

THE IMMEDIATE EFFECTS OF HOMICIDAL, SUICIDAL, AND NONVIOLENT HEAVY METAL AND RAP SONGS ON THE MOODS OF COLLEGE STUDENTS

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The authors examined the impact of homicidal, suicidal, and nonviolent heavy metal and rap songs on the moods of male undergraduates under the guise of administering a memory for lyrics test. Subjects heard one of six songs and completed a memory task. Subjects completed several mood inventories as part of a "second study." There were no effects of song content or music type on suicidal ideation, anxiety, or self-esteem. The nonviolent rap song elicited higher Beck Depression Inventory (BDI) scores than the violent rap songs. And, rap songs elicited significantly more angry responses than heavy metal songs.

Rock music has been decried as a scourge of society since it was first introduced to the American public by Bill Haley and His Comets in 1955. This may be because the keystones of rock and roll have been defiance, rebellion, and the expression of youthful angst (Bleich, Zillman, & Weaver, 1991; Pareles & Romanowski, 1983; Trzcinski, 1992). Two subgenres of rock, heavy metal and rap, may best exemplify both the insurgency and the disenfranchisement experienced by many adolescents. At the same time, heavy metal and rap music often embody the worst fears of the parents of this generation's youth, that

AUTHORS' NOTE: The authors would like to thank Paul Klaczynski, Paul Fox, Richard Levin, and Jack Mulgrew for their insightful feedback on earlier versions of this article.

YOUTH & SOCIETY, Vol. 27 No. 2, December 1995 148-168
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is, sex, drugs, and violence. Thus these two types of rock music have become the center of a controversy that has reached from the sermons of small town churches to hearings on Capital Hill.

HISTORY OF HEAVY METAL AND RAP MUSIC

Heavy metal exploded onto the rock scene in the late 1960s. The term "heavy metal" was coined by William Burroughs in Naked Lunch, used in the lyrics of Steppenwolf's hit "Born to be Wild," and then adopted by rock critic Lester Bangs to describe this style of loud, guitar-driven rock music (Pareles & Romanowski, 1983). The popularity, and provocative nature, of heavy metal music burgeoned in the mid-1980s (Arnett, 1991a, 1991b).

Rap music appeared on the streets and in the clubs of New York City in the mid-1970s, but rap music as a recorded art form did not appear until the late 1970s (Pareles & Romanowski, 1993). By the early 1980s, rap music was popular among African American youth and it was being integrated into the music of diverse artists (Pareles & Romanowski, 1983). Rap continued to evolve as artists produced songs with more complex music and more subtle lyrics (Simpson, 1990). By the mid-1980s rap had entered the musical mainstream.

LYRICAL CONTENT AND RECORD WARNING LABELS

As the popularity of heavy metal and rap music has grown, so have concerns about the possible detrimental effects of this music. In particular, parents, educators, and religious leaders have voiced concern about songs with themes of drug use, violence (homicide, suicide, and sexual aggression), and satanism (Prinsky & Rosenbaum, 1987; *Record Labeling*, 1985). Although many heavy metal and rap songs have positive content (e.g., love, spirituality) or deal with pressing social issues (e.g., abuse, racism, homelessness), a substantive number of songs have violent, degrading, or provocative lyrical content (Thigpen, 1993). Even the names of some groups, such as Suicidal Tendencies, Dead Kennedys, House of Pain, and Public Enemy may elicit concern from some adults. Antisocial themes are not common only to rock music; country music is rife with negative themes (Stack & Gundlack, 1992). Nevertheless, the recent proliferation of heavy metal and rap

music into popular culture has focused a spotlight on the negative aspects of these forms of music.

These concerns have led groups such as the Parent's Music Resource Center (PMRC) to question music's affects on adolescents (*Record Labeling*, 1985). The members of the PMRC believe that heavy metal music has a detrimental impact on the moods and behavior of young people and in 1985 requested the U.S. Congress to require consumer warning labels on albums with potentially offensive lyrics (Prinsky & Rosenbaum, 1987; *Record Labeling*, 1985). The music industry instituted a controversial, voluntary labeling system, placing the warning "Parental Advisory/Explicit Lyrics" on albums that are deemed offensive (Thigpen, 1993). Some music chains also use "18 to Buy/Show" labels (Thigpen, 1993). However, some charge that this practice has led to racially biased labeling, as controversial and explicit recordings by White artists are less likely to be tagged than are similar recordings by African American artists (Thigpen, 1993). And, whereas some stores restrict the sale of potentially offensive material, other stores sell labeled recordings to any consumer, regardless of age (Thigpen, 1993). Thus there is substantial inconsistency in labeling and selling practices.

