing in society over which they exercise a degree of control. They will fight for their music. And they should. The music is a healthy outlet for the challenge of growing up. ROCK ON! (p. 314)

Their conclusion that rock music is a healthy outlet is based on the assertion that the opposite has not been proven.

A study by Rosenbaum and Prinsky (1991) reports that 10 of 12 psychiatric facilities they approached recommended hospitalization for a person they described, solely for music choice, appearance, and posters on the wall. They begin their report asserting that "there is no research demonstrating a connection between punk or heavy metal music and delinquency" (p. 528).

Others prominently report unhealthy behaviors correlated with particular music styles, even though they are not statistically significant (Took & Weiss, 1994) or use language demeaning to certain styles, terming one "angry and socially disvalued," and another more "legitimate music" (Roe, 1995).

Unsupported statements reflecting researcher bias are also found in a recent study by Stratton and Zalanowski (1997) reporting that "negative moods were surprisingly associated with listening to classical music" (p. 137), and "it seems unlikely that anything in classical music would be priming access to hostile or anxious thoughts. And no one

has ever uncovered a classical music subculture with negative feelings and antisocial tendencies" (pp. 137-138). They further state "oldies and easy listening are not commonly thought of as having deep emotional expression" (p. 138). When subjects preferring heavy metal music reported a significant increase in positive affect over mainstream popular music fans listening to their preferred music, an explanation given was possible classical conditioning from previous drug use (Wooten, 1992).

Generally, those who are asked about their reasons for liking their preferred music give positive reasons (Gantz, Gartenberg, Pearson & Shiller, 1978; Rosenbaum & Prinsky, 1987). It would seem unusual for one to expect subjects to report negative motivations for their music choice.

Understanding the relationship between music and behavior is a complex task in itself. The intense social controversy over popular music styles demands that we maintain an acute level of sensitivity to the infusion of personal values into the interpretation of the evidence presented. Many of those analyzing music styles focus so intently upon the lyrics, and other nonmusical concerns, that they ultimately ignore the music aspect of the music they purport to be analyzing.

A study entitled "Violent Attitudes and Deferred Academic Aspirations: Deleterious Effects of Exposure to Rap Music," with 46 African-American inner city adolescent males, was based upon viewing videos and reading vignettes.

Highly significant results were reported, without exception, confirming the expectations of the researchers. They concluded, "our findings are important because they give the first empirical evidence to support the contention that rap music may play a role in violent behavior among African-American males" (Johnson, Jackson, & Gatto, 1995, p. 38).

It is apparent that many claims have been made regarding the effects of music on society without adequate support of substantive research. Although the basis for these claims has been more anecdotal than experimental, they have had far reaching impacts in the form of record burning, Senate hearings, court cases, academic disputes, and pressured changes in the music industry. Strangely, this has prompted little, if any, concern regarding the music behaviors of those convicted of aggressive and antisocial criminal activity. With so much attention from so many facets of society, it would seem that an examination of the use of music by felons would be a reasonable place to start.

Related literature: Theoretical Explanations

With claims and counterclaims of positive or negative influences of music media on behavior, the question arises as to the nature of the mechanisms operating to effect such influence. One view is that violent and sexual music media promotes those very behaviors through imitation and arousal. Another view contends that the opposite is true, and such

music provides an expressive outlet for those violent, sexual feelings present and reduces the potential for acting out aggressively. What follows is a brief description of drive reduction theory and social learning theory as they relate to the possible connections between exposure to popular music media and behavioral responses. The role of arousal in excitation-transfer theory will also be discussed, as well as the influence of lyric content, visual aspects, and amount of exposure to popular music media.

The theories referenced are presented only to the extent necessary to provide a sufficient understanding from which to form a contextual framework to view the results of this study.

Drive Reduction Theory

Berkowitz (1962) explains that the theory of catharsis entails the draining of energies to reduce tension and aggressive tendencies. This idea has been widely held as long ago as ancient Greece, but is most familiar in its association with Freud and psychoanalysis. He believed that all living things continuously seek the reduction of aggressive and sexual energies within them. If not discharged outwardly, they are directed toward the self in the form of guilt feelings (Berkowitz, 1962, Chap. 8, p. 197). There are two versions of catharsis. The first "maintains that the performance of an aggressive act reduces the instigation to aggression" (Berkowitz, 1962, p. 196).

The second version refers to improved feelings after releasing aggression, as in the commonly held belief that one must vent one's anger (Berkowitz, 1962, chap. 8).

Psychoanalysts see artistic productions as the expressions of fantasies representing wish fulfillment (Feshbach, 1955). This aspect of art is what satisfies frustrated desires: "it acts to reduce the discontent, personal and social, in the audience" (Albert, 1957, p. 226). Therefore, it is thought that listening to music allows a vicarious, cathartic experience, to release feelings harmlessly (Albert, 1957). It is apparently from this theoretical stance that Avery (1979) asserts that "frustration and anxiety created by parental conflicts or the failure to achieve peer group acceptance can be dissipated by the familiar lyrics of a favorite song" (p. 65).

This aspect of tension or arousal prior to vicarious expression was determined by Feshbach (1961, 1964) to be a necessary condition to reduce subsequent aggressive behavior. Much of his work is targeted toward aggression in particular. In an attempt to explain the contradictory findings of his contemporaries, which are addressed later in this thesis, he devotes considerable time to defining and distinguishing between expressive aggression and hostile aggression (Feshbach, 1964).

Although belief in the cathartic function of music media is very commonly held by society as a whole, the

research in this area is somewhat sketchy and largely anecdotal.

A study of heavy metal and rap music offered apparent support, as subjects who listened to violent, depressing rap music reported fewer depressive symptoms than those listening to nonviolent rap (Ballard & Coates, 1995). However, more anger was elicited overall by rap listeners than heavy metal listeners. The cathartic effect of heavy metal was entertained as an explanation until the authors considered that the overwhelming majority of subjects were Caucasian college students who largely expressed preference for rock over rap. "Thus the subjects may have responded to the rap music more negatively simply because they did not like it" (p. 165). They also did not control for the subjects' levels of arousal prior to exposure to the music.

The role of fantasy in music is clearly illustrated in a psychoanalytic examination of classical music performers and audiences by Freundlich (1968) and in a lengthy study of adolescent heavy metal fans by Arnett (1991a). Arnett found "their identification with the music and the performers was remarkably strong; when attending concerts, many of them envisioned themselves on stage, as a romantic dream or as a fervent ambition" (1991a, p. 85). Over 75% stated that they had tried to play guitar, bass, drums, or keyboard; and 36% expected music related careers in the future, significantly higher than nonheavy metal fans ($p < .001$) (Arnett, 1991a,).

A study by Feshbach (1955) examined aggressive behaviors after frustration and the opportunity to engage in aggressive fantasies. He found support for drive (or energy reduction) theory, as expressed aggressive fantasies reduced the level of subsequent aggressive behaviors. He explained, "as viewed here, fantasy behavior is an adjustment mechanism which can serve to reduce tensions and provide substitute goal satisfactions. It may serve as an outlet for socially unacceptable motives" (Feshbach, 1955, p. 10).

An extensive study by Albert (1957) echoed these findings with film as the focus of fantasy expression. He controlled for the role of the aggressor and the personality of his subjects, which produced variation in responses, but the results supported Feshbach overall.

Verbal reports of adolescent heavy metal fans in Arnett's (1991a) study convey subjective support as well. Most of the subjects listened, especially when they were angry; and of these, most expressed a "purgative effect, relieving their anger and making them feel better....the music served a purgative function for 54% of subjects interviewed" (p. 83). Arnett (1991a) describes this music as angry, pessimistic, and negative, as it "mirrors the emotional volatility of youth" (p. 95). Stratton and Zalanowski (1997) suggest that music listening of various styles often results from the experience of negative moods. That is, that listening to music appears to be a reaction or coping strategy to deal with unpleasant feelings.

Others have also made claims that emotion is present in music. A frequently quoted, but briefly presented, discourse by Grace Rubin Rabson (1977) goes so far as to assign elements to moods: for example, sad music is soft, slow, and low in pitch; while joyous music is loud, fast and high in pitch. Numerous others have studied the expressive qualities in music with some consensus that general trends exist if demographic and idiosyncratic information is considered (Achte, Fagerstrom, Pentikainen, & Farberow, 1989; Brodsky & Niedorf, 1986; Davis & Boster, 1988; Marchand, 1975; Mark, 1988; Singer, 1983; Terwogt & VanGrinsven, 1988, 1991).

Callen (1985) captures the quality of fantasy in music expression as he states,

> I want to explore briefly the transformation of <u>imagination</u> that moves from thinking of music as, perhaps metaphorically, possessing certain expressive properties to thinking of emotions, albeit fictive emotions, as being in the music....and if there can be tension, suspense, and release <u>in</u> the music as well as in our response to the music, there is little reason to deny that there can be joy, anger, and so forth, in the music as well as in our response to it. (p. 47)

This process of experiencing the fantasy of emotions expressed in music consequently releases energy in the listener, reducing the intensity of the drive state, with respect to sexual and aggressive wish fulfillment, and decreasing the likelihood of related behavioral response according to the position of the drive theorists.

Reacting to public concern over the nature of heavy metal music, White (1985) asserted,

> evidence also indicates that as impressionable as younger people may be, even a heavy investment in listening to the music they prefer probably does not produce untoward social behavior or adverse long-term attitudes or values. Listening to popular music seems to be an epiphenomenon and not a causal antecedent. (p. 68)

A study by Epstein, Pratto, and Skipper (1990) found that music preference is related to race but does not predict behavior problems identified among Southern middle school students. Even the level of commitment to their preferred music, measured in hours, did not predict behavior problems. They concluded "heavy metal and rap music are essentially different expressions of similar adolescent sentiments. Both genres address the alienation and powerlessness that are reflections of the marginal social position of youth in American society" (p. 390).

Harris, Bradley, and Titus (1992) observed higher numbers of inappropriate behaviors in an open courtyard of a mental hospital when heavy metal music and rap music were played than for country western music and easy listening music. The position that music provides an expressive, cathartic outlet for aggressive and sexual energies, would seem to predict that inappropriate behaviors should have diminished with exposure to heavy metal music and rap music, rather than increased. Since they did not account for which subjects were exposed to each music type, the authors conceded that "it is a distinct possibility, however, that the nature of the music drove away certain persons (persons prone to act inappropriately) from the area and attracted

others (persons prone not to act inappropriately)" (pp. 14-15).

The results of this study may point to explanations of behavioral relationships with music in terms of preference. In other words, perhaps it is precisely the cathartic effect of the music that attracts those individuals who have the highest levels of aggressive and sexual energy, and consequently, a higher potential for utilizing inappropriate behavioral means of catharsis in addition to that provided by the music. Perhaps, from this viewpoint, those individuals attracted to the aggressive, sexual music would have behaved even more inappropriately if the music was not present.

Lewis (1980) examined the link between drug use and popular music. He determined that it is "the newness of the music--perhaps as a symbol of a 'new' generation in rebellion--that is linked to drug use, and not the content of the music, either lyrically or stylistically" (p. 180).

Therefore, the music that represents the rebelliousness of the listener is associated with rebelliousness in other areas as well, such as personal appearance, alcohol and drug use, and social behavior. According to the drive reduction, or catharsis position, the association with music is after the fact, an expression of a previous condition, not a cause or an exacerbating influence. It maintains that this is a positive, useful function, serving to ameliorate tensions

that would otherwise be released through negative behaviors or consequences.

Social Learning Theory

Another theoretical context in which to view the relationship between music media and antisocial behavior contrasts with this position. Landmark research by Bandura, Ross, and Ross (1961, 1963) espoused the role of imitation and modeling in aggression. They demonstrated that the type and intensity of aggressive behavior by children was directly influenced by viewing models engaging in interactions with an inflatable doll. A study by Lovaas (1961), and subsequent studies by Bandura et al. (1963), among others, supported this conclusion as they found

> strong evidence that exposure to filmed aggression heightens aggressive reactions in children; subjects who viewed the aggressive human and cartoon models on film exhibited nearly twice as much aggression than did subjects in the control group who were not exposed to the aggressive film content. (Bandura et al., 1963, p. 9)

The studies of cathartic properties of vicarious aggression discussed earlier were challenged as they only addressed immediate effects and not the consequences for later aggressive behaviors. Bandura et al. (1963) asserted that "observation of models portraying aggression on film substantially increases rather than decreases the probability of aggressive reactions to subsequent frustrations" (p. 9).

In a highly regarded review of literature by Berkowitz (1962, chap. 9), he states, "the research will suggest media violence is more likely to incite children to acts of overt aggression than to 'drain' them of their hostile energy" (p. 236). He later more strongly asserts, "there is no need for theoretical twisting or turning on this point; there simply is no adequate evidence that hostility catharsis occurs through vicarious aggression" (p. 240).

Bandura (1973) expands this criticism further:

> it is doubtful that the instinctual drive theorists of aggression are capable of empirical verification. Most of them are formulated in such broad terms that they do not generate specific predictions that could be put to experimental tests. When a nonmeasurable instinctual force is combined with many qualifying factors that are also somewhat elusive, the theory can explain any variety of events that have already happened, though it cannot predict them. (p. 14)

The concept that viewing violent behavior increases the propensity for imitation resulting in violent acts by the viewer has been soundly supported by research. However, generalizing this effect to include auditory stimuli is less conclusive in the literature. Wilson (1987), in an examination of child murders by strangers, cites case studies leading him to contend that popular music emphasizing death and destruction, coupled with particular types of pornography mixing sex and violence, increases the probability of strangers killing children.

The previously mentioned research by Johnson, Jackson, and Gatto (1995), with rap music videos and the reading of

vignettes, supports visual influences on aggression but the music stimuli may or may not be significant.

