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Comments on Stack and Gundlach's "The Effect of Country Music on Suicide:" An "Achy Breaky Heart" May Not Kill You*

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Abstract

Stack and Gundlach (1992) report a strong link between country music and metropolitan suicide rates for whites. In this article, we argue that the authors (1) fall into the methodological trap of the "ecological fallacy" and (2) present weak arguments on causality by purporting that a country music subculture, at least partially, explains suicides among whites in metropolitan areas. We conclude that inferences about individual behavior drawn from aggregate data are fallacious and that the authors fail to provide compelling evidence to support that country music is any different from others types of music in its relationship to individual life events and suicide.

In Stack and Gundlach's "The Effect of Country Music on Suicide" (1992), the authors purport to assess the link between country music and metropolitan suicide rates. They argue that country music "nurtures a suicidal mood through its concerns with problems common in the suicidal population, such as marital discord, alcohol abuse, and alienation from work" (211). They further postulate the existence of a national country music fan subculture that bears some relationship to social class and region and "that reinforces a suicidal mood conveyed in the themes of country music." Presumably, this subculture is one "that holds special values and beliefs and that interacts recurrently . . . [and that] is pulled together by such shared traits as mode of dress, taste in music, radio stations listened to, concerts attended, and a value attributed to rural lifestyles" (212). After conducting a multiple regression analysis of 49 metropolitan areas, the authors find that "the greater the percentage of radio time devoted to country music, the higher the incidence of white suicide; black suicide was unrelated to country music." The assumption is that "whites are the typical consumers of country music and are more closely tied to the country

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subculture than are blacks." Stack and Gundlach maintain that their model "explains 51% of the variance in urban white suicide rates," but that it is "largely inapplicable to black suicide rates." Finally, they assert that "while country music per se probably will not drive people to suicide, given its link to a subculture and its appeal to persons within the subculture who are already at increased risk of suicide, it can impact on suicide rates" (215).

While social correlate methods of study are widely used and published, these methods are also hotly debated (e.g., Baron & Reiss 1985; Moksony 1990). In the current instance, Stack and Gundlach committed sundry statistical and logical errors in the advancement of their argument that country music contributes substantially to suicide among whites in metropolitan areas. This article will first address the statistical errors in Stack and Gundlach's study and then will consider the lack of supporting evidence for the musical media and subculture causality scheme.

The Ecological Fallacy and Aggregate Data

The "ecological fallacy" (Robinson 1950) plays a major role in the methods of analysis for the study. Robinson's landmark work demonstrates that aggregate data may not reflect or predict relationships occurring at the individual level. Because of this limitation, it is just as likely that higher amounts of airtime dedicated to country music are related to a *lower* proclivity in the individual to commit suicide as it is likely that higher amounts of airtime are related to a higher proclivity.

Consider the following example. Table 1 displays some fictitious individual data in a 2-by-2 matrix. This first matrix represents the population data, or true relationship between our two variables (think of the numbers as thousands of people with either one of two characteristics for each variable). Additionally, Table 1 shows these data broken down into two different sets of three submatrices. This display represents two possible ways for the first matrix to be subdivided into geographical regions. The correlation coefficient for the first matrix is 0.00. There is no relationship between variables X and Y, and no way to predict variable Y from variable X. However, when broken down, the correlation coefficients become -.98 for the first column and +.98 for the second column.¹ This example implies that variable X nearly perfectly predicts variable Y in each possible subdivision and explains 96% of the variance, yet the direction is *not clear*. Hence, the aggregate data may have little or nothing to do with the relationships at the individual level.

Similarly, the 49 metropolitan areas (submatrices) used in Stack and Gundlach's study may contain exaggerated biases. The aggregate data may fail to account for what is actually occurring at the individual level. In any of these metropolitan areas, it is possible that none of the individuals who committed suicide ever listened to country music. In this case, there would be a perfectly negative relationship between listening to country music and individual suicide, yet none of the aggregate data would change. The relationship between aggregate data and individual behaviors are just what Robinson (1950) said they were, *not interchangeable*.