Recordings also vary in the way "Parental Advisory/Explicit Lyrics" labels are used. Warning labels may be affixed to the outside of the CD or tape case, printed starkly on the cover, or woven into the cover design in an aesthetically pleasing way. Some artists seem to flaunt the fact that their material might be viewed as explicit or offensive. Thus warning labels may have the opposite effect of that desired by the PMRC—more, not fewer, adolescents may be drawn to explicitly violent or sexual lyrics.

The PMRC's main criticism of heavy metal and rap music centers around the belief that the lyrics cause adolescents to display negative moods (e.g., depression, hostility) and to engage in negative behaviors (e.g., aggression, suicide, sexual activity, drug use) that they would not participate in otherwise (Desmond, 1987; Hansen & Hansen, 1991; *Record Labeling*, 1985). Some religious leaders claim that satanic messages are embedded in rock songs and that this subliminal "backward masking" can lead the listener to commit crimes, use drugs, and worship Satan (Vokey & Read, 1985). Thus two questions arise:

- (a) How well does the listener understand and comprehend the lyrics of heavy metal and rock songs? (There is no research on rap lyrics.)
- (b) Do these lyrics influence the listener's moods or behavior?

LYRICAL COMPREHENSION AND INFLUENCE

The findings of studies examining cognition of heavy metal lyrics are inconsistent and fail to provide a clear picture of either lyrical importance or comprehension. Wass and colleagues (Wass, Miller, & Stevenson, 1989; Wass et al., 1988-1989) found that heavy metal fans were more likely to claim to know the lyrics of their favorite songs than were nonheavy metal fans; there was no measure of comprehension. Heavy metal fans reported that song lyrics made a difference in how the music was experienced. Similarly, Bleich et al. (1991) found that rebellious adolescents reported enjoying song lyrics more than nonrebellious adolescents. Alternatively, both Arnett (1991b) and Rosenbaum and Prinsky (1987) found that most adolescents, including heavy metal fans, focused on music, while a minority paid more attention to the lyrics.

When young adolescents do attend to song lyrics their interpretation of the lyrics tends to be literal, not taking into consideration the complex metaphors often employed by songwriters (Greenfield et al., 1987; Rosenbaum & Prinsky, 1987). Even when adolescents were provided with song lyrics they were no better than casual listeners in determining the songs' themes (Greenfield et al., 1987; Hansen & Hansen, 1991). By late adolescence or early adulthood, people are more capable of interpreting the abstract subcontext of heavy metal songs (Greenfield et al., 1987; Rosenbaum & Prinsky, 1987). Adults perceive more satanic and sexual content in songs than adolescents (Rosenbaum & Prinsky, 1987), perhaps because they have greater experience with and knowledge of such concepts (Greenfield et al., 1987).

There is no evidence to support claims that "backward masking" influences behavior. Thorne and Himelstein (1984) and Vokey and Read (1985) found that suggestion played a large role in whether or not backward masked messages were heard at all when materials were played backwards. Thus backward masked messages may be the result of construction on the part of the listener, rather than purposely planted

messages. In addition, Vokey and Read (1985) found no evidence that even intentionally planted backward masked messages influenced the listener's behavior.

HEAVY METAL AND SUICIDE: IS THERE A LINK?

One of the most frightening claims made by the detractors of heavy metal music is that the music causes adolescents to attempt or to commit suicide. This was illustrated by highly publicized cases where parents charged that songs by Judas Priest and Ozzy Osbourne were linked to the suicides of their adolescent children. Recently, "Jeremy," by Pearl Jam, spawned controversy, as the song relates the tale of a neglected and alienated boy's public suicide. Eddie Vedder (1993), Pearl Jam's lead singer and lyricist, defends the song, saying that rather than promoting suicide it should have the opposite effect.

There is no empirical data to link depression or suicide attempts or completions to heavy metal or rap music. Few studies have addressed these questions even indirectly. Wass and colleagues (1988-1989) found that adolescents who disliked heavy metal music were significantly more likely than heavy metal fans to believe that listening to heavy metal music with violent or satanic themes could increase the risk that someone would commit suicide or homicide. Stack and Gundlack (1992) did not study rock music, but found significant positive correlations between the suicide rates of Whites and the amount of airplay dedicated to country music.