Attempting to link exposure to music media with aggressive or antisocial behavior is difficult due to the confounding effects of other influences. Vernden et al. (1989), in a well structured study, revealed "a decisive connection between delinquency and both heavy metal and soul music teen fans when compared to Top 40 listeners" (p. 19). However, when controlling for other variables, eliminating the influence of music preference, they found other variables accounted for even more of the variance in measured delinquency. They reasoned,

> if heavy metal or soul music listening was indeed acting as a determinant of delinquency, the proportion of 'explained' variance should have decreased when this factor was left out. Rather, it could be appropriately interpreted as having suppressed the importance of interpersonal and identity factors in the initial regression analysis. (p. 14)

It is clear that numerous social influences are involved. However, popular music media is seldom just instrumental. This opens the possibility that the music invites imitation of behavior modeled through song lyrics condoning aggressive, sexual, or antisocial behaviors. Such behavior on the part of performers in concerts could be models as well. With the advent of the music video, auditory aspects of music have become further merged with visual influences.

Studies involving videos paired with particular music styles support this contention to some degree. Men who listened to rap music with misogynous lyrics were more likely to choose an assaultive video to share with a woman than those who heard rap music with neutral lyrics (Barongan & Nagayama-Hall, 1995). Consideration should be given to the fact that over 85 percent of the subjects were white college students, and no control for preference was provided.

Johnson, Adams, Ashburn, and Reed (1995) showed that nonviolent rap videos presenting women in sexually subordinate roles significantly increased the women's tolerance for date violence. This study included 30 African-American males and females. The males' tolerance for date violence was unaffected.

Rock music videos with antisocial content increased acceptance of subsequent antisocial behavior in a study by Hansen and Hansen (1990a).

It is apparent that something more than simple imitation of modeled behavior is needed to account for complex responses. A cognitive component is also proposed by Bandura (1973) explaining, "the emotional responses that become established to paired events can be evoked by not only direct experience, observation of another's affective expression, and symbolic stimuli, but also by provocative thoughts" (p. 45).

With respect to anger and drive theory, Bandura (1973) clarifies his position:

> From the social learning perspective, anger arousal dissipates, but it can be repeatedly regenerated on later occasions by ruminating on anger-provoking incidents....Given this cognitive capacity, it is not necessary to invoke a drive to explain arousal that outlasts its original instigators. (p. 57)

This concept of self-generated arousal could be significant if music media were ruminated upon as well. Music videos may result in a "flashback" experience when the paired music is later heard alone (Schooler & Flora, 1996). A study of elementary school children found auditory stimuli enhanced imagination and visual stimuli enhanced memory retention (Greenfield & Beagles-Roos, 1988).

Thus, the potential influence of music with its vast array of variables and paired events, presents an obvious need for concern. Even the illustrations and written material on the packaging of popular music media may contribute to behavioral responses outlined by the modeling and social learning theory of Bandura and others.

Excitation Transfer Theory

The difficulty in explaining the inconsistent results of studies addressing aggressive behavior led to an effort at clarification by Zillman (1971, 1984). He isolated the individual's psychological excitation in response to stimulation, in contrast to its aggressive or nonaggressive nature, as a causative influence to aggressive behavior. He purports that cognitive processing of experienced physiological arousal influences the intensity of the

experience. This arousal state can be transferred to subsequent stimuli in a residual fashion since "the time required for the organism to adjust cognitively to changes in stimulation differs significantly from the time required to adjust excitationally" (Zillman, 1971, p. 423). Since the cognitive adjustment occurs more rapidly, the state of arousal remains to potentially influence future behavioral responses.

After measuring physiological responses to film clips, Zillman (1971) chose three of them, representing "neutral," "aggressive," and "erotic, excitational" qualities. The substantial study that followed revealed that aggressive behavior increased most following exposure to the erotic film, and less after the aggressive film, with the smallest increase after viewing the neutral film. He concluded that "the findings support quite unambiguously the proposition that communication-produced excitation may serve to intensify or 'energize' post exposure emotional states" (Zillman, 1971, p. 431).

The use of music to influence arousal level was shown to support the excitation-transfer theory, leading Day (1980) to conclude that "music not only has 'charms to soothe a savage breast' but the ability to intensify aggressive behavior as well" (p. 10-A). This concept of excitation transfer leads to an unexpected consequence:

> The degree of apparent hostility and aggressiveness in a communication would be an insufficient basis from

> which to predict the impact of exposure to communication on subsequent aggressive behavior. The depiction of gentle caressing and kissing, for example, could constitute more instigational power than the depiction of a punch in the nose or a knife in the back. (Zillman, 1971, p. 432)

If excitation-transfer is an influencing factor in aggressive behavior, concerns over sexual arousal induced by the media are supported as well as concerns over antisocial and protest themes with resulting anger. It would be reasonable to conclude that this influence, in addition to social learning and modeling, would have an observable impact on social behavior.

Moore, Skipper, and Willis (1979) examined the question of whether rock music reflected changing sexual attitudes or caused them. They proposed that since observed changes in sexual permissiveness marked the mid-1960s, studying music before and after that point would show it as either an influence or an expression of change. The results were mixed, leading them to conclude that "during this early period, the sexually promiscuous performers may have been one contributing factor in American youth's changing sexual standards, but only one, and probably not the major one" (Moore et al., 1979, p. 485).

Unexpectedly, considering that rock music is the type most frequently isolated in terms of its sexual nature, Singletary (1983) found more emphasis on sex in soul and country music than rock. Although rock contained more social

comment, it did not convey more discontentment. This prompted the following assertion:

> Does music teach? According to learning theory, one would have to say "yes". If music teaches, is the message (whatever it is that is "taught") different for different types of music? Based on this research, the answer again is "yes". (Singletary, 1983, p. 58)

It is a complex matter to address societal changes with respect to music media in light of the plethora of alternative influences, as well as the potential variations in the music media itself. By limiting the scope and reducing variables in studies, tendencies can emerge, nonetheless.

Freudiger and Almquist (1978) found that popular music "apparently contributes to the perpetuation of stereotypical sex roles" (p. 64). Heavy metal, in particular, has been linked to increased negative attitudes toward women and sex-role stereotyping by men (Lawrence & Joyner, 1991). Adversarial sexual beliefs and negative affect increased significantly in men after observing non-erotic/violent rock videos (Peterson & Pfost, 1989). Prerost (1993) found that sexual content in rock music videos "appeared to enhance aggressive mood" (p. 202) in male subjects. Although the scope of this research is limited, it is logical to presume that these results could be generalized at least to certain segments of society.

In exploring the role of visual cues influencing appreciation of rock music, Zillman and Mundorf (1987) found

that sexual and violent images, when presented separately, strongly increased enjoyment of the music for both males and females. This occurred even though the subjects did not attribute their enjoyment to anything other than the rock music. The obvious consequences of this were outlined by Zillman & Mundorf (1987):

> (a) that rock music that offers the utmost in excitement ecstasy, and euphoria will sell better than rock music that meets these criteria to a lesser degree and (b) that producers understand that the needed quality is more readily achieved with videos that feature liberal amounts of sexual or violent images, the rock video of the future promises to exhibit increasing doses of both types of images. (p. 332)

Indeed, studies of the content of music videos consistently cite a predominance of sexual, violent, and criminal themes (Baxter, DeRiemer, Landini, Leslie, & Singletary, 1985; Sherman & Dominick, 1986; Sommers-Flanagan, Sommers-Flanagan, & Davis, 1993). The principle access to music videos in these studies were music television programs.

Data collected over a period of more than a year, on 222 patients in a forensic mental health facility, revealed a significant decrease in aggressive behavior after removal of music television (Waite, Hillbrand, & Foster, 1992). The authors reasoned that

> the removal of MTV likely served two purposes. First, it eliminated a substantial source of situational cues for aggression. Second, it reduced arousal or decreased the activation of primitive thought processes by reducing access to themes of aggression, sexuality, and primary process ideation. (Waite et al., 1992, p. 174)

It is notable that this study makes an implicit reference to explanations from both the excitation-transfer and social learning viewpoints. A study by Moore (1990) found no effect of the content of music videos upon aggressive behavior of males. However, physiological measures also showed no significant changes in arousal during exposure to the various music stimuli. This result is predictable if the excitation-transfer paradigm postulated by Zillman (1971) is accurate.

The role that music plays in the arousal process has also been examined with respect to music videos. Pfaus, Myronuk, and Jacobs (1986) altered the soundtracks of a video of a heterosexual rape. They found that males rated the video as significantly more pornographic when the original soundtrack was played than for the relaxing music, or no sound conditions. This led them to conclude "that the content of a video soundtrack may influence the impact of depicted sexual violence" (p. 231).

The effect of arousal produced by music was explored in a series of experiments by Hansen and Hansen (1990b) as well. They found that reported arousal level was directly related to increased appeal and positive emotions toward sexy videos in both male and female viewers. It is interesting that this effect was independent of the level of sexual content of the video. If excitation-transfer had occurred, arousal from the sexual content should have been enhanced by the arousal from the music.

This effect did occur in viewers of violent videos although in the opposite direction of Zillman and Mundorf (1987). The more violent the video and arousing the music, the less appeal and more negative emotions were reported in response to it (Hansen & Hansen, 1990b). Variations in the nature of the content of the videos were discussed as possible reasons for the differing results.

However, overall, the studies by Moore (1990), Hansen and Hansen (1990b), and Pfaus et al. (1986) strongly support the concept of excitation-transfer as presented by Zillman and Mundorf (1987). It is crucial to note that neither the study by Pfaus et al. (1986), nor those of Hansen and Hansen (1990b), included physiological measures of arousal. This is significant due to discrepancies observed between reported and physically measured responses to music (Taylor, 1973).

Lyrics

The message of popular music media may be conveyed aurally and/or visually through sounds, pictures, and lyric content. Much of the concern over popular music centers around the lyrics and the impact of the values represented. There are, however, conflicting viewpoints in the literature regarding the importance of lyrics and their influence upon the listener.

Several surveys indicate that lyrics are not understood or attended to by listeners of heavy metal, and new wave rock and roll (Bruning, 1985; Lull, 1982; Robinson & Hirsch,

1969; White, 1985). A study by Wanamaker and Reznikoff (1989) supported this, exposing university students to one of three rock songs with "(a)nonaggressive music and nonaggressive lyrics, (b)aggressive music and nonaggressive lyrics, or (c)aggressive music and aggressive lyrics" (p. 561). They concluded that lyrics are not attended to and do not affect aggression. They also found no evidence of a relationship between music and aggression apart from the lyrics.

In their discussion, Wanamaker and Reznikoff (1989) reveal that only three of their 90 subjects had previously heard the song used in the study, and many subjects reported that they deliberately tried not to listen because they found the song so unpleasant. Generalizing their conclusion, that the music used did not affect aggression, should be questioned on the basis of the artificial and poorly controlled nature of the study.

Other survey data shows that lyrics are processed differently in different situations. Christenson and Lindlof (1983) found children were most attracted to the beat or sound of popular music, but most "had no trouble reciting lyrics from a favorite song" (p. 35). Schlattmann (1989) also found lyrics to be of minimal importance to high school students in terms of preference but noted "there is clearly some comprehension of lyrical content of popular songs among the samples" (p. 27). This was concluded from students' responses to questions regarding the lyrics. It was also

observed that different methods of discerning the songs' meanings were used by different students. Some reported listening, while others used printed lyrics or interviews of artists. Schlattmann (1989) reported, "the findings of this study reveal that various samples of high school students interpret and comprehend popular musical lyrics differently" (p. 34).

Arnett (1991a) also found that lyrics should be considered as secondary in terms of preference for heavy metal rock and roll, but noted that lyrics were often cited as a reason for liking a band. Regardless of the relationship of lyrics to preference, they have been established to be a significant element in popular music. Mark (1988) even proposed the use of lyrics in counseling adolescents to bridge emotional barriers.

A survey of high school students' views of homicide, suicide, and Satanism themes in the lyrics of rock music found that both those who preferred heavy metal and those who did not, liked the music and the lyrics of their favorite music about equally well (Wass, Raup, Cerullo, Martel, Mingione, & Sperring, 1988). Wass et al. (1988) showed "a higher proportion of HSS fans [homicide, Satanism, and suicide rock] reported knowing the lyrics of 'all' their favorite rock songs (t = 3.36; p < .001)" (p. 183). It would appear evident that lyrics vary in importance as a function of the individual characteristics of the listener and the music experience in question.

An extensive study of university students by Hansen and Hansen (1991) suggested that heavy metal lyrics are understood by listeners initially in terms of themes or schema. Repeated exposure then facilitates understanding at a deeper level. They argued,

> although heavy metal lyrics are not processed deeply under novice listening conditions, information processing at the schematic level does occur. Having the lyrics available allowed deeper information processing of the song lyrics at the time they were heard but did not substantially alter the kinds of content listeners extracted. (Hansen & Hansen, 1991, p. 373)

Knowledge of the lyrics to a song would seem to suggest a greater level of involvement on the part of the listeners. Perhaps, attending to lyrics is only a different kind of listening, but it suggests the possibility of a difference in the nature of the influence of the song. The various studies reflect conflicting views of attention to song lyrics, but clearly, lyrics must be considered when addressing the subject of the influence of popular music.

Listening Time

The amount of time spent listening to music must be considered when attempting to describe the relationship of music involvement and subsequent behavior. Reports of time spent listening to popular music vary from an average of two hours per day (Robinson & Hirsch, 1969) to 6.5 hours per day (Schlattmann, 1989). A study of 187 high school students with various preferences for music found "forty-five per

cent [sic] listen to music two hours a day or less[,] but 56% listen four or more hours[,] while one-fourth of these spend six or more hours hearing rock" (Vernden et al., 1989, p. 77).

The type of music listened to is related to amount of time spent listening, with fans of rock music featuring themes of homicide, suicide, and Satanism spending significantly more time than general rock music fans ($p < .001$) (Wass et al., 1988). Ninety-five percent of middle school students with preferences for heavy metal and rap listened at least one hour per day and 61% listened for two or more hours (Epstein et al., 1990). Interestingly, a survey of 2950 high school students showed that those preferring jazz music were the most committed listeners, and those preferring jazz and gospel music listened the most carefully (Lewis, 1981). Very few studies seem to target these styles specifically.