TABLE 1: Example of the "Ecological Fallacy" of Using Aggregate Data to Draw Conclusions about Individual Behaviors

Population Data				
Variable X				
Variable Y	3 7	10	$r = .00$	
	3 7	10		
	6 14			
Subdivision 1		Subdivision 2		
Variable X		Variable X		
Region 1		Region 1		
Variable Y	1 1	2	2 1	3
	2 1	3	2 1	2
	3 2		3 2	
Region 2		Region 2		
Variable Y	2 2	4	0 4	4
	0 4	4	2 2	4
	2 6		2 6	
Region 3		Region 3		
Variable Y	0 4	4	1 2	3
	1 2	3	0 4	4
	1 6		1 6	
$r_e = -.98$		$r_e = .98$		

More recent research on this relationship has attempted to support the use of ecological data to predict behavior at the individual level (Gove & Hughes 1980; Hanushek, Jackson & Kain 1974). In these attempts, researchers place the burden of bias on the specificity of the model being studied. That is, as additional related variables are considered, bias is reduced, but only for the aggregate data alone and not necessarily for the individual behaviors themselves. Even if one could account for all variance in such an aggregate model, it still may not be related to individual behaviors. So, although Stack and Gundlach attempted to provide a more complete model by accounting for poverty, southernness, divorce, and gun availability, these considerations may not improve the model's use as a predictor of individual suicidal behaviors.

Some behaviors are solely the act of *individuals* and should not be aggregated (Hanushek, Jackson & Kain 1974). Suicide is certainly one of them. Only through studies of individuals who have committed suicide (e.g., such as through so-called "psychological autopsies") can we ascertain the specific individual factors that precipitated the suicides and construct psychological mosaics of the deceased individuals (Berman & Jobes 1991). As Moksony (1990) states, results of analyses of aggregate data on suicide are "suggestive but not conclusive" and that "researchers must make serious efforts to uncover the conditions under which inferences from aggregate to individual data are still permissible" (121).

Further, while Stack and Gundlach found a relationship between amount of country music airtime, suicide rates among metropolitan whites, and other variables (e.g., divorce and southernness), they have not accounted adequately for directionality. Lacking data on individual cases of suicide, one cannot know (1) whether whites who are depressed and suicidal tend to listen to country music or (2) whether whites tend to become depressed and suicidal as a result of listening to country music. Likewise, one cannot determine (1) whether whites who are divorced tend to listen to country music, (2) whether listening to country music tends to cause their noncountry music fan spouses to divorce them, or (3) whether country music makes romantic conflict and divorce seem more normal for those individuals who are contemplating suicide, thus increasing the likelihood that they will attempt suicide. Finally, it is unknown (1) whether whites who are suicidal are more likely to live in the southern region of the U.S. or (2) whether living in the southern region of the U.S. tends to cause whites to become depressed and suicidal.

Though the methodological difficulties of Stack and Gundlach's analysis are sufficient to cast doubt on its validity, we would like to evaluate the authors' scheme of presumed causality and their arguments of media influences, specifically the effects of music, that are weak at best. Similarly, their application of subcultural theory to suicidal behavior is problematic.

Causality Scheme/ Subcultural Theme

Regarding the effect (or no effect) of cultural media (e.g., literature, music) on the self-destructive behavior of individuals, it is interesting to review briefly some perspectives on this topic.

MUSICAL MEDIA AND SELF-DESTRUCTIVE BEHAVIOR

A clear parallel can be drawn between the adolescent suicide rate and its purported relationship to rock music and the metropolitan white suicide rate and its purported relationship to country music. An oft-cited name on the list of rock musicians whose lyrics have been said to inspire suicide is Ozzy Osbourne. "Suicide is the only way out/Don't you know what it's really all about," sang the heavy-metal star in "Suicide Solution," from his album *Speak of the Devil*. The song was a favorite of a California adolescent, who one night in October, 1984 went to his bedroom, put *Speak of the Devil* on the stereo, put on the headphones, and shot himself with his father's pistol.