HEAVY METAL AND ANTISOCIAL AND RECKLESS BEHAVIOR

Although there is little research on links between music and mood, there are links between reckless and antisocial behavior and preference for heavy metal music. Correlational studies by King (1988) and Wass, Miller, and Redditt (1991) indicate that heavy metal music is more popular among antisocial youth than among the general population. King (1988) found that among adolescents hospitalized for psychiatric or behavioral disorders, heavy metal music was more popular with adolescents who abused drugs than among those who did not. In a study of adolescent offenders, Wass et al. (1991) found that a majority of the White youths were fans of heavy metal music.

(None of the African American subjects preferred heavy metal music.) Neither King (1988) nor Wass et al. (1991) studied control groups in relation to these clinical populations.

Arnett (1991a) examined the relation between heavy metal music and antisocial behavior among a community sample of adolescents. Although the sample may not be representative due to recruitment procedures, the results are striking. Male fans of heavy metal music scored higher on sensation seeking and engaged in behaviors such as reckless driving, casual sex, and drug use significantly more often than male nonfans of heavy metal music. However, reckless and destructive behaviors were pervasive, regardless of the boys' musical preferences (Arnett, 1991a, 1991b).

Female heavy metal fans were more likely to engage in sex without contraception, marijuana use, shoplifting, and vandalism than female nonheavy metal fans (Arnett, 1991a). Overall, females were less likely to engage in reckless behaviors than males, regardless of musical taste. Female heavy metal fans also had higher sensation seeking scores than nonfans. Arnett (1991a) suggests that sensation seeking may be the strongest link between a preference for heavy metal music and reckless behavior.

All of the studies cited above (Arnett, 1991a; King, 1988; Wass et al., 1991) singled out heavy metal music and fans. Therefore, the rate of preference for other music types, such as rap or country, among antisocial or reckless youths has not been examined. So, it is impossible to compare the behavior of heavy metal fans to the behavior of fans of other types of music.

Although there is evidence that a preference for heavy metal music is related to increased risk for reckless or antisocial behavior, this link is tenuous at best. And, there is no empirical evidence that a preference for heavy metal music places adolescents at risk for suicide. However, even psychologists seem beguiled by the deluge of media attention on the subject. Rosenbaum and Prinsky (1991) report that 83% of psychiatric facilities contacted recommended inpatient admission for a hypothetical youth who presented no behavioral or emotional problems, but who preferred heavy metal music, "punk" fashion, and had a messy room decorated with "awful looking" posters.

STATEMENT OF PROBLEM AND HYPOTHESES

To date research examining the impact of music on adolescents' moods and behavior has been correlational and has not examined the impact of lyrical content on mood. In addition, much of the extant research is limited by either (a) biased populations, (b) a singular focus on heavy metal music, (c) a negative bias against heavy metal music, or (d) a lack of understanding of the subgenres of rock music.

This study is an effort to investigate the links between lyrical content and mood in an experimental fashion. We examined the immediate impact of exposure to heavy metal and rap songs with nonviolent, homicidal, and suicidal themes on the moods of college students, under the guise of administering a memory for lyrics test.

Because music videos with violent content were found to be more unpleasant and arousing than those with less violent content (Hansen & Hansen, 1990), we expected that the undergraduates' state moods, such as anxiety and anger, would vary as a function of lyrical content (i.e., subjects would have higher levels of anxiety and anger after exposure to violent lyrics than after exposure to the nonviolent control). We did not expect that nonstate measures, such as depression, self-esteem, and suicidal ideation, would vary as a function of lyrical content, as these characteristics are not as vulnerable to the immediate context of the situation unless it has a strong personal valence.

As there is no precedent for examining rap versus heavy metal music, we had no explicit hypotheses regarding the impact of music type on mood. However, as rap and heavy metal music are both viewed as highly arousing by students in another study in progress, it might be expected that they would affect mood similarly.

PILOT STUDY

METHOD

PARTICIPANTS

Sixteen volunteer subjects from upper-level psychology courses participated in the pilot study.

MATERIALS

Eighteen songs were selected for use in the pilot study, fans of heavy metal and rap music were polled for suggestions and these were narrowed down by the investigators, based on length, content, and year of release. (We failed to find unfamiliar country and Top-40 songs with homicidal and suicidal themes.) These 18 songs included three songs from each of three lyrical content categories (nonviolent, homicidal, and suicidal) for both types of music under investigation (heavy metal and rap). One-minute segments of each song were prerecorded for use in the pilot study. The song segments included a portion of the verse and the chorus of the song.