It is difficult to ascertain specifics regarding listening time in light of the variables involved, and the dearth of substantive research regarding adult listening patterns. There is some consensus, however, that commitment to popular music media increases through adolescence and falls off as adulthood is reached (Avery, 1979; Burke & Grinder, 1966; Christenson & Lindlof, 1983; Lull, 1985).

Summary of Literature

The consequences of exposure to popular music media have been explored in terms of its cathartic effect through the vicarious expression of energy to reduce a drive state. Positive results, especially short term, were discussed, as well as the attraction of music media that reflects the condition, values, and attitudes of the listener.

Social learning and modeling influences were presented that would anticipate negative results of exposure to music media with sexual, aggressive, and antisocial themes. The role of arousal; sexual, aggressive, or otherwise; in increasing the level of aggression in subsequent behaviors was examined as well as the possible impact of lyrics, visual aspects, and the amount of exposure to popular music media on social behavior.

In attempting to draw conclusions regarding societal consequences of involvement with popular music, one must consider the manner in which music is actually experienced by the members of society. This leads to a confounding array of potential variables significantly weakening assertions of causal relationships between popular music media and potential antisocial results for those exposed to it. Nevertheless, there appears to be enough evidence to support a position that, most likely, popular music is both a reflection of, and an exacerbating influence on, attitudes, values, and behaviors, when the idiosyncrasies of the individual and the stimulus are considered.

Exploring relationships between characteristics of popular music media, and characteristics of those exposed to it, would help to narrow the field somewhat, and perhaps illuminate some of the idiosyncrasies in question, moving at least in the direction of discovering causal antecedents.

The Study

Purpose

The purpose of this study was to explore statistical relationships between level of personal involvement in various popular music media and varying degrees of antisocial behavior, adjusting for particular demographic information. More specifically, it was an investigation of the music-related behaviors of convicted felons and its relationship to their antisocial characteristics. The change in their screening points (see pp. 49-51 and Glossary) was used to indicate changes in the severity of antisocial characteristics.

Questions

The following questions were addressed:

1. Is there a relationship between the amount of time spent listening to country music and the change in screening points, from initial to current, assigned to incarcerated felons.

2. Is there a relationship between the amount of time spent listening to rap music and the change in screening points, from initial to current, assigned to incarcerated felons.
3. Is there a relationship between the amount of time spent listening to heavy metal music and the change in screening points, from initial to current, assigned to incarcerated felons.
4. Is there a relationship between the amount of time spent listening to rock or oldies music and the change in screening points, from initial to current, assigned to incarcerated felons.
5. Is there a relationship between the amount of time spent listening to soul, rhythm and blues, or blues music and the change in screening points, from initial to current, assigned to incarcerated felons.
6. Is there a relationship between the amount of time spent watching music videos and the change in screening points, from initial to current, assigned to incarcerated felons.
7. Is there a relationship between the subjects' time served and change in screening points, from initial to current, assigned to incarcerated felons.
8. Does singing aloud with music have an effect on the change in screening points, from initial to current, assigned to incarcerated felons.

9. Does an expressed desire to listen more to music have an influence upon the change in screening points, from initial to current, assigned to incarcerated felons.

Assumptions

As with any study relying on self-reported data, assumptions must be made regarding the accuracy of the subjects' responses.

It is assumed that answers to the survey questions represent actual experiences and beliefs of the subjects.

It is assumed that subjects understand the questions asked, and use the various labels (e.g. music types, and social background categories) in the commonly accepted manner.

It is assumed that screening points are a continuous measure reflecting even increments of antisocial characteristics.

It is assumed that the population of convicted felons is characteristically more antisocial than society as a whole.

It is assumed that the subjects' reported last month's listening represents general behavior during their entire incarceration.

Limitations

This study is limited to an examination of the relationship between the music related behaviors of

incarcerated adult male felons and their antisocial characteristics. It is limited only to those types of music reported to be widely experienced by the population in question, and to behavioral characteristics as measured by the subjects' initial screening points upon reception to prison, and current screening points.

The population is limited to adult males who are incarcerated, convicted felons, in the Michigan Department of Corrections state prison system. It is further limited to those who are literate, willing to participate, and largely to those who are in contact with mental health services in the prison system.

This investigation is intended to explore the population's use of popular music media as reported by each subject. Specific elements in music (e.g., lyrics, content, or arousal potential) may influence the results, but the scope of this study is limited to the self-reported data regarding general music categories and estimated degree of involvement, as related to each subject's reported screening points.

Chapter 2

Method

Survey

This study employed a survey to collect data from 150 incarcerated adult male felons in the Michigan penal system. The validity of a self-report instrument with prisoners is supported, at least in part, by the routine use of the Minnesota Multiphasic Personality Inventory (MMPI) for mental health screening during initial processing of prisoners to determine placement in the Michigan prison system (MDOC Operating Procedure SMH-83.07). The MMPI is a self-report-based psychological test which contains a validity scale to detect falsifying of answers. It is apparent that the number of invalid MMPI responses is insufficient to curtail use of a self-report instrument in the Michigan penal system as a whole. Therefore, for the scope of this study, responses to the survey will be treated as valid.

The vocabulary and design of the survey was intended to communicate most easily with this population, based on over ten years of experience by this researcher, as a Music Therapist, with the Michigan prison population. The use of terms such as bit, screening points, and custody level are

almost universally understood in this setting, and most accurately convey the desired information for this population (see Glossary).

Music Listening.

Prisoner respondents estimated their general listening patterns for the previous month, indicating on the survey, in hours per day, the amount of time they actively listened to each of five categories of popular music styles, and the amount of time they spent watching music videos. They also were asked to indicate whether they usually sing along while listening to a particular style, and to give an example of a group or artist for each music category to which they listened.

In the prison setting, radios, televisions, and cassette tape players are available to those prisoners who have money to buy them. Tape recorders are not allowed for security reasons. However, tapes can be ordered through the mail and are essentially the same as those generally available to society as a whole. One difference in the use of popular music media in prison is that listening must be done with ear phones or head phones to prevent disruption to others. The advantage of this, for the purpose of this study, is that exposure to music incorporates fewer distractions and less interference from social pressures in terms of particular music styles chosen by the individual. The use of headphones also reduces exposure to ambient music, such as that found in restaurants, elevators, and

work places in free society, which may not be the music of choice for the listener.

Music videos are accessible only to those with televisions and only during periods when they are broadcast over network stations. Cable television is not available in most of the facilities included in this study. Much of the research on the effects of exposure to modeled sex and aggression has focused on visual stimuli. Therefore, it is important to include music videos even though exposure to them is very limited for this prison population.

Singing along with music indicates familiarity with the lyrics, which could be significant in light of research pertaining to the impact of lyric content on those listening to popular music media. Singing may also indicate a greater degree of involvement with a particular music style and, possibly, a higher level of attention to the music when listening.

The categories of music styles have been limited to five, based on this researcher's extensive experience in providing music choices to prisoners of the Michigan penal system. Providing music therapy to inmates on a psychiatric inpatient unit included regular sessions involving their selection of preferred music from an extensive cross section of popular music styles. Those music styles considered most likely to be chosen by the greatest number of prisoners are (a)country; (b)rap; (c)heavy metal; (d)rock or oldies; and (e)soul, blues, or rhythm and blues. A category of "other"

was also provided to allow for the possibility of choices outside of the five offered.

The example of artist or group given by the respondents for each category was used to ensure some consistency and validity to the placement of various music examples in the most appropriate category. A panel of nonprisoners with knowledge of popular music, including this researcher, assigned each respondents' music examples to the given categories accordingly. The panel's responses were compared for interrater reliability. If the panel was in agreement that a respondent's placement of a music example was inaccurate, that category was changed and the response included in the study. If agreement could not be reached among the panel members, that subjects' responses were not used.

Screening Points.

To provide a measurement of antisocial, or aggressive characteristics, each respondent was asked to indicate on the survey his initial and current screening points as assigned by MDOC staff after completing the management level portion of the respective screening form (MDOC forms CSJ-480, 10/88, 4835-3480; and CSJ-481, 10/88, 4835-3481).

This choice of a measurement tool is supported by research, much of which entails comparisons to a system presented by Megargee, Bohn, Meyer, and Sink (1979) based on the MMPI. The MDOC includes classifications from this system in psychological profiles of those completing the MMPI

during mental health screening, but does not use it to determine custody level. While there is some support for the Megargee system as a promising, meaningful method of classifying prisoners (Carbonell, 1983; Carey, Garske, & Ginsberg, 1986; Kennedy, 1986; Walters, 1986), there is other evidence that it is not consistent over time (Johnson, Simmons, & Gordon, 1983) and is not an effective predictor of dangerousness in prisoners (Moss, Johnson, & Hosford, 1984; Louscher, Hosford, & Moss, 1983). The custody classification system with corresponding custody level, similar to the MDOC classification system, was found to be the best (Hanson, 1985; Hanson, Moss, Hosford, & Johnson, 1983), with fewer incidents of disciplinary problems when prisoners were managed at the proper custody level (Mabli & Barber, 1984).

The MDOC classification system assigns a score from 0 to 35, which is divided into five different custody levels. Included in the point total are ratings of assault risk from very low to very high (MDOC form CSO-353, 12/77) and ratings of property risk from low to high (MDOC form CSO-352, 12/77). To assign an actual placement level from I to V, the custody level is adjusted according to security information regarding escapes, sentence duration and time served, as well as institutional needs. This system of utilizing information from a number of indicators provides the most accurate prediction of prisoner behavior problems possible (Motiuk, Bonta, & Andrews, 1986).

Since the management level (0 to 35) specifically addresses the antisocial and aggressive characteristics, which are the focus of this study, it presents the most plausible measurement device. The actual prison placement level is skewed by institutional needs, and information not necessarily related to the prisoner's level of sociopathy. The actual placement level has no bearing on the classification of the subjects in this study.

Time Served.

Also included on the survey were questions regarding the amount of time respondents have served toward their current sentence. This could be significant as changes in screening points may be related to exposure to prison life apart from music-listening habits.

Investment in Music.

Respondents were asked also to give an indication of their investment in music listening by answering whether or not they would have listened more if given the opportunity. This could be significant if investment is related to changes in screening points apart from the amount of exposure.

Background and Descriptive Information.

The remainder of the survey was descriptive information about the respondent including social background, age, sentence, and offense. Although options for social background included city, suburb, small town and rural/country, the categories were also reduced to city and

noncity, to provide a larger number of subjects for correlational comparisons. Consolidation of the categories was included due to the large proportion of those from the city represented in the Michigan prison population.

The respondent was asked to indicate his prison number and any comments to complete the survey. Although their names and numbers are a matter of public record, the individual respondents are not identified in the results of this study. Their prison numbers were requested as they provided a valuable means to confirm responses regarding custody information and to prevent duplication of responses.

Procedure

Distribution Method.

The surveys were distributed at numerous facilities housing MDOC prisoners. Since most of the available distribution sites were related to mental health services, respondents are primarily those who have contact with mental health services. In-patient and out-patient mental health staff and general population psychological services staff were given surveys to offer to those on their caseload. Participation by both prisoners and staff was strictly on a voluntary basis.

Screening and Evaluation.

To account for the rate of return of the surveys, the number of surveys offered were recorded either by accumulating blank surveys when prisoners declined

participation or by comparing the number returned with the caseload of potential respondents at a particular distribution site. Staff at the particular distribution site determined the method deemed most feasible for their individual circumstances, and an approximated rate of return was determined.

It was difficult to determine rate of return due to prisoner turnover at the various facilities and the number of staff involved in distribution and collection. A total of 500 surveys were offered with 198 returned. Of those returned, 48 were not included. The subject must have provided both initial and current screening points in addition to completing the music listening portion of the survey for it to be included in the study. Many of the surveys were partially completed, but the most essential information was present. This resulted in some variation in the number of subjects used in different aspects of the final analysis.

Surveys were also not included if the total listening time exceeded 18 hours. There were no surveys excluded by the panel reviewing the accuracy of music examples. Only four times was there disagreement that led to changing the category indicated with consensus of the panel. Instances where the music examples were unfamiliar to the panel were included in the study, giving the benefit of the doubt to the respondent.

All responses were sorted according to prisoner number, assigning numbers beginning with one if omitted by the subject, and carefully checked for duplication. There were no instances of subjects returning more than one survey. If a subject offered a range of listening time to a particular style, it was averaged and included in the study. When subjects omitted the month of incarceration, January was used with the year indicated on the survey. For those subjects indicating a life sentence, 60 was entered for minimum and maximum to include those cases in descriptive analysis.

Chapter 3

Results

Data were analyzed using SPSS version 7.5 for Windows 95 with an alpha level of .05 for all statistical tests. The respondents' changes in screening points were computed by subtracting points at the time of incarceration from points at the time of the study and adding 35, to avoid negative numbers. Therefore, an entry of 35 for change in points represents no change; 70, an increase of 35; and 0, a decrease of 35.

A description of each music variable and change in points for all subjects in shown in Table 1. The average subject had a slight increase in points illustrating improved behavior, listened just over five hours daily, and listened the most to rock and soul music. There were only nine of the subjects who had 35 screening points at the time of incarceration and the average was 7.63, with a standard deviation of 9.06.

It is also notable that there were no outstanding differences in initial screening points for subjects from the various backgrounds or for those who listen to the various music styles when considered separately. All of these subgroups ranged from 0 to 35 points at incarceration,

with means and standard deviations varying by only about two screening points.