Regarding adolescent suicide and rock music, Wass, Miller, and Redditt (1991) comment that

a simple cause-effect relationship between exposure to destructive rock lyrics and subsequent destructive [and self-destructive] behavior is probably impossible to determine and, based on current knowledge of behavior, is unlikely. It is possible, however, that destructive lyrics, combined with other factors such as dysfunctional families, substance abuse, and problems in school, do lead to antisocial and destructive [and self-destructive] behavior. (200-201)

Applying this line of thought to the metropolitan white suicide rate and country music, one might proffer that a simple cause-effect relationship between exposure to suicidogenic themes in country songs and subsequent suicidal mood and/or suicidal behavior or completed suicide is probably impossible to determine and is questionable. However, it is possible that lyrics or themes that "nurture a suicidal mood," combined with other factors such as dysfunctional families, substance abuse (e.g., alcohol), and problems at work, do lead to parasuicide and completed suicide. What Stack and Gundlach seem to be arguing is that country music highlights certain problems and reinforces particular ways of viewing them and dealing with them. However, Stack and Gundlach only *barely* imply that — and certainly do not elaborate on how — country music and its purported subculture reinforces extant personal problems in individuals and foments suicidal moods or behaviors.

COUNTRY MUSIC SUBCULTURE?

Stack and Gundlach use an explanatory scheme of suicidogenic lyrical themes in country music and propose the existence of a country music subculture. As an example, they cite the study of "heavy metal music" by Gross (1990) as an example of how, in the context of a subculture, "the impact of music on mood and behavior can be multiplied" (212). The critical variable in this regard is what *is* the current cognitive, behavioral, and emotional state of the *individual*. It is instructive to draw a parallel with the widely denoted link between rock music, especially heavy metal, and adolescent suicide. Poland (1989) states that "the question is whether the music *causes* the suicidal and hopeless feelings or whether the music simply reflects societal unrest and feeling that are already present" (47) in the individual. While there are elements of truth to both positions (Barrett 1985), song lyrics with suicidogenic themes will have little impact on healthy individuals (Barrett 1985; Poland 1989). Stack and Gundlach's

whole notion and ardent assertion of the existence of a country music subculture is flawed. There is simply no evidence that one exists in any traditional sense, as in heavy metal or punk rock music. Based on data compiled by the Country Music Association (Chris Felder, pers. com. 1993), country music is listened to by a wide range of people from diverse educational and professional backgrounds, geographical areas, and income levels.

Trzcinski (1992) makes insightful comments about detractors and supporters of heavy metal music, comments that can apply to critics and fans of country music as well. He writes, "detractors of heavy metal music criticize it as supporting such antisocial behavior as drug abuse, suicide, abusive attitudes toward women, sexual perversion and glamorization of the occult, and satanic practices. Its supporters regard heavy metal music as creative, a form of entertainment without adult trappings and hang-ups, music that is fun and generally belongs only to young fans" (7-8). While one might argue whether there are any or as many detractors of country music as there are for some forms of rock music, it is tenable to reword Trzcinski's quote to read "detractors of country music criticize it as highlighting such problems as alcohol abuse, marital discord, and financial strain or such states as hopelessness or fatalism, loneliness, or bitterness. Its supporters regard country music as creative, a form of entertainment without pretense, music that is fun and belongs to fans of all ages." The fact is that each generation has, for example, its Ozzy Osbournes ("Suicide Solution") and its Alfred Reeds ("How Can a Man Stand Such Things and Live?"). Perhaps we should view country music not as a cause of suicidal ideation or behavior or other personal or societal problems, but rather as simply a reflection of our time and culture, a mirror of ourselves or our fellow Americans.

Summary

In sum, Stack and Gundlach fail to give compelling support that country music is any different from other types of music in relationship to serious life events and suicide. More importantly, even if a subculture of country music devotees does exist, the authors draw their conclusions from ecological, or aggregate, data. This type of analysis is tenuous under the best of circumstances. In this case, it is inappropriate: Aggregate data describe the behaviors of groups of people and suicide is an individual act that cannot be assessed through group statistics. Other than the 1978 incident at Jonestown in Guyana, there are few documented instances where groups commit suicide, and there is no evidence that those people listened to country music.

Notes

1. The formula for the first correlation matrix in Table 1 ($r = .00$) is adapted from Hays

(1973:744):

$$r_{xy} = \frac{bc-ad}{\sqrt{(a+b)(c+d)(a+c)(b+d)}}$$

The ecological correlations in Table 1 ($r_e = -.98$ and $r_e = .98$) are "the weighted correlation between the m (subgroup) pairs of X- and Y-percentages which describe the subgroups" (Robinson 1950:355).

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