PROCEDURE

Pilot testing was used to identify three heavy metal and three rap songs that (a) fit into the content categories of interest, (b) were low in familiarity, and (c) were relatively high in coherence. (Rap music is by definition more coherent than other types of popular music.) The 18 song segments described above were played for participants one at a time. After each song segment was played, subjects were asked to rank the familiarity and coherence of the song on Likert-type scales. They were also asked to choose which theme (i.e., love/relationships, suicide, violent or degrading sex, homicide, other) best fit each song and to categorize the songs as either rock, country, rap, alternative, or heavy metal.

RESULTS

The six songs that best met the criteria cited above were selected for use in the study. The three heavy metal songs that were selected were "Of Wolf and Man" (nonviolent/control), "Assassin" (homicidal), and "Falling Asleep" (suicidal). The rap songs that were selected were "Sunny Meadowz" (nonviolent/control), "Peel Their Caps Back" (homicidal), and "Ever So Clear" (suicidal). See Table 1 for familiarity and coherence rankings.

TABLE 1
Pilot Study Means for Familiarity and Coherence

	Familiarity Scores	Coherence Scores
Rap		
Nonviolent	1.14	3.94
Homicidal	1.33	3.36
Suicidal	1.37	4.37
Heavy metal		
Nonviolent	1.10	2.43
Homicidal	1.31	2.62
Suicidal	1.10	2.74

NOTE: Familiarity scores range from 1 (not familiar) to 5 (very familiar); coherence scores range from 1 (not at all coherent) to 5 (very coherent). SDs are in parentheses.

EXPERIMENTAL STUDY

METHOD

PARTICIPANTS

The participants consisted of 175 (82 males and 93 females) volunteer psychology undergraduates from Appalachian State University. They were primarily non-Hispanic Caucasian ($N = 165$). Six subjects were African American, 4 were Asian American, and 2 were Native American. The mean age of the subjects was 19.71 years. Mean socioeconomic status of the participants was upper-middle class.

Eleven subjects (all non-Hispanic Caucasian) opted not to complete the personality questionnaires. Of the remaining 164 subjects 77 were male and 87 were female. Males and females were fairly evenly represented across conditions. Subjects were randomly assigned to one of the six conditions in the 3 (song content) $\times$ 2 (music type) design.

MATERIALS

Songs. The six songs listed above were used in the experiment. Two styles of popular music (heavy metal and rap) were crossed with three lyrical content themes (nonviolent/control, homicidal, or suicidal

lyrics). The songs were approximately the same length (song length varied no more than 30 seconds) and came from 1986-1991.

Memory-for-lyrics test. A memory test was developed for use in the study for two reasons: (a) to assure that the participants would focus on the lyrical content of the songs (to maximize the affect of the lyrics on mood) and (b) to divert the participants' attention from the true purpose of the study and to decrease demand characteristics. The memory test included (a) a free recall task where subjects were asked to recall from memory as many salient words as possible from the songs (excluding words such as "and" and "the"), (b) specific questions about lyrical content (e.g., Were any names mentioned in the song? Was any profanity used in the song?), and (c) categorization items (music type and thematic content).

State-Trait Anger Expression Inventory (STAXI). Subjects completed the STAXI, a 44-item measure that taps how people usually experience and express anger (Spielberger, 1988a; Spielberger et al., 1985). The STAXI yields scores for anger-in, anger-out, anger expression, state-anger, trait-anger, and anger-control and has convergent and divergent validity and good reliability (alphas range from .84 to .93; Spielberger, 1988b, 1988c; Spielberger et al., 1985).

Beck Depression Inventory (BDI). The BDI (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) was used to measure subject's levels of depression after exposure to the song. The reliability and validity of the BDI is well accepted.

Self-Esteem Scale (SES). On this 10-item measure of self-esteem (Rosenberg, 1965) subjects respond to a variety of self-statements on a 4-point Likert-type scale. The SES has good internal consistency ($r = .77$ to $.88$) and is positively correlated with general self-regard ($r = .78$) and negatively correlated with anxiety ($r = -.64$) and depression ($r = -.54$) (Blascovich & Tomaka, 1991).

State-Trait Anxiety Inventory (STAI). The STAI is a 40-item questionnaire that measures state- and trait-anxiety. Metzger (1976) reports

that the STAI has good validity ($r = .81$ to $.92$) and excellent internal consistency (alphas range from $.86$ to $.95$). Test-retest reliability scores for the state anxiety subscale are low, which is appropriate for a state measure (Metzger, 1976).