Table 1

Description of Points Change and All Music Styles

	N	Minimum	Maximum	Mean	Std. Deviation
CHANGE IN POINTS	150	0	70	35.49	12.25
TOTAL HOURS	150	.00	18.00	5.1074	3.8611
COUNTRY	150	.00	18.00	.8503	2.0764
HEAVY METAL	150	.00	12.00	.4911	1.4365
RAP	150	.00	9.00	.8258	1.7175
ROCK	150	.00	14.00	1.2124	2.0091
SOUL	150	.00	11.00	1.2255	1.7921
Valid N (listwise)	150				

Correlational analysis of the same data revealed a significant positive relationship between change in points and total hours listening to music and to rap and soul music in particular (see Table 2). The categories of rap and soul music were also significantly correlated to each other. Only eight of those subjects who listen to rap music did not also listen to soul music.

Table 2

Correlation of Points Change and All Music Styles

Correlations[a]

		CHANGE IN POINTS	TOTAL HOURS	COUNTRY	HEAVY METAL	RAP	ROCK	SOUL
Pearson Correlation	CHANGE IN POINTS	1.000	.185*	-.060	.121	.211**	-.043	.211**
	TOTAL HOURS	.185*	1.000	.428**	.321**	.365**	.444**	.344**
	COUNTRY	-.060	.428**	1.000	-.025	-.124	.012	-.160
	HEAVY METAL	.121	.321**	-.025	1.000	-.055	.135	-.144
	RAP	.211**	.365**	-.124	-.055	1.000	-.144	.264**
	ROCK	-.043	.444**	.012	.135	-.144	1.000	-.143
	SOUL	.211**	.344**	-.160	-.144	.264**	-.143	1.000
Sig. (2-tailed)	CHANGE IN POINTS		.023	.467	.141	.009	.602	.010
	TOTAL HOURS	.023		.000	.000	.000	.000	.000
	COUNTRY	.467	.000		.757	.130	.887	.050
	HEAVY METAL	.141	.000	.757		.507	.098	.078
	RAP	.009	.000	.130	.507		.079	.001
	ROCK	.602	.000	.887	.098	.079		.082
	SOUL	.010	.000	.050	.078	.001	.082	

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

a. Listwise N=150

A multiple regression procedure with change in points as the dependent variable and all music styles as independent variables was performed. Table 3 shows that the relationships with change in points for soul and rap music remained, but the level of significance was weakened somewhat in comparison to the previous correlation data. The relationship for heavy metal music and change in points became stronger, very nearly significant at a 5% level of confidence.

Table 3

Regression of Points Change and All Music Styles

Model Summary[a,b]

Model	Variables Entered	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	SOUL, ROCK, COUNTRY, HEAVY METAL, RAP[c,d]	.308	.095	.063	11.86

a. Dependent Variable: CHANGE IN POINTS

b. Method: Enter

c. Independent Variables: (Constant), SOUL, ROCK, COUNTRY, HEAVY METAL, RAP

d. All requested variables entered.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2122.776	5	424.555	3.020	.013[b]
	Residual	20240.7	144	140.561		
	Total	22363.5	149			

a. Dependent Variable: CHANGE IN POINTS

b. Independent Variables: (Constant), SOUL, ROCK, COUNTRY, HEAVY METAL, RAP

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	32.399	1.566		20.696	.000
	COUNTRY	-2.9E-02	.476	-.005	-.061	.952
	HEAVY METAL	1.354	.689	.159	1.965	.051
	RAP	1.197	.592	.168	2.022	.045
	ROCK	-8.3E-02	.495	-.014	-.167	.868
	SOUL	1.277	.575	.187	2.220	.028

a. Dependent Variable: CHANGE IN POINTS

Analysis of the 134 surveys in which subjects completed the music video portion, showed no significant correlation between change in points and time spent watching music videos.

The amount of time served in prison was not related significantly to change in points for 143 subjects reporting date of incarceration. When time served was added as an independent variable to the five music categories, the regression results were not substantially affected.

A description of subjects' sentence information is seen in Table 4. A wide range of sentences are represented by the subjects involved. These data are skewed by the use of the number 60 to reflect life sentences, but does provide an idea of the general trends involved. The average subject is about 35 years old and has served roughly five years of a sentence of approximately 8 to 18-1/2 years.

Table 4

Description of Sentence Information

	N	Minimum	Maximum	Mean	Std. Deviation
AGE	136	19	61	34.62	9.19
MAXIMUM SENTENCE	137	3.00	125.00	18.6569	15.5032
MINIMUM SENTENCE	136	.67	60.00	8.0126	10.5107
SENTENCE RANGE	136	0	75	10.68	8.96
TIME SERVED	143	.25	24.25	5.3571	4.1641
Valid N (listwise)	127				

Of the 150 respondents, 108 indicated that they sing along as they listen to music at times. There was no significant relationship between total hours of listening and change in points for this group. However, when the various music styles were considered separately for those who sing, heavy metal emerged as the only music style with a significant relationship to change in points (r = .217, p = .024) (see Table 5). A number of significant correlations between music styles are also found among subjects who sing along. The relationship between rap and soul music is particularly strong (r = .343, p < .001) as well as that between rock and heavy metal (r = .270, p = .005).

Table 5

Correlation of Points Change and All Music Styles for Singers

Correlations[a]

		CHANGE IN POINTS	TOTAL HOURS	COUNTRY	HEAVY METAL	RAP	ROCK	SOUL
Pearson Correlation	CHANGE IN POINTS	1.000	.097	-.090	.217*	.140	-.032	.060
	TOTAL HOURS	.097	1.000	.449**	.284**	.348**	.434**	.302**
	COUNTRY	-.090	.449**	1.000	-.052	-.176	-.004	-.234*
	HEAVY METAL	.217*	.284**	-.052	1.000	-.071	.270**	-.205*
	RAP	.140	.348**	-.176	-.071	1.000	-.197*	.343**
	ROCK	-.032	.434**	-.004	.270**	-.197*	1.000	-.145
	SOUL	.060	.302**	-.234*	-.205*	.343**	-.145	1.000
Sig. (2-tailed)	CHANGE IN POINTS		.319	.356	.024	.148	.742	.540
	TOTAL HOURS	.319		.000	.003	.000	.000	.001
	COUNTRY	.356	.000		.592	.068	.968	.015
	HEAVY METAL	.024	.003	.592		.468	.005	.034
	RAP	.148	.000	.068	.468		.041	.000
	ROCK	.742	.000	.968	.005	.041		.133
	SOUL	.540	.001	.015	.034	.000	.133	

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

a. Listwise N=108

Adjusting for the other music variables through multiple regression revealed increased significance of the relationship between heavy metal and change in points (p = .014) (see Table 6). The relationship between heavy metal and change in points may not be best represented by this model considering the low R square value and lack of significance between residuals and the regression line from the analysis of variance results.

Table 6

Regression of Points Change and All Music Styles for Singers

Model Summary[a,b]

Model	Variables Entered	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	SOUL, ROCK, COUNTRY, HEAVY METAL, RAP[c,d]	.284	.081	.036	11.26

a. Dependent Variable: CHANGE IN POINTS

b. Method: Enter

c. Independent Variables: (Constant), SOUL, ROCK, COUNTRY, HEAVY METAL, RAP

d. All requested variables entered.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1136.964	5	227.393	1.793	.121[b]
	Residual	12936.7	102	126.830		
	Total	14073.6	107			

a. Dependent Variable: CHANGE IN POINTS

b. Independent Variables: (Constant), SOUL, ROCK, COUNTRY, HEAVY METAL, RAP

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	34.162	1.983		17.229	.000
	COUNTRY	-.212	.475	-.044	-.446	.657
	HEAVY METAL	2.345	.935	.252	2.509	.014
	RAP	.761	.657	.119	1.159	.249
	ROCK	-.420	.607	-.069	-.692	.491
	SOUL	.343	.724	.050	.474	.636

a. Dependent Variable: CHANGE IN POINTS

Only 25 subjects indicated that they do not sing along with any music. A significant relationship was found between total hours of listening and change in points for those who do not sing (r = .406, p = .044). Considering the music styles separately, a significant relationship between rap music and change in points was demonstrated (r = .593, p = .002) (see Table 7). No significant correlations were found between music styles for subjects who do not sing. It is notable that there is a very slight, though not significant, negative relationship between listening to soul and rap music for this sample (r = -.139). Subjects who listened to rap music without singing must account for a number of those who do not also listen to soul music.

Table 7

Correlation of Points Change and All Music Styles for Nonsingers

Correlations[a]

		CHANGE IN POINTS	TOTAL HOURS	COUNTRY	HEAVY METAL	RAP	ROCK	SOUL
Pearson Correlation	CHANGE IN POINTS	1.000	.406*	-.021	.002	.593**	-.103	.373
	TOTAL HOURS	.406*	1.000	-.117	.130	.342	.725**	.228
	COUNTRY	-.021	-.117	1.000	.300	-.178	-.080	-.169
	HEAVY METAL	.002	.130	.300	1.000	-.084	.000	-.094
	RAP	.593**	.342	-.178	-.084	1.000	-.048	-.139
	ROCK	-.103	.725**	-.080	.000	-.048	1.000	-.177
	SOUL	.373	.228	-.169	-.094	-.139	-.177	1.000
Sig. (2-tailed)	CHANGE IN POINTS		.044	.919	.992	.002	.625	.066
	TOTAL HOURS	.044		.578	.537	.094	.000	.273
	COUNTRY	.919	.578		.146	.395	.703	.421
	HEAVY METAL	.992	.537	.146		.691	.998	.656
	RAP	.002	.094	.395	.691		.821	.507
	ROCK	.625	.000	.703	.998	.821		.396
	SOUL	.066	.273	.421	.656	.507	.396	

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

a. Listwise N=25

When regression analysis was performed, soul music was found to be significantly related to change in points ($p = .003$) and the strength of the relationship between rap and change in points increased ($p < .001$) as seen in Table 8. The strength of this model and goodness of fit for the data is reflected by the high R square value and the level of significance for the analysis of variance results.

Table 8

Regression of Points Change and All Music Styles for Nonsingers

Model Summary[a,b]

Model	Variables Entered	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	SOUL, HEAVY METAL, RAP, ROCK, COUNTRY[c,d]	.774	.600	.494	9.49

a. Dependent Variable: CHANGE IN POINTS

b. Method: Enter

c. Independent Variables: (Constant), SOUL, HEAVY METAL, RAP, ROCK, COUNTRY

d. All requested variables entered.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2563.731	5	512.746	5.689	.002[b]
	Residual	1712.509	19	90.132		
	Total	4276.240	24			

a. Dependent Variable: CHANGE IN POINTS

b. Independent Variables: (Constant), SOUL, HEAVY METAL, RAP, ROCK, COUNTRY

Table 8 (cont'd)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	26.529	2.982		8.895	.000
	COUNTRY	6.104	5.490	.176	1.112	.280
	HEAVY METAL	1.688	4.570	.056	.369	.716
	RAP	5.585	1.200	.702	4.656	.000
	ROCK	.171	.717	.036	.239	.814
	SOUL	3.997	1.196	.512	3.342	.003

a. Dependent Variable: CHANGE IN POINTS

There were 113 subjects who indicated a desire to spend more time listening to music and 20 who responded negatively. There was no significant relationship for either group between total hours of listening and change in points. When the various music styles were considered separately, some relationships emerged. Table 9 shows the result of analysis of those desiring to listen more, with a significant relationship for soul music and change in points (r = .252, p = .007).

Table 9

Correlation of Points Change and All Music Styles for Subjects Who Would Listen More

Correlations[a]

		CHANGE IN POINTS	TOTAL HOURS	COUNTRY	HEAVY METAL	RAP	ROCK	SOUL
Pearson Correlation	CHANGE IN POINTS	1.000	.182	-.039	.118	.147	-.033	.252**
	TOTAL HOURS	.182	1.000	.445**	.340**	.360**	.435**	.342**
	COUNTRY	-.039	.445**	1.000	-.025	-.109	-.006	-.127
	HEAVY METAL	.118	.340**	-.025	1.000	-.065	.135	-.171
	RAP	.147	.360**	-.109	-.065	1.000	-.135	.237*
	ROCK	-.033	.435**	-.006	.135	-.135	1.000	-.158
	SOUL	.252**	.342**	-.127	-.171	.237*	-.158	1.000
Sig. (2-tailed)	CHANGE IN POINTS		.053	.682	.213	.119	.732	.007
	TOTAL HOURS	.053		.000	.000	.000	.000	.000
	COUNTRY	.682	.000		.795	.251	.953	.181
	HEAVY METAL	.213	.000	.795		.491	.155	.070
	RAP	.119	.000	.251	.491		.153	.011
	ROCK	.732	.000	.953	.155	.153		.096
	SOUL	.007	.000	.181	.070	.011	.096	

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

a. Listwise N=113

When a multiple regression procedure was performed, as seen in Table 10, the positive relationship between soul music listening and change in points remained.

Table 10

Regression of Points Change and All Music Styles for Subjects Who Would Listen More

Model Summary[a,b]

Model	Variables Entered	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	SOUL, COUNTRY, ROCK, HEAVY METAL, RAP[c,d]	.315	.099	.057	12.24

a. Dependent Variable: CHANGE IN POINTS

b. Method: Enter

c. Independent Variables: (Constant), SOUL, COUNTRY, ROCK, HEAVY METAL, RAP

d. All requested variables entered.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1763.856	5	352.771	2.355	.045[b]
	Residual	16026.7	107	149.782		
	Total	17790.5	112			

a. Dependent Variable: CHANGE IN POINTS

b. Independent Variables: (Constant), SOUL, COUNTRY, ROCK, HEAVY METAL, RAP

Table 10 (cont'd)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	32.153	1.859		17.299	.000
	COUNTRY	4.9E-02	.529	.009	.092	.927
	HEAVY METAL	1.317	.731	.169	1.802	.074
	RAP	.700	.682	.098	1.026	.307
	ROCK	-8.2E-03	.555	-.001	-.015	.988
	SOUL	1.734	.650	.258	2.666	.009

a. Dependent Variable: CHANGE IN POINTS

A significant relationship was found for rap music and change in points among those who do not desire to listen more, as seen in Table 11.

Table 11

Correlation of Points Change and All Music Styles for Subjects Who Would Not Listen More

Correlations[a]

		CHANGE IN POINTS	TOTAL HOURS	COUNTRY	HEAVY METAL	RAP	ROCK	SOUL
Pearson Correlation	CHANGE IN POINTS	1.000	.378	.018	-.003	.602**	.002	-.176
	TOTAL HOURS	.378	1.000	.326	-.273	.369	.479*	.330
	COUNTRY	.018	.326	1.000	-.141	-.278	.203	-.416
	HEAVY METAL	-.003	-.273	-.141	1.000	-.104	-.157	-.170
	RAP	.602**	.369	-.278	-.104	1.000	-.240	.319
	ROCK	.002	.479*	.203	-.157	-.240	1.000	-.074
	SOUL	-.176	.330	-.416	-.170	.319	-.074	1.000
Sig. (2-tailed)	CHANGE IN POINTS		.100	.939	.988	.005	.993	.458
	TOTAL HOURS	.100		.160	.244	.109	.032	.155
	COUNTRY	.939	.160		.552	.235	.390	.068
	HEAVY METAL	.988	.244	.552		.663	.509	.473
	RAP	.005	.109	.235	.663		.307	.171
	ROCK	.993	.032	.390	.509	.307		.758
	SOUL	.458	.155	.068	.473	.171	.758	

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

a. Listwise N=20

Since there were only 20 subjects who were involved, and even fewer who listened to rap music, the usefulness of this finding is limited. However, a regression analysis was performed and the relationship between rap music listening and change in points remained significant ($p < .005$) as shown in Table 12.

Table 12

Regression of Points Change and All Music Styles for Subjects Who Would Not Listen More

Model Summary[a,b]

Model	Variables Entered	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	SOUL, ROCK, HEAVY METAL, RAP, COUNTRY[c,d]	.735	.540	.375	8.51

a. Dependent Variable: CHANGE IN POINTS

b. Method: Enter

c. Independent Variables: (Constant), SOUL, ROCK, HEAVY METAL, RAP, COUNTRY

d. All requested variables entered.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1188.414	5	237.683	3.280	.036[b]
	Residual	1014.386	14	72.456		
	Total	2202.800	19			

a. Dependent Variable: CHANGE IN POINTS

b. Independent Variables: (Constant), SOUL, ROCK, HEAVY METAL, RAP, COUNTRY

Table 12 (cont'd)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	32.101	3.721		8.626	.000
	COUNTRY	.479	2.046	.049	.234	.818
	HEAVY METAL	4.059	17.863	.044	.227	.824
	RAP	4.097	1.048	.781	3.908	.002
	ROCK	.906	1.096	.158	.827	.422
	SOUL	-2.346	1.283	-.385	-1.828	.089

a. Dependent Variable: CHANGE IN POINTS

There were 141 subjects who responded to questions concerning their social background. Of these, 67 were from the city, 25 the suburbs, 29 small town, and 20 rural. Figure 1 shows the percentage distribution of the subjects included in this study.

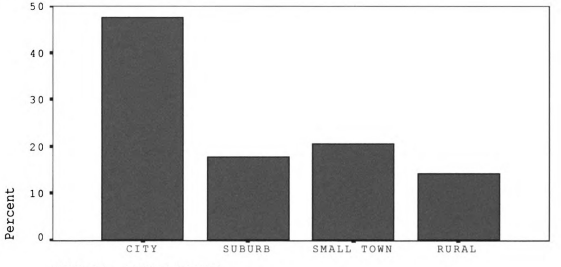

Figure 1

Social Background of Subjects

Descriptive information on subjects from the city is shown in Table 13. The highest average listening times are for rap and soul music. The average city subject watched the most music videos, was the youngest and had been in prison longest of those from the four social backgrounds in this study. No significant results were found from correlating music styles with change in points for this group.

Table 13

Description of City Subjects

	N	Minimum	Maximum	Mean	Std. Deviation
AGE	62	19	57	31.13	8.05
MAXIMUM SENTENCE	63	4.00	125.00	19.0873	18.2601
MINIMUM SENTENCE	63	.67	60.00	7.7262	10.5989
SENTENCE RANGE	63	0	75	11.36	10.68
TIME SERVED	64	.50	24.25	5.9222	4.3321
TOTAL HOURS	67	.00	16.00	5.0087	3.5753
COUNTRY	67	.00	4.00	.3526	.9919
HEAVY METAL	67	.00	12.00	.4851	1.7271
RAP	67	.00	9.00	1.5280	2.2535
ROCK	67	.00	5.50	.7612	1.1730
SOUL	67	.00	6.00	1.4104	1.4948
MUSIC VIDEOS	62	.00	9.00	1.1774	2.0943
Valid N (listwise)	55				

Subjects from suburban areas are described in Table 14. The highest average listening times are for rock and soul music. The average suburban subject had the longest maximum sentence and the largest sentence range. There were no

significant relationships found between change in points and the various music styles among suburban subjects.

Table 14

Description of Suburban Subjects

	N	Minimum	Maximum	Mean	Std. Deviation
AGE	21	23	55	34.05	8.79
MAXIMUM SENTENCE	23	4.00	60.00	19.2174	14.2349
MINIMUM SENTENCE	22	.80	40.00	7.2941	8.4322
SENTENCE RANGE	22	2	38	12.16	8.96
TIME SERVED	25	.25	13.16	4.4264	3.3551
TOTAL HOURS	25	.00	15.00	4.8004	4.2226
COUNTRY	25	.00	4.00	.5468	.9854
HEAVY METAL	25	.00	5.00	.6068	1.3201
RAP	25	.00	3.00	.2000	.7071
ROCK	25	.00	8.00	1.5400	1.7195
SOUL	25	.00	11.00	1.1468	2.2491
MUSIC VIDEOS	21	.00	8.00	.6667	1.8529
Valid N (listwise)	18				

Small town subjects are described in Table 15. The highest average listening times are for rock and soul music. An average small town subject is older than those from other backgrounds, has served the least amount of prison time, and listens to the least amount of total music.

Table 15

Description of Small Town Subjects

	N	Minimum	Maximum	Mean	Std. Deviation
AGE	28	22	61	38.71	8.91
MAXIMUM SENTENCE	28	3.00	60.00	18.3929	12.2787
MINIMUM SENTENCE	28	2.00	60.00	8.4882	11.1681
SENTENCE RANGE	28	0	30	9.90	6.57
TIME SERVED	26	.50	14.25	4.1350	3.5472
TOTAL HOURS	29	.00	11.00	4.7483	2.8687
COUNTRY	29	.00	4.50	.9224	1.2871
HEAVY METAL	29	.00	2.00	.4138	.7328
RAP	29	.00	4.00	.3966	.8902
ROCK	29	.00	7.00	1.2483	1.6621
SOUL	29	.00	10.00	1.3793	2.1157
MUSIC VIDEOS	26	.00	2.00	.3846	.6828
Valid N (listwise)	23				

A significant relationship between changes in points and listening to soul music was found for the small town group (r = .516, p = .004), as shown in Table 16.

Table 16

Correlation of Points Change and All Music Styles for Small Town Subjects

Correlations[a]

		CHANGE IN POINTS	TOTAL HOURS	COUNTRY	HEAVY METAL	RAP	ROCK	SOUL
Pearson Correlation	CHANGE IN POINTS	1.000	.343	-.170	.073	.255	-.042	.516**
	TOTAL HOURS	.343	1.000	.160	.255	.411*	.400*	.566**
	COUNTRY	-.170	.160	1.000	-.192	-.214	.044	-.277
	HEAVY METAL	.073	.255	-.192	1.000	.013	.177	-.036
	RAP	.255	.411*	-.214	.013	1.000	-.248	.538**
	ROCK	-.042	.400*	.044	.177	-.248	1.000	-.252
	SOUL	.516**	.566**	-.277	-.036	.538**	-.252	1.000
Sig. (2-tailed)	CHANGE IN POINTS		.068	.378	.706	.182	.828	.004
	TOTAL HOURS	.068		.407	.182	.027	.031	.001
	COUNTRY	.378	.407		.319	.266	.823	.145
	HEAVY METAL	.706	.182	.319		.946	.360	.854
	RAP	.182	.027	.266	.946		.195	.003
	ROCK	.828	.031	.823	.360	.195		.188
	SOUL	.004	.001	.145	.854	.003	.188	

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

a. Listwise N=29

Subjects indicating a rural background are described in Table 17. The average rural subject listens mostly to country music, has the highest minimum sentence, and spends the most amount of time overall listening to music. Only one rural subject reported listening to rap music. There were no significant relationships found for change in points and music styles for this group.

Table 17

Description of Rural Subject

	N	Minimum	Maximum	Mean	Std. Deviation
AGE	18	25	60	38.61	9.60
MAXIMUM SENTENCE	16	5.00	60.00	17.0000	12.7017
MINIMUM SENTENCE	16	2.00	60.00	9.4688	13.8906
SENTENCE RANGE	16	0	15	7.53	4.04
TIME SERVED	20	.50	15.25	5.8900	4.7320
TOTAL HOURS	20	.32	18.00	5.5910	5.3097
COUNTRY	20	.00	18.00	2.4250	4.4671
HEAVY METAL	20	.00	5.00	.5500	1.5381
RAP	20	.00	.50	2.5E-02	.1118
ROCK	20	.00	12.00	1.6830	2.9076
SOUL	20	.00	2.00	.2830	.5465
MUSIC VIDEOS	17	.00	2.00	.1471	.4926
Valid N (listwise)	13				

When those from rural, small town, and suburban backgrounds were combined, no significant correlation results with regard to change in points and music listening were found. The average noncity subject is older than his city counterpart and has not been in prison as long. He watches fewer music videos, and spends nearly the same amount of time listening to music, but listens mostly to rock and country music, as shown in Table 18.

Table 18

Description of Noncity Subjects

	N	Minimum	Maximum	Mean	Std. Deviation
AGE	67	22	61	37.22	9.18
MAXIMUM SENTENCE	67	3.00	60.00	18.3433	12.9071
MINIMUM SENTENCE	66	.80	60.00	8.3279	10.9545
SENTENCE RANGE	66	0	38	10.08	7.12
TIME SERVED	71	.25	15.25	4.7320	3.8704
TOTAL HOURS	74	.00	18.00	4.9936	4.0609
COUNTRY	74	.00	18.00	1.2016	2.5954
HEAVY METAL	74	.00	5.00	.5158	1.1840
RAP	74	.00	4.00	.2297	.7032
ROCK	74	.00	12.00	1.4643	2.0653
SOUL	74	.00	11.00	1.0045	1.9139
MUSIC VIDEOS	64	.00	8.00	.4141	1.1736
Valid N (listwise)	54				

There were 55 subjects, from various backgrounds, who reported listening to country music as shown in Table 19 and Figure 2. Of these subjects, 74.5% indicated that they sing along with country music, and the same number would listen more if they could.

Table 19

Country Music Listeners

	N	Minimum	Maximum	Mean	Std. Deviation
COUNTRY	55	.13	18.00	2.3190	2.9030
Valid N (listwise)	55				

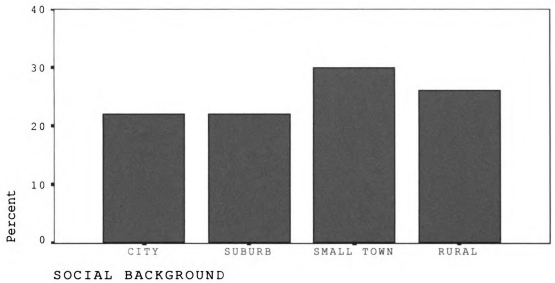

Figure 2

Social Background of Country Music Listeners

Custody information is described for country music listeners in Table 20. On the average, this group is the oldest and has the largest average drop in screening points (of .38) in comparison to those who listen to the other music styles.

Table 20

Description of Country Music Listeners

	N	Minimum	Maximum	Mean	Std. Deviation
AGE	49	23	61	36.67	9.00
CHANGE IN POINTS	55	5	70	34.62	12.96
MAXIMUM SENTENCE	50	3.00	60.00	17.2000	11.8786
MINIMUM SENTENCE	49	.80	40.00	6.7102	6.3795
SENTENCE RANGE	49	1	38	10.56	7.96
TIME SERVED	54	.50	13.25	4.5993	3.4473
MUSIC VIDEOS	48	.00	8.00	.8021	1.9399
Valid N (listwise)	41				

Heavy metal rock music was listened to by 30 subjects as shown in Table 21, with social background in Figure 3. Among heavy metal listeners, 56.7% indicated that they sing along and 80% would listen more if they could.

Table 21

Heavy Metal Music Listeners

	N	Minimum	Maximum	Mean	Std. Deviation
HEAVY METAL	30	.17	12.00	2.4557	2.3689
Valid N (listwise)	30				

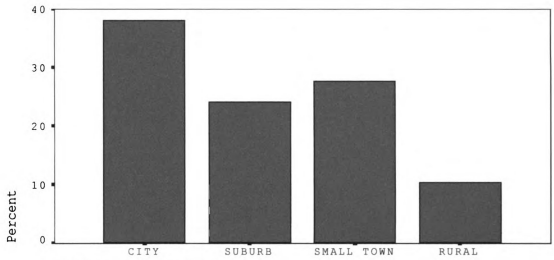

Figure 3

Social Background of Heavy Metal Listeners

Table 22 gives custody information on heavy metal listeners. Screening points increased by almost 3 for this group since incarceration.