Adult Suicidal Ideation Questionnaire (ASIQ). The ASIQ (Reynolds, 1991) assesses current suicidal ideation. The ASIQ is comprised of 25 items that subjects rate on a 7-point Likert-type scale as to how often they have had suicidal ideas in the past month. The ASIQ was standardized with nonclinic populations of adults. The ASIQ has excellent internal consistency for both college males ($.97$) and college females ($.96$). The median content validity correlation was $r = .70$. Criterion validity, with scores on the Hamilton Depression Rating Scale, was $.77$ (Reynolds, 1991).

PROCEDURE

Participants were randomly assigned and were run in groups of 5 to 10 by assistants who were blind to the purposes and the hypotheses of the study. Participants volunteered for a study that ostensibly examined the relation between music type and memory for lyrics. The research assistant informed subjects that they would hear one song, played twice, and that they should pay particular attention to the lyrics of the song, as they would be tested on their memory for the lyrics. They were also told that the memory experiment would only take up half of the allotted time and that another experimenter had agreed to let them participate in a second study, on personality, after the music study, so they could receive one full hour of extra credit for their participation. After subjects signed the informed consent for the memory experiment they were exposed to one of the six songs, which was played twice. Participants were then given the memory task. On completion of the memory task subjects were told that they could either leave or that they could stay to participate in the second study for additional extra credit. If the subjects agreed to stay they signed another consent form and completed the personality inventories. The purpose of this subterfuge (the memory task, the "second" experiment, and the second consent form) was to decrease the possibility that the subjects would directly link exposure to the music to completing the

TABLE 2
Means and SDs for Familiarity and Coherence

	Familiarity Scores		Coherence Scores	
Rap				
Nonviolent	1.06 (.25)	2.87 (.88)		
Homicidal		1.07 (.25)	3.47 (.89)	
Suicidal		1.25 (.51)	4.39 (.57)	
Heavy metal				
Nonviolent		1.53 (.59)	2.62 (1.10)	
Homicidal		1.04 (.19)	3.00 (.82)	
Suicidal		1.04 (.19)	2.43 (.88)	

NOTE: Familiarity scores range from 1 (not familiar) to 5 (very familiar); coherence scores range from 1 (not at all coherent) to 5 (very coherent). SDs are in parentheses.

personality measures. Subjects were allowed to leave after completing the questionnaires. They were debriefed regarding the true purpose of the study as soon as possible after the completion of the experiment. Great care was taken to assure the subjects that the experimenters had taken elaborate precautions against demand characteristics in this study.

RESULTS

SONG CLASSIFICATION

Overall, subjects correctly categorized the songs as either rap (96%) or heavy metal (95.4%). Some subjects categorized the rap songs as rock (3%) or alternative (1%) music. A few subjects classified the heavy metal songs as rock (2.3%), rap (1.1%), or alternative (1.1%) music.

Thematic classification was less consistent. In general, subjects categorized songs in the category that they were meant to represent. The homicidal songs were typically correctly classified (95%). Suicidal songs were classified as violent in content by 91% of the subjects, but as specifically suicidal by only 38% of the subjects. Nonviolent songs were classified as nonviolent by most (63%) of the subjects, but 37% of the subjects classified these songs (which had no violent lyrics) as homicidal in nature.

FAMILIARITY AND COHERENCE

Although the songs used in the study were equated on coherence and familiarity during pilot testing, ratings of song coherence and familiarity were reexamined for the study population. In general, on a scale of 1 to 5, all of the songs used in the study were unfamiliar to the subjects (see Table 2 for means and standard deviations). On the other hand, there was substantial variation in song coherence. To see if the songs varied significantly in regard to either coherence or familiarity, 2 (music type) $\times$ 3 (song content) ANOVAs were executed.

There was a significant interaction between music type and song content for coherence, $F(2, 169) = 14.17, p < .001$. Simple effects tests show that the suicidal rap song ($M = 4.39, SD = .57$) was rated as more coherent than the homicidal rap song ($M = 3.47, SD = .90$) or the nonviolent rap song ($M = 2.87, SD = .88$), $F(2, 86) = 26.59, p < .001$. The homicidal rap song was rated as more coherent than the nonviolent rap song. There were no significant differences in the coherence ratings of the heavy metal songs, regardless of content. Main effects of music type and song content for coherence indicate that the rap songs ($M = 3.55, SD = 1.01$) were significantly more coherent than the heavy metal songs ($M = 2.61, SD = 2.61$), $F(1, 169) = 49.86, p < .001$. Subjects rated the nonviolent songs ($M = 2.66, SD = 1.02$) as less coherent than the homicidal ($M = 3.24, SD = .88$) or suicidal ($M = 3.41, SD = 1.23$) songs, $F(2, 169) = 12.19, p < .001$.