Table 22

Description of Heavy Metal Music Listeners

	N	Minimum	Maximum	Mean	Std. Deviation
AGE	28	19	49	31.93	8.05
CHANGE IN POINTS	30	19	68	37.87	11.30
MAXIMUM SENTENCE	29	4.00	60.00	16.6897	13.9081
MINIMUM SENTENCE	29	1.00	40.00	6.6034	9.8129
SENTENCE RANGE	29	2	26	10.09	6.30
TIME SERVED	28	.50	13.25	4.6339	3.4507
MUSIC VIDEOS	26	.00	6.00	.8269	1.4279
Valid N (listwise)	22				

Rap music listening was reported by 49 subjects, primarily from the city, as seen in Table 23 and Figure 4. There were 69.4% who sing along with 71.4% who would listen more if they could.

Table 23

Rap Music Listeners

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
RAP	49	.13	9.00	2.5281	2.1826
Valid N (listwise)	49				

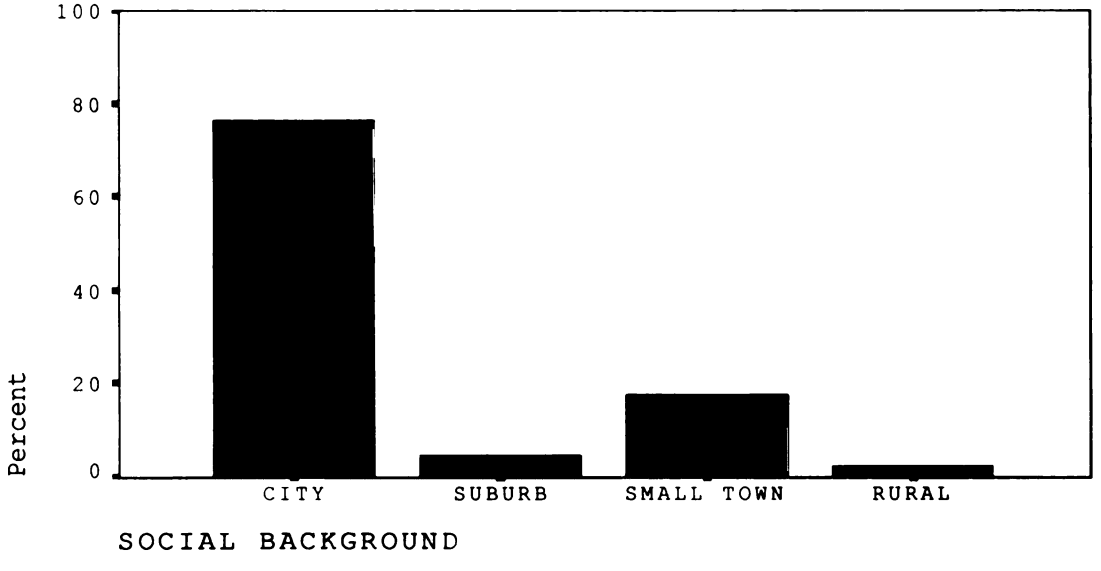

Figure 4

Social Background of Rap Music Listeners

Table 24 describes custody information about rap listeners. They are the youngest group, watch the most music

videos, and have the highest average increase in screening points of nearly 4 points since first coming to prison.

Table 24

Description of Rap Music Listeners

	N	Minimum	Maximum	Mean	Std. Deviation
AGE	42	19	44	28.88	5.58
CHANGE IN POINTS	49	18	70	38.96	12.27
MAXIMUM SENTENCE	42	4.00	125.00	18.4167	20.5218
MINIMUM SENTENCE	41	.67	60.00	7.4268	12.5820
SENTENCE RANGE	41	0	75	11.10	11.53
TIME SERVED	45	.50	14.25	5.1511	3.6351
MUSIC VIDEOS	46	.00	9.00	1.6848	2.2958
Valid N (listwise)	37				

Rock music listeners, totaling 83, were from a variety of backgrounds as Table 25 and Figure 5 illustrate. Singing along was reported by 66.3% and 77.1% would listen more.

Table 25

Rock Music Listeners

	N	Minimum	Maximum	Mean	Std. Deviation
ROCK	83	.16	14.00	2.1911	2.2725
Valid N (listwise)	83				

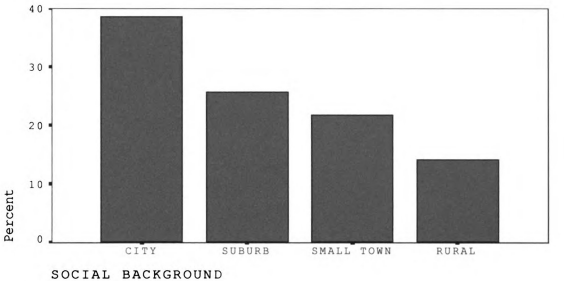

Figure 5

Social Background of Rock Music Listeners

Table 26 describes custody information for rock music listeners. They have the largest average minimum and maximum sentences and have been in prison the longest. Screening points have decreased very slightly on the average for this group since incarceration.

Table 26

Description of Rock Music Listeners

	N	Minimum	Maximum	Mean	Std. Deviation
AGE	77	19	60	35.62	8.76
CHANGE IN POINTS	83	6	70	34.84	12.01
MAXIMUM SENTENCE	77	3.00	125.00	21.0974	18.0782
MINIMUM SENTENCE	76	.67	60.00	9.1196	12.0127
SENTENCE RANGE	76	0	75	12.07	10.48
TIME SERVED	80	.25	24.25	5.7785	4.3890
MUSIC VIDEOS	72	.00	8.00	.8264	1.6703
Valid N (listwise)	62				

Soul, rhythm and blues, and blues listeners, 81 in all, are described with their social backgrounds in Table 27 and Figure 6. Sixty-five percent of them sing as they listen and 59% would listen more if possible.

Table 27

Soul Music Listeners

	N	Minimum	Maximum	Mean	Std. Deviation
SOUL	81	.16	11.00	2.2695	1.8928
Valid N (listwise)	81				

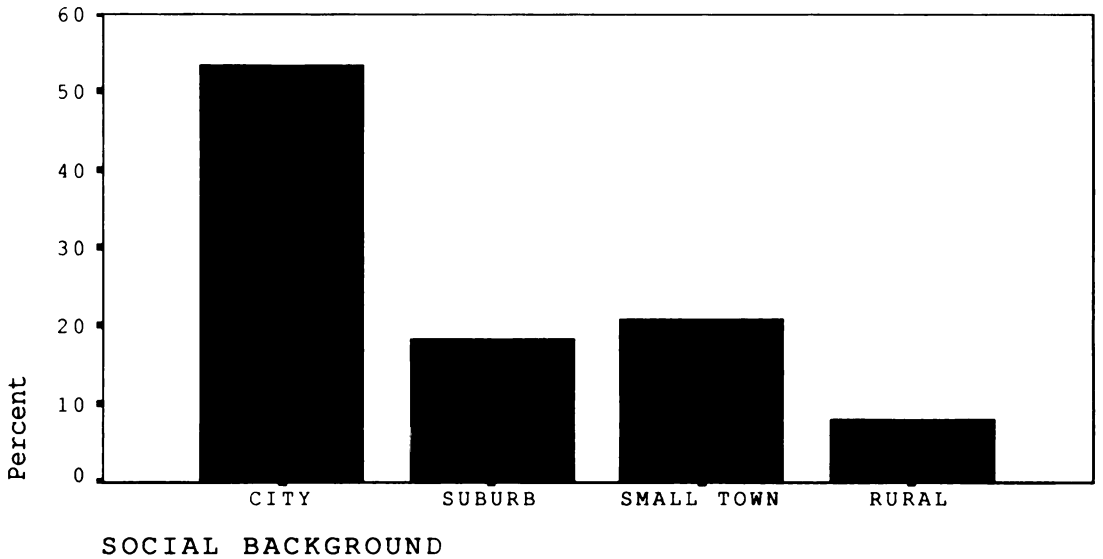

Figure 6

Social Background of Soul Music Listeners

Custody information for this group is described in Table 28. They have the largest sentence range on average and have an average increase in screening points of almost one.

Table 28

Description of Soul Music Listeners

	N	Minimum	Maximum	Mean	Std. Deviation
AGE	71	19	60	33.89	8.22
CHANGE IN POINTS	81	10	70	35.93	11.43
MAXIMUM SENTENCE	73	5.00	125.00	20.0411	16.9154
MINIMUM SENTENCE	72	1.00	60.00	7.8264	9.8325
SENTENCE RANGE	72	0	75	12.30	10.28
TIME SERVED	75	.25	14.58	5.4296	3.7958
MUSIC VIDEOS	74	.00	9.00	1.2770	2.1086
Valid N (listwise)	60				

Chapter 4

Discussion

It would be useful to address briefly the original questions of this study and then to make some observations pertaining to the results. The questions addressed in this study were answered with some conditional considerations. Of questions 1 through 5, regarding the five music variables, only question 2 (rap music) and question 5 (soul, rhythm and blues, or blues) were answered affirmatively for this population as a whole since they were significantly related to change in screening points. Questions 6 and 7 were answered negatively, as no significant relationship was found between change in screening points and either viewing music videos or the amount of time served by the subject.

The answer to question 8, as to the effect of singing on change in screening points, is conditional. A significant, positive correlation was found only for those who sang with heavy metal music. The nature of this relationship is questionable however, as there were only 17 subjects involved and it did not fit the regression model even tough the significance level increased when the data were adjusted for the other music styles in that manner. To the contrary, a significant relationship between change in

points and not singing was observed, especially for rap music. There were, however, only 12 subjects who listened to rap music and reported not singing, so it is highly doubtful that the sample is representative of a main effect for not singing while listening to rap music.

A similar situation occurs in response to question 9, regarding the influence of a desire to listen more upon change in screening points. There was no significant relationship overall, but it was significant specifically for soul, rhythm and blues, and blues listeners who responded affirmatively and rap listeners who responded negatively. Again, it must be considered that there were only eight rap listeners who indicated no desire to listen more. Even though the relationship was very strong and fits a linear model closely, a larger sample is needed to offer validity before substantive predictions or conclusions could be entertained. It is somewhat interesting to note that listening to soul music was not correlated positively with listening to rap music for this small group of subjects.

Of major interest in this study is the very strong relationship between listening to rap music and soul music for this population as a whole. The multiple regression procedure was chosen specifically to adjust for influences between the music variables, but bi-variate correlational analyses are surely skewed. Perhaps the music category of soul, rhythm and blues, and blues was too broad. If rap music listeners were also attracted to a specific segment of

the soul category, the design of this study would not detect it; and claims of significant relationships would be inaccurate. Nevertheless, changes in the significance level for rap and soul were reflected by the difference between correlational results ($p < .01$) and regression results ($p < .05$) for both rap and soul as related to change in points.

It was unexpected that social background did not play a greater role in the outcome of this study. When social background was controlled, the only significant relationship found was between change in points and listening to soul music for subjects from a small town. Only 16 small town subjects reported listening to soul, rhythm and blues, or blues music. Again, the correlation was significant, but poorly fit the multiple regression model and had an insufficient number of subjects from which to draw substantive conclusions.

The general distribution of subjects appeared to be representative of this population's background and expected choices of music. Rural subjects listened most to country; rap and soul were mostly listened to by city subjects; and the greatest number of subjects came from the city.

Other unexpected findings were also discovered in this study. With the general perception of crime being largely a city phenomenon, it is very interesting that being from the city itself had no apparent affect on any of the results of the study apart, perhaps, from music preference.

It is likely that there was some ambiguity in the choices of social background offered to the subjects that may have influenced the results. The attempt to categorize social background unavoidably results in conflicts. It would be expected, for example, that the social forces affecting a subject from a suburb in a large urban metropolitan area that bordered the city would vary greatly from those of a suburb on the outskirts bordering farmland.

It is also notable that heavy metal music and rap music were listened to by the fewest subjects. Public attention to these two genres would have led to the assumption that they would be more prominently preferred by the prison population, due to their presumed antisocial character. The more specific nature of the two categories in this study could also account for the lower numbers, but the degree of the difference is important to recognize as a departure from stereotypical expectations.

In light of research and theory emphasizing the effect of visual influences, it is surprising that music videos were not a significant influence on the results of this study. Social learning theory and excitation-transfer theory would have predicted an exacerbating effect for the influences of the various music genre. Exposure to music videos was minimal, possibly limited by subjects' lack of access to cable television in most prison settings. Consequences of viewing music videos, if any, remain undetected by this study.

Spending time in prison would be expected to have an influence in and of itself, but none was found in this study.

Many more of the subjects sang as they listened to music than were anticipated. The discrepancy was so great that a comparison with those who do not sing was unfruitful. It could be speculated that singing reflects an increased awareness of the lyrics to the music on the part of the subjects. Perhaps, therefore, the relationship between singing with heavy metal music and increased screening points could represent a negative impact of the lyrics of that particular music style. The results of this study, however, are insufficient to support that assertion, but it is of interest to consider the alternatives.

A large majority also indicated a desire to listen more if it were possible. Clearly this prison population is more involved with popular music than their counterparts in the free world. They likely have more time available and fewer attractive alternatives for leisure activity. It may also be the case that prisoners with greater investment in their preferred music were more likely to be willing to participate in this study.

There are many factors that confound a study of this nature. The fact that many subjects left elements out of their responses may indicate that the population is skewed. Perhaps those who had a large increase in points were not comfortable reporting that. Others may have had perceptions

of an agenda and exaggerated responses in one direction or another, hoping for a desired outcome.

Many variables undoubtedly lead to suspicion as to the legitimacy of results. However, with careful awareness of the limits of the findings, indications of trends and conditional relationships can emerge.

Chapter 5

Summary and Conclusions

The value of this study may lie not so much in its discoveries, but in what it did not find. From the public outcry over particular popular music styles, one would envision our prisons to be overflowing with "gangster rappers" and "metal heads". This was not the case, as prisoners' music choices were as varied as one would expect of the public at large. If indeed, as social learning theory would predict, antisocial behaviors are the consequence of exposure to models of such behaviors, then either influences other than music choice were predominant for these felons, or the content of music styles other than rap music and heavy metal rock music is more antisocial than popularly thought.