Although all six of the songs ranked very low in terms of familiarity to the subjects, there was a significant interaction between music type and content for familiarity, $F(2, 169) = 8.58, p < .001$. Simple effects tests show that the rap songs did not differ in familiarity. Subjects rated the nonviolent heavy metal song ($M = 1.53, SD = .90$) as more familiar than the homicidal ($M = 1.04, SD = 1.89$) or the suicidal ($M = 1.04, SD = 1.89$) heavy metal songs, $F(2, 83) = 7.91, p < .05$. There was a main effect for content, $F(2, 169) = 4.17, p < .05$. The nonviolent songs ($M = 1.30, SD = .69$) were rated as more familiar than the homicidal songs ($M = 1.05, SD = .22$), but this finding is qualified by the interaction.

Due to the significant interaction effects for song coherence and familiarity, analyses for the personality variables were first run using coherence and familiarity as covariates. But as neither coherence nor familiarity were significant covariates, noncovariate analyses are reported.

TABLE 3

Means and SDs for Adult Suicide Ideation Questionnaire (ASIQ), Beck Depression Inventory (BDI), State-Trait Anxiety Inventory (STAI), and Self-Esteem Scale (SES)

	ASIQ	BDI	STAI	SES
Rap				
Nonviolent	52.58 (13.39)	9.83 (8.01)	38.00 (11.53)	19.39 (5.85)
Homicidal	53.12 (17.58)	5.55 (4.33)	37.79 (11.92)	19.21 (5.45)
Suicidal	49.43 (10.96)	5.25 (3.45)	36.15 (9.11)	17.93 (4.62)
Heavy metal				
Nonviolent	79.87 (13.68)	6.08 (5.80)	35.21 (8.85)	18.00 (4.61)
Homicidal	49.82 (13.63)	7.26 (8.51)	41.36 (15.34)	19.11 (5.14)
Suicidal	46.04 (4.68)	7.07 (3.41)	37.48 (7.69)	17.24 (4.53)

NOTE: Standard deviations are in parentheses.

INTERACTIONS WITH GENDER

To determine if gender interacted with music type or song content, 2 (gender) $\times$ 2 (music type) $\times$ 3 (song content) ANOVAs were conducted for each of the dependent measures. There were no significant interactions, so gender was not included in the analyses.

MOOD INVENTORIES

Two (music type) $\times$ 3 (song content) ANOVAs (or MANOVA, where appropriate) were used to examine the impact of the experimental variables on responding to the mood inventories. Because preliminary analyses indicated that (a) neither familiarity nor coherence of the songs significantly covaried with responding to the personality measures and (b) gender did not interact with music type or song content to predict responding to the personality measures, simple 2 $\times$ 3 ANOVAs were used for the ASIQ, BDI, STAI, and SES. A 2 $\times$ 3 MANOVA was used to examine the subscales of the STAXI. The MANOVA indicated a main effect of music type, $F(8, 146) = 2.5, p = .014$, but there was no significant main effect for song content, nor was there a significant music type by song content interaction. Thus univariate analyses are reported for the main effect of music type on the STAXI subscales. Univariate analyses are not reported for song

content or interactions for the STAXI, as the overall MANOVA was not significant for these effects.

Means and standard deviations for the personality measures by music type and song content are in Table 3.

BDI. There was a significant music type by song content interaction for responses to the BDI, $F(2, 124) = 3.03, p < .05$. Simple effects tests were performed holding music type constant. There were no significant differences due to song content among the heavy metal songs. But, subjects who heard the nonviolent rap song ($M = 9.83, SD = 8.01$) had higher BDI scores than subjects who heard either the homicidal ($M = 5.55, SD = 4.33$) or the suicidal ($M = 5.25, SD = 3.45$) rap song. A second set of simple effects tests were performed holding song content constant; there were no significant effects of music type. There were no main effects for song content or music type.

STAXI-Trait Anger. There was a main effect for music type on the Trait Anger subscale, $F(1, 155) = 3.96, p < .05$. The rap songs ($M = 51.13, SD = 10.69$) were related to higher scores on Trait Anger than the heavy metal songs ($M = 47.95, SD = 9.50$). (The MANOVA performed across STAXI subscales was not significant for song content or for music type by song content interaction, thus only univariate analyses for the main effects are reported for the STAXI subscales. Song content by music type means and SDs for each STAXI subscale are presented in Table 4.)