This population of prisoners showed a preference for rock, oldies rock, soul, rhythm and blues, and blues music. A significant finding was a relationship between listening to rap music and to music from the category of soul, rhythm and blues, and blues. Both music types were significantly related to an increase in screening points assigned to the subjects. Changes in screening points represent antisocial behaviors occurring within the prison setting.

It is beyond the scope of this study to make conclusions regarding specific effects of specific music, as the categories of music styles are so inclusive. However, it can be reported that this populations' involvement with music from the rap and soul categories offered is statistically significant in relation to changes in their screening points.

Further research that more carefully defines the music categories would be useful. Only an insignificant few listed jazz, gospel, classical, or alternative rock music in the other category on the survey, so the divisions of popular music chosen for this study were adequate to encompass the general music preferences of this population. However, general preferences were apparently too broad to allow distinguishing characteristics to be compared. Perhaps focusing on music from the separate categories of blues, soul, and rhythm and blues, would better define the relationship between the music of this group collectively, and rap music.

It would also have been preferable, if time permitted, for all of the data collection to have been performed by the researcher himself. In this manner each subject could be prompted to fully complete the survey, and responses could be compared with the subjects' prison records for accuracy.

Another direction for investigation would be to identify subjects who were attracted exclusively to one

music genre and compare characteristics of the subjects themselves.

It remains vitally important that researchers concerned with music and its influence recognize that music is a social phenomenon. Music is created and experienced within a context that involves a myriad of influences. The listener experiences the music stimuli in its social context and concurrently is an influence on that experience. Study of personal and societal characteristics must accompany the music examined if results are to have specific practical applications.

The results of this study are to be understood in the context in which they occurred. This prison population, in a northern, Midwest setting, spends a great deal of time listening to the music of their choice. It is almost entirely experienced through earphones or headphones from a small radio or cassette tape player. Replication of this study in other settings will likely have different results.

It would be interesting to compare with results from a southern prison where country music would presumably be preferred. The availability of a measurement tool like the screening points is clearly a benefit. The music is experienced in a real life setting, albeit not the most desirable, and offers the opportunity to focus somewhat more specifically on responses to music as it is naturally experienced by the population concerned.

GLOSSARY

Antisocial behaviors: those representing, "disregard for, and violation of, the rights of others" (American Psychiatric Association [APA], Diagnostic and statistical manual of mental disorders, 1994, p. 645).

Bit: time of incarceration after apprehension for allegedly committing a felony to the present time of incarceration for the same crime. This may include jail time and prison time but not previous time served for another felony conviction.

Current screening points: the total score from the Management Level column of Michigan Department of Corrections (MDOC) form CSJ-481 10/88 "Security Classification Screen-Review," ranging from 0 to 35, assigned to each prisoner. Screening points are reviewed yearly or sooner when indicated by incidents or circumstances dictate (MDOC Policy Directive 05.01.130, 4-12-93).

Custody level: assigned level ranging from I to V resulting from completion of security classification screening forms. Levels correspond to the degree of precautions taken at the housing facility in which the prisoner is placed, from I (minimum) to V (maximum).

Initial screening points: the total score from the Management Level column of MDOC form CSJ-480 10/88 "Security Classification Screen-Review," ranging from 0 to 35, assigned to each prisoner upon reception processing to prison.

MDOC classification system: the prisoner management system employed by the Michigan Department of Corrections including screening points, custody level, and ongoing monitoring of behavior with adjustment as indicated.

Music listening: time spent actively listening to music of one's choice as a primary focus of attention. This may include, but is not limited to, listening while walking, exercising, relaxing, or eating, for example. It does not include music only marginally attended to such as background music in a loud workplace, or common area, and those instances where music is clearly incidental and not actively attended to.

Music types: country; rap; heavy metal; rock or oldies; soul, blues, or rhythm and blues; and other types will be defined as those fitting each category as stipulated by the subject and verified by an objective panel, checked for interrater reliability.

Popular music media: commercially available music of the type commonly broadcast over the radio; recorded on tapes, albums, and compact discs; used to accompany music videos; and performed by artists in the west, particularly the United States.

Social background: general region of upbringing as expressed by subjects in terms of city, suburb, small town, or rural/country.

APPENDIX

MUSIC LISTENING SURVEY

This is a **survey** of inmates who have different custody levels, sentences, and offenses, to compare **music** related behaviors in prison. It is very important that you answer as **accurately** as possible. Your responses will remain confidential, and participation is completely on a **voluntary** basis. **Thank you**.

In your answers to hours per day of music listening, count only music you **choose** to hear (while walking, relaxing, or exercising, for example). Do **not** count background music that is not being listened to actively.

In the past month, about how many **hours** per day did you spend listening to **each** of the following (including music videos)? Give the **name** of a group or artist you listened to, and whether or not you usually **sing** along with the music you listen to. Put zeros or leave blanks for types you never listened to.

	Hours per day	**Example of music artist/ or group**	**Sing along?**	
Country	_____	_____	Y	N
Rap	_____	_____	Y	N
Heavy Metal	_____	_____	Y	N
Rock or Oldies	_____	_____	Y	N
Soul, R & B or Blues,	_____	_____	Y	N
Other *(give type and amount)*		_____	Y	N

How much of this time was spent watching **music videos**? _____hours per day.

If you could, would you listen more? Yes No

When you first came to prison (on **this** bit), how many initial screening points did they give you at R&GC? (0-35) _____points.

What was your custody level?(1-5) _____

How many screening points do you have now?(0-35)_____points.

When did you first come to prison (on **this** bit)?_____
Month/Year

Which **best** describes where you grew up?
Circle one: City Suburb Small Town Rural/Country

For descriptive purposes only. Your name will **not** be used:

Age _____years

Sentence min. _____max._____

Offense(s) charged with _____

Prison Number _____

Please make any **comments** or questions you have regarding this survey, or **explanations** of your answers in the space below:

_____

_____

_____

_____

_____

_____

LIST OF REFERENCES

Achte, K., Fagerstrom, R., Pentikainen, J., & Farberow, N. L. (1989). Omega, 20, 193-204.

Albert, R. S. (1957). The role of mass media and the effect of aggressive film content upon children's aggressive responses and identification choices. Genetic Psychology Monographs, 55, 221-285.

American Psychiatric Association. (1994). Diagnostic and statistical manual of mental disorders (4th ed.). Washington, DC: Author.

Armstrong, E. G. (1993). The rhetoric of violence in rap and country music. Sociological Inquiry, 63, 64-83.

Arnett, J. (1991a). Adolescents and heavy metal music: From the mouths of metalheads. Youth & Society, 23(1), 76-98.

Arnett, J. (1991b). Heavy metal music and reckless behavior among adolescents. Journal of Youth and Adolescence, 20, 573-592.

Asmus, E. P. (1985). The development of a multidimensional instrument for the measurement of affective responses to music. Psychology of Music, 13(1), 19-30.

Avery, R. K. (1979). Adolescents' use of the mass media. American Behavioral Scientist, 23(1), 53-70.

Ballard, M. E., & Coates, S. (1995). The immediate effects of homicidal, suicidal, and nonviolent heavy metal and rap songs on the moods of college students. Youth & Society, 27, 148-168.

Bandura, A. (1973). Aggression: A social learning analysis. Englewood Cliffs, NJ: Prentice-Hall, Inc.

Bandura, A., Ross, D., & Ross, S. A. (1961). Transmission of aggression through imitation of aggressive models. Journal of Abnormal and Social Psychology, 63, 575-582.

Bandura, A., Ross, D., & Ross, S. A. (1963). Imitation of film-mediated aggressive models. Journal of Abnormal and Social Psychology, 66, 3-11.

Barongan, C., & Nagayama-Hall, G. C. (1995). The influence of misogynous rap music on sexual aggression against women. Psychology of Women Quarterly, 19, 195-207.

Baxter, R. L., DeRiemer, C., Landini, A., Leslie, L., & Singletary, M. W. (1985). A content analysis of music videos. Journal of Broadcasting & Electronic Media, 29, 333-340.

Berkowitz, L. (1962). Aggression: A social psychological analysis. New York: McGraw-Hill Book Company, Inc.

Berry, C., & Wolin, D. (1986). Regulating rock lyrics: A new wave of censorship? Harvard Journal on Legislation, 23, 597-619.

Billard, M. (1990, July 12). Heavy metal goes on trial. Rolling Stone, 83-88, 132.

Bleich, S., Zillmann, D., & Weaver, J. (1991). Enjoyment and consumption of defiant rock music as a function of adolescent rebelliousness. Journal of Broadcasting & Electronic Media, 35, 351-366.

Brim, R. (1978). The effect of personality variables, dogmatism and repression-sensitization upon response to music. Journal of Music Therapy, 15, 74-87.

Brodsky, W., & Niedorf, H. (1986). "Songs from the heart": New paths to greater maturity. The Arts in Psychotherapy, 13, 333-341.

Brotons, M. (1987). The correlation between content of preferred music and psychiatric diagnosis of criminal offenders and effects of this music on observed behavior. Unpublished masters thesis, Florida State University, Tallahasee.

Brown, E. F., & Hendee, W. R. (1989). Adolescents and their music: Insights into the health of adolescents. Journal of the American Medical Association, 262, 1659-1663.

Brown, R. L., & O'Leary, M. (1971). Pop music in an English secondary school system. American Behavioral Scientist, 14, 401-413.

Bruning, F. (1985, October 21). The devilish soul of rock 'n' roll. Maclean's, 13.

Burke, R. S., & Grinder, R. E. (1966). Personality-oriented themes and listening patterns in teen-age music and

their relation to certain academic and peer variables. The School Review, 74, 197-211.

Callen, D. M. (1985). Moving to music - for better appreciation. Journal of Aesthetic Education, 19(3), 37-50.

Carbonell, J. L. (1983). Inmate classification systems: A cross-tabulation of two methods. Criminal Justice and Behavior, 10, 285-292.

Carey, R. J., Garske, J. P., & Ginsberg, J. (1986). The prediction of adjustment to prison by means of an MMPI-based classification system. Criminal Justice and Behavior, 13, 347-365.

Caspy, T., Peleg, E., Schlam, D., & Goldberg, J. (1988). Sedative and stimulative music effects: Differential effects on performance impairment following frustration. Motivation and Emotion, 12, 123-138.

Christenson, P. G., & Lindlof, T. R. (1983). The role of audio media in the lives of children. Popular Music and Society, 9(3), 25-39.

Davis, D. L., & Boster, L. (1988). Multifaceted therapeutic interventions with the violent psychiatric inpatient. Hospital and Community Psychiatry, 39, 867-869.

Davis, W. B., Gfeller, K. E., & Thaut, M. H. (1992). An introduction to music therapy theory and practice. Dubuque, IA: William C. Brown Publishing.

Davis, W. B., & Thaut, M. H. (1989). The influence of preferred relaxing music on measures of state anxiety, relaxation, and physiological responses. Journal of Music Therapy, 26, 168-187.

Day, K. D. (1980). The effect of music differing in excitatory potential and hedonic valence on provoked aggression. Dissertation Abstracts International, 41(01), 10A.

Dee, J. L. (1987). Medial accountability for real-life violence: A case of negligence or free speech? Journal of Communication, 37(2), 106-138.

Epstein, J. S., Pratto, D. J., & Skipper, J. K. (1990). Teenagers, behavioral problems and preferences for

heavy metal and rap music: A case study of a southern middle school. Deviant Behavior, 11, 381-394.

Feshbach, S. (1955). The drive-reducing function of fantasy behavior. Journal of Abnormal and Social Psychology, 50, 3-11.

Feshbach, S. (1961). The stimulating versus cathartic effects of a vicarious aggressive activity. Journal of Abnormal and Social Psychology, 63, 381-385.

Feshbach, S. (1964). The function of aggression and the regulation of the aggressive drive. Psychological Review, 71(4), 257-272.

Freudiger, P., & Almquist, E. M. (1978). Male and female roles in the lyrics of three genres of contemporary music. Sex Roles, 4, 51-65.

Freundlich, D. (1968). Narcissism and exhibitionism in the performance of classical music. The Psychiatric Quarterly Supplement, 42, 1-13.

Gantz, W., Gartenberg, H. M., Pearson, M. L., & Schiller, S. O. (1978). Gratifications and expectations associated with pop music among adolescents. Popular Music and Society, 6, 81-89.

Gore, T. (1987). Raising PG kids in an X-rated society. Nashville: Abingdon Press.

Gowensmith, W. N., & Bloom, L. J. (1997). The effects of heavy metal music on arousal and anger. Journal of Music Therapy, 34, 33-45.

Greenfield, P., & Beagles-Roos, J. (1988). Radio vs. television: Their cognitive impact on children of different socioeconomic and ethnic groups. Journal of Communication, 38, 71-92.

Gross, R. (1990). Heavy metal music: A new subculture in American society. Journal of Popular Culture, 24, 119-130.

Hansen, C. H., & Hansen, R. D. (1990a). Rock music videos and antisocial behaviors. Basic & Applied Social Psychology, 11, 357-369.

Hansen, C. H., & Hansen, R. D. (1990b). The influence of sex and violence on the appeal of rock music videos. Communication Research, 17, 212-234.

Hansen, C. H., & Hansen, R. D. (1991). Schematic information processing of heavy metal lyrics. Communication Research, 18, 373-411.

Hanson, R. W. (1985). Predicting inmate institutional adjustment: A comparison between security, custody, and Megargee classification systems. Dissertation Abstracts International, 45(11), 3619B.

Hanson, R. W., Moss, C. S., Hosford, R. E., & Johnson, M. E. (1983). Predicting inmate penitentiary adjustment: An assessment of four classificatory methods. Criminal Justice and Behavior, 10, 293-309.

Harris, C. S., Bradley, R. J., & Titus, S. K. (1992). A comparison of the effects of hard rock and easy listening on the frequency of observed inappropriate behaviors: Control of environmental antecedents in a large public area. Journal of Music Therapy, 29, 6-17.