STAXI-Trait Anger Reserve. There was also a main effect for music type on the Trait Anger Reserve subscale, $F(1, 155) = 12.81, p < .001$. Again, subjects who were exposed to the rap songs ($M = 52.41, SD = 10.57$) displayed higher levels of Trait Anger Reserve than the subjects who were exposed to the heavy metal songs ($M = 46.81, SD = 8.74$).

STAXI-Anger In. There was main effect for music type for the Anger In subscale, $F(1, 156) = 5.96, p < .05$. Again, subjects who were exposed to rap songs ($M = 54.55, SD = 11.15$) displayed higher scores than subjects exposed to the heavy metal music ($M = 50.60, SD = 8.48$).

TABLE 4
Means and SDs for State-Trait Anger Expression Inventory (STAXI) Subscales

State Anger	Trait Anger	Trait Anger-T	Trait Anger-R	Anger In	Anger Out	Anger Control	Anger Expression
Rap							
Nonviolent	52 (5.7)	54 (10.7)	55 (9.2)	54 (9.7)	53 (10.9)	55 (11.7)	51 (10.0)
Homicidal	51 (5.5)	49 (9.5)	52 (8.2)	50 (9.0)	51 (8.9)	55 (13.6)	47 (10.8)
Suicidal	50 (5.0)	50 (9.4)	53 (7.6)	52 (12.4)	55 (12.5)	55 (9.8)	52 (11.1)
Heavy metal							
Nonviolent	50 (4.9)	49 (9.6)	55 (7.4)	45 (8.1)	49 (7.9)	52 (10.6)	48 (10.3)
Homicidal	53 (6.3)	47 (10.3)	51 (8.8)	47 (9.4)	53 (9.7)	51 (8.4)	49 (9.5)
Suicidal	49 (3.5)	47 (9.6)	51 (5.4)	48 (8.6)	52 (8.4)	54 (9.6)	47 (9.3)

NOTE: Figures were rounded to whole numbers due to space considerations. Standard deviations are in parentheses.

STAXI-Anger Expression, Anger Control, Anger Out, Trait Anger Total, State Anger. There were no main effects of music type for these variables, largest $F(1, 153) = 1.53, p = .22$.

ASIQ, STAI, Self-Esteem Scale. There were no main effects of music type or song content, or interactions, for these variables, largest $F(1, 155) = 2.35, p = .13$.

DISCUSSION

The hypotheses were partially supported. As expected, lyrical content did affect students' immediate response to state mood questionnaires, but only in regard to one measure. Contrary to expectation, music type was related to differing responses on several measures, particularly anger. However, neither music type nor lyrical content affected subjects' responding on the ASIQ or the STAI. Thus the results of the study do not provide any evidence that lyrical content or music type (i.e., heavy metal vs. rap) has an immediate effect on either suicidal ideation or state anxiety.

In regard to rap song content, students who heard the nonviolent song had higher scores on the BDI than those who heard the violent songs. It may be that they felt relatively good about their own lives after listening to the violent and depressing rap songs, and thus reported fewer depressive symptoms than the subjects who heard the nonviolent, control song.

Surprisingly, rap music elicited more anger than heavy metal music on three of the STAXI subscales. Participants who were exposed to the rap song scored higher on the trait anger, trait anger reserve (a tendency to react with anger when criticized or treated unfairly) and anger-in (anger suppression) subscales. Several factors might be related to this finding. First, it has been suggested that listening to heavy metal music has a cathartic emotional effect. Arnett (1991b) found that male adolescents reported feeling a release of negative emotions, in a positive, nondestructive way, when listening to heavy metal music. Thus the heavy metal songs may have provided a release of anger for the listeners resulting in lower STAXI scores. But, musical preference may have affected subjects' responses. More subjects

reported a preference for rock ($N = 90$), heavy metal/alternative ($N = 39$), and country ($N = 22$) than for rap ($N = 22$). Thus the subjects may have responded to the rap music more negatively simply because they did not like it. In addition, the lyrics of the rap songs contained more profanity than the lyrics of the heavy metal songs and this may have elicited more anger.