Hersch, P. (1987, September). The perils of rock 'n' roll. Psychology Today, 80.

Hofstadter, A., & Kuhns, R. (Eds.). (1964). Philosophies of art and beauty: Selected readings in aesthetics from Plato to Heidegger. Chicago: University of Chicago Press.

Johnson, D. L., Simmons, J. G., & Gordon, B. C. (1983). Temporal consistency of the Meyer-Megargee inmate typology. Criminal Justice and Behavior, 10, 263-268.

Johnson, J. D., Adams, M. S., Ashburn, L., & Reed, W. (1995). Differential gender effects of exposure to rap music on African-American adolescents' acceptance of teen dating violence. Sex Roles: A Journal of Research, 33, 597-605.

Johnson, J. D., Jackson, L. A., & Gatto, L. (1995). Violent attitudes and deferred academic aspirations: Deleterious effects of exposure to rap music. Basic & Applied Social Psychology, 16, 27-41.

Kennedy, T. D. (1986). Trends in inmate classification: A status report of two computerized psychometric approaches. Criminal Justice and Behavior, 13, 165-184.

Lacayo, R. (1995, June 12). Violent reaction. Time, 24-30.

Larson, R., & Kubey, R. (1983). Television and music: Contrasting media in adolescent life. Youth & Society, 15(1), 13-31.

Lawrence, J. S., & Joyner, D. J. (1991). The effects of sexually violent rock music on males' acceptance of violence against women. Psychology of Women Quarterly, 15, 49-63.

Lerner, M. A. (1987, August). The heavy-metal frenzy: 'Everyone's trying to sign up a metal band'. Newsweek, 59.

Lewis, G. H. (1980). Popular music, musical preference and drug use among youth. Popular Music and Society, 7, 176-181.

Lewis, G. H. (1981). Towards a uses and gratifications approach: An examination of commitment and involvement in popular music. Popular Music and Society, 8, 10-18.

Litman, R. E., & Farberow, N. L. (1994). Pop-rock music as precipitating cause in youth suicide. Journal of Forensic Sciences, 39, 494-499.

Loomis, L. R. (Ed.). (1943). Aristotle: On man in the universe. New York: Walter J. Black.

Louscher, P. K., Hosford, R. E., & Moss, C. S. (1983). Predicting dangerous behavior in a penitentiary using the Megargee typology. Criminal Justice and Behavior, 10, 269-284.

Lovaas, O. I. (1961). Effect of exposure to symbolic aggression on aggressive behavior. Child Development, 32, 37-44.

Lull, J. (1982). Popular music: Resistance to new wave. Journal of Communication, 32, 121-131.

Lull, J. (1985). On the communicative properties of music. Communication Research, 12(3), 363-372.

Mabli, J., & Barber, S. (1983). The effect of inmate security level on incident report rates at a medium security Federal correctional institution. Journal of Offender Counseling, Services & Rehabilitation, 8, 37-45.

Maguire, E. R., & Snipes, J. B. (1994). Reassessing the link between country music and suicide. Social Forces, 72, 1239-1243.

Marchand, D. J. (1975). A study of two approaches to developing expressive performance. Journal of Research in Music Education, 23, 14-22.

Mark, A. (1988). Metaphoric lyrics as a bridge to the adolescent's world. Adolescence, 23, 312-323.

Martin, G., Clark, M., & Pearce, C. (1993). Adolescent suicide: Music preference as an indicator of vulnerability. Journal of the American Academy of Child and Adolescent Psychiatry, 32, 530-535.

Martin, L., & Segrave, K. (1988). Anti-Rock: The opposition to rock 'n' roll. Hamden, CT: Archon Books.

Mauk, G. W., Taylor, M. J., White, K. R., & Allen, T. S. (1994). Comments on Stack and Gundlach's "The effect of country music on suicide": An "achy breaky heart" may not kill you. Social Forces, 72, 1249-1255.

Megargee, E. I., Bohn, M. J., Meyer, J., & Sink, F. (1979). Classifying criminal offenders: A new system based on the MMPI. Beverly Hills, CA: Sage Publications.

Moore, J. M. (1990). Music and mayhem: An examination of the influence of music videos on interpersonal aggression. Dissertation Abstracts International, 50(8), 3760B.

Moore, M. C., Skipper, J. K., & Willis, C. L. (1979). Rock and roll: Arousal music or a reflection of changing sexual more? In M. Cook, & G. Wilson (Eds.), Love and attraction: An international conference (pp. 481-486). Oxford: Pergamon Press.

Moss, C. S., Johnson, M. E., & Hosford, R. E. (1984). An assessment of the Megargee typology in lifelong criminal violence. Criminal Justice and Behavior, 11, 225-234.

Motiuk, L. L., Bonta, J., & Andrews, D. A. (1986). Classification in correctional halfway houses: The relative and incremental predictive criterion validities of the Megargee-MMPI and LSI systems. Criminal Justice and Behavior, 13, 33-46.

Murphy, K. (1986, December 20). Suit claiming Ozzy Osbourne song led to suicide dismissed. Los Angeles Times, p. 35.

O'Mahoney, M. (1978). Smell illusions and suggestion: Reports of smells contingent on tones played on television and radio. Chemical Senses and Flavour, 3(2), 183-189.

Peretti, P. O., & Kippschull, H. (1991). Influence of five types of music on social behaviors of mice: Mus musculus. Indian Journal of Behaviour, 15(2), 51-58.

Peterson, D. L,. & Pfost, K. S. (1989). Influence of rock videos on attitudes of violence against women. Psychological Reports, 64, 319-322.

Pfaus, J. G., Myronuk, L. D. S., & Jacobs, W. J. (1986). Soundtrack contents and depicted sexual violence. Archives of Sexual Behavior, 15, 231-237.

Plato. (1967). The republic of Plato (F. Cornford, Trans.). New York: Oxford University Press.

Prerost, F. J. (1993). The influence of sex guilt on mood state following exposure to sexual stimuli. Psychological Reports, 73, 201-202.

Pressley, A. (1992). Rap music by black male artists: A psychotheological interpretation. The Western Journal of Black Studies, 16(2), 92-97.

Rabson, G. R. (1977). Mood in music. The American Music Teacher, 26(3), 18-19.

Record labeling: Contents of music and lyrics of records. (1985, September 15). Hearing before the Committee on Commerce, Science, and Transportation, United States Senate, 99th Congress. (S. Hrg. 99-529). Washington, DC: U. S. Government Printing Office.

Riesman, D. (1950). Listening to popular music. American Quarterly, 2(1), 359-371.

Robinson, J. P., & Hirsch, P. (1969, October). It's the sound that does it. Psychology Today, 42-45.

Roe, K. (1987). The school and music in adolescent socialization. In J. Lull (Ed.), Popular music and

communication (pp. 212-230). Newbury Park, CA: Sage Publications.

Roe, K. (1995). Adolescents' use of socially disvalued media: Towards a theory of media deliquency. Journal of Youth and Adolescence, 24, 617-631.

Rosenbaum, J., & Prinsky, L. (1987). Sex, violence and rock 'n' roll: Youths' perceptions of popular music. Popular Music and Society, 11(2), 79-89.

Rosenbaum, J. L., & Prinsky, L. (1991). The presumption of influence: Recent responses to popular music subcultures. Crime and Delinquency, 37, 528-535.

Schlattmann, T. (1989). Traditional, non-traditional, emotionally behaviorally disturbed students and popular music lyrics. Popular Music and Society, 13, 23-35.

Schooler, C., & Flora, J. A. (1996). Pervasive media violence. Annual Review of Public Health, 17, 275-298.

Schubert, E. (1996). Enjoyment of negative emotions in music: An associative network explanation. Psychology of Music and Music Education, 24, 18-28.

Sherman, B. L., & Dominick, J. R. (1986). Violence and sex in music videos: TV and rock 'n' roll. Journal of Communication, 36, 74-93.

Shevrin, H., & Dickman, S. (1980). The psychological unconscious: A necessary assumption for all psychological theory? American Psychologist, 35, 421-434.

Singer, R. L. (1983). My music is who I am and what I do: Latin popular music and identity in New York City. Dissertation Abstracts International, 43, 2491A.

Singletary, M. W. (1983). Some perceptions of the lyrics of three types of recorded music: Rock, country, and soul. Popular Music and Society, 9(3), 51-63.

Smith, C. A., & Morris, L. W. (1976). Effects of stimulative and sedative music on cognitive and emotional components of anxiety. Psychological Reports, 38, 1187-1193.

Smith, C. A., & Morris, L. W. (1977). Differential effects of stimulative and sedative music on anxiety,

concentration, and performance. Psychological Reports, 41, 1047-1053.

Snipes, J. B., & Maguire, E. R. (1995). Country music, suicide, and spuriousness. Social Forces, 74, 327-329.

Sommers-Flanagan, R., Sommers-Flanagan, J., & Davis, B. (1993). What's happening on music television? A gender role content analysis. Sex Roles: A Journal of Research, 28, 745-753.

Stack, S., & Gundlach,J. (1992). The effect of country music on suicide. Social Forces, 71, 211-218.

Stack, S., & Gundlach, J. (1994a). Country music and suicide: A reply to Maguire and Snipes. Social Forces, 72, 1245-1248.

Stack, S., & Gundlach, J. (1994b). Psychological versus sociological perspectives on suicide: A reply to Mauk, Taylor, White, and Allen. Social Forces, 72, 1257-1261.

Stack, S., & Gundlach, J. (1995). Country music and suicide--Individual, indirect, and interaction effects: A reply to Snipes and Maguire. Social Forces, 74, 331-335.

Stack, S., Gundlach, J., & Reeves, J. L. (1994). The heavy metal subculture and suicide. Suicide and Life-Threatening Behavior, 24, 15-23.

Stratton, V. N., & Zalanowski, A. H. (1997). The relationship between characteristic moods and most commonly listened to types of music. Journal of Music Therapy, 34, 129-140.

Stuessy, J. (1990). Rock and roll: Its history and stylistic development. Englewood Cliffs, NJ: Prentice-Hall, Inc.

Taylor, D. B. (1973). Subject responses to precategorized stimulative and sedative music. Journal of Music Therapy, 10, 86-94.

Terwogt, M. M., & VanGrinsven, F. (1988). Recognition of emotions in music by children and adults. Perceptual and Motor Skills, 67, 697-698.

Terwogt, M. M., & VanGrinsven, F. (1991). Music expression of moodstates. Psychology of Music, 19, 99-109.

Thaut, M. H. (1989). The influence of music therapy interventions on self-rated changes in relaxation, affect, and thought in psychiatric prisoner-patients. Journal of Music Therapy, 26, 155-166.

Thorne, S. B., & Himelstein, P. (1984). The role of suggestion in the perception of satanic messages in rock-and-roll recordings. The Journal of Psychology, 116, 245-248.

Time Warner wraps up rap. (1995, September 28). The Jackson Citizen Patriot, p. B8.

Tisdall, P. (1983). Mixed messages. Science 83, 4(7), 84-85.

Took, K. J., & Weiss, D. S. (1994). The relationship between heavy metal and rap music and adolescent turmoil: Real or artifact? Adolescence, 29, 613-621.

Trzcinski, J. (1992). Heavy metal kids: Are they dancing with the Devil? Child & Youth Care Forum, 21, 7-22.

Vernden, P., Dunleavy, K., & Powers, C. H. (1989). Heavy metal mania and adolescent delinquency. Popular Music and Society, 13, 73-82.

Vokey, J. R., & Read, J. D. (1985). Subliminal messages: Between the Devil and the media. American Psychologist, 40, 1231-1239.

Waite, B. M., Hillbrand, M., & Foster, H. G. (1992). Reduction of aggressive behavior after removal of music television. Hospital and Community Psychiatry, 43, 173-175.

Walker, M. W. (1985). Backward messages in commercially available recordings. Popular Music and Society, 10, 2-13.

Walser, R. (1993). Running with the Devil: Power, gender, and madness in heavy metal music. Hanover, NH: University Press of New England.

Walters, G. D. (1986). Correlates of the Megargee criminal classification system: A military correctional setting. Criminal Justice and Behavior, 13, 19-32.

Wanamaker, C. E., & Reznikoff, M. (1989). Effects of aggressive and nonaggressive rock songs on projective

and structured tests. Journal of Psychology, 123, 561-570.

Wass, H., Miller, D. M., & Stevenson, R. G. (1989). Factors affecting adolescents' behavior and attitudes toward destructive rock lyrics. Death Studies, 13, 287-303.

Wass, H., Raup, J. L., Cerullo, K., Martel, L. G., Mingione, L. A., & Sperring, A. M. (1988). Adolescents' interest in and views of destructive themes in rock music. Omega, 19, 177-186.

Weinstein, D. (1983). Rock: Youth and its music. Popular Music and Society, 9(3), 2-15.

Weinstein, D. (1991). Heavy Metal: A cultural sociology. New York: Lexington Books.

White, A. (1985). Meaning and effects of listening to popular music: Implications for counseling. Journal of Counseling and Development, 61(1), 65-69.

Wilson, P. R. (1987). "Stranger" child-murder: Issues relating to causes and controls. International Journal of Offender Therapy and Comparative Criminology, 31, 49-59.

Wooten, M. A. (1992). The effects of heavy metal music on affects shifts of adolescents in an inpatient psychiatric setting. Music Therapy Perspectives, 10(2), 93-98.

Zillman, D. (1971). Excitation transfer in communication-mediated aggressive behavior. Journal of Experimental and Social Psychology, 7, 419-434.

Zillman, D. (1984). Connections between sex and aggression. Hillsdale, NJ: Lawrence Erlbaum.

Zillman, D., & Mundorf, N. (1987). Image effects in the appreciation of video rock. Communication Research, 14(3), 316-334.

Zoglin, R. (1995, June 12). A company under fire. Time, 37-39.