Other explanations for the effect hinge on the nature of rap music, which has become a mouthpiece for the oppressed and those seeking sociopolitical change. Thus, rap music may arouse righteous anger related to dismay over sociopolitical issues, due to the music's political salience. Or, the angry reactions to rap music may reflect an underlying, covert racism. If the mostly White subjects have internalized racism, then they might react to rap (typically considered an African American music style) with higher trait anger reserve scores because of internalized fears, prejudices, or both. Likewise, because overt racism is socially unacceptable, the subject would be likely to suppress such feelings of anger, leading to higher anger-in scores. Thus, it is may not be rap music per se that elicited greater anger, but the cognitive stereotypes associated with rap. It would be interesting to use a more ethnically diverse population in extensions of this study.

A few limitations of the present study should be noted. First, the procedure was carried out in the relatively sterile environment of a college classroom; this setting may have restricted the impact of the music on the subjects' moods. In addition, the subjects heard the song to which they were exposed just twice, at a moderate volume. Because we examined subjects' responses to brief exposure to the music in controlled context, the results of this study might underestimate the impact of music on those who often listen to heavy metal or rap music. Additionally, the results might not reflect how people would respond to similar music in a natural environment, such as their room or a party. And, because the memory test was administered after the songs as a distractor, this may have moderated the impact of the songs on the subjects' emotional responses. Clearly there are limits as to how one can examine responses to music in a laboratory setting, but future studies could focus on increasing the length of exposure to musical stimuli, varying volume, conducting studies in more comfortable settings, and gathering emotional responses immediately.

A few other findings warrant discussion. First, gender did not interact with music type or lyrical content to affect responding on the dependent variables. Although no effects were hypothesized, the lack of gender effects is interesting given that more males than females prefer heavy metal music (Arnett, 1991a; Wass et al., 1988-1989). Second, the substantial lack of consistency in thematic classification of songs is related to findings that people often do not accurately analyze song content (Greenfield et al., 1987; Hansen & Hansen, 1991; Rosenbaum & Prinsky, 1987). The failure of some subjects to correctly classify the songs' themes may have influenced the results. A substantial minority of subjects incorrectly classified the nonviolent control songs as violent in nature. Some students may hold the belief that heavy metal and rap music are inherently violent, particularly because this belief is reinforced by the media, and thus failed to categorize the songs in light of lyrical content. If so, the differences between the songs were truncated and decreased variability.

Future studies should also include a broader range of music conditions, such as country and pop music. We did not include other types of music in this study because we could not find unfamiliar country or pop songs with violent themes. Rap and heavy metal music are both highly arousing and may elicit similar reactions in regard to moods other than anger. Other types of music may elicit different sorts of mood changes (e.g., such as depression) than those elicited by heavy metal or rap. And, if musical preference is related to emotional responding to music, there may be interactions between musical preference and responses to varying types of music. There is anecdotal evidence that people become irritable when exposed to music they do not like. Thus, although heavy metal fans may respond positively to listening to heavy metal music, they may respond negatively if forced to listen to country music and vice versa. Future research must also broaden the age range studied. These findings, from a sample of college students, may not be indicative of how individuals in early and midadolescence would respond to heavy metal and rap music.

Despite these limitations, the results of this study yield an experimental look at the impact of types of rock music on college students. As the media continues to permeate our lives to a greater degree, such research will become more important.

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THE IMPACT OF STUDENT EMPLOYMENT ON TEACHERS' ATTITUDES AND BEHAVIORS TOWARD WORKING STUDENTS

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Part-time and full-time work is increasingly common among many American high school students. There is a substantial body of research on the relationship of youth work with individual academic and socioeconomic outcomes, but we know little about how schools and teachers themselves have responded to the shift among their students toward intensified work involvement. Our research analyzes teachers' views of working students and the impact of student work upon classroom organization and performance. We find considerable concern on the part of teachers toward student employment but little evidence that they adjust their classroom behavior to accommodate working students. Years of teaching experience and experience as a parent of a working teenager have contradictory effects of teachers' perceptions of working students. We discuss the implications of these findings for the classroom performance of teachers and the social organization of schools.

The 1986 publication of Greenberger and Steinberg's *When Teenagers Work* refocused attention on the effects of part-time and full-time employment on the academic and nonacademic experiences of American high school students. Greenberger and Steinberg examined the increased rates of employment among high school students (albeit rates that vary across data sets [Lillydahl 1990, p. 307]) and the assumption that teenage

AUTHORS' NOTE: An earlier version of this article was presented at the Annual Meetings of the American Sociological Association, Pittsburgh, PA, August 20-24, 1992. Our thanks to Beth Allen, Anne Zelenski, and Mary Ellen Wacker for assistance.

YOUTH & SOCIETY, Vol. 27 No. 2, December 1995 169-193
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