Student Music Preferences and Aggressive Driving

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Abstract

College students (*N*=175) completed two surveys, one to evaluate music preferences and one to evaluate aggressive driving. Overall, music preferences were not significantly related to aggressive driving in college students. Limitation of this study and suggestions for future studies, including more experimental investigations, are discussed.

Introduction

Driving and music are two of the most popular activities in American culture. Most of the time these are done together thanks to the advancement of sound systems in cars. According to the DMV, road rage accidents have become a leading cause of death in children (2014). Research such as that done by Krahe and Bieneck (2012) reveals that there is a link between music and affect.

In light of the troubling DMV report, it is clear that we need to find a solution to aggressive driving and road rage or, at minimum, a way of curbing this type of driving behavior. Not only is aggressive driving responsible for crashes that kill drivers and passengers, but it has adverse effects on a person's health and their social life as well. As noted in chapter eight of the DMV's defensive driving guide, aggressive driving behavior leads to fines, loss of license, and other legal troubles. This affects a person's social life because if they have no transportation it is difficult to get to work and without work a person has no income to fight those legal battles, pay those fines, or go out with friends.

Some studies have even investigated the relationship between cognitive demand on a task and music like that done by North and Hargreaves (1999). They found that music affects cognitive tasks by competing for limited cognitive space. Music influences emotions and our driving behavior, however the cognitive demand of certain genres over others may have an impact on our driving performance as well and should also be considered.

Metal music might make drivers more aggressive as the music itself sets a very aggressive tone and the lyrics are usually aggressive as well (Williams, 2011). Reggae is more likely to make drivers less aggressive as the music sets more of a relaxed tone and the lyrics are usually happy (Williams, 2011). Therefore, the current study will investigate correlational relationships among music genres and aggressive driving in college students.

Current Study Hypotheses

This study was designed to investigate the correlation between music genre preferences and aggressive driving. Specifically, we were interested in reggae and metal genres. It was predicted that those who preferred metal music would be more aggressive drivers than those who preferred reggae music.

Method

Participants

One hundred and seventy five students from a medium sized, public university in the Southeastern United States participated in the current study. They were recruited and completed the study via SONA systems, an online platform for participation in research. The racial distribution of the sample included 77.7% Caucasian, 10.3% African-American, 4.0% Hispanic, and 8.0% other. The average age of the participants was 19 years (*SD*=2.24) and the average driving experience was 4 years and many of the participants were psychology majors (17.7%). The majority of participants were female (70.4%). Participants were mostly first year students (45.7%), sophomores (30.3), juniors (11.4%), and seniors (12.6%).

Materials & Procedure

Participants completed the Short Test of Music Preferences questionnaire or STOMP (Rentfrow & Gosling, 2003). The STOMP questionnaire was scored according to music genres including: Reflective & Complex, Intense & Rebellious, Upbeat & Conventional, and Energetic & Rhythmic. Participants also completed the Driver Anger Scale or DAS (Deffenbacher, Oetting, & Lynch, 1994). The DAS questionnaire was scored according to driving behaviors including: hostile gestures, illegal driving, police presence, slow driving, discourtesy, and traffic obstructions.

Participant age, sex, class rank, major, and years of driving experience were collected on a demographic questionnaire.

Results

To test our hypotheses, we correlated responses on the STOMP with the DAS. We report results for the four music categories of the STOMP, Reflective & Complex (Classical, Blues, Folk, & Jazz), Intense & Rebellious (Alternative, Rock, & Heavy Metal), Upbeat & Conventional (Country, Religious, Pop, & Soundtracks/Themes), and Energetic & Rhythmic (Dance/Electronica, Rap/Hip-Hop, & Soul/Funk) as well as the specific genres of Metal and Reggae in the Table.

On the DAS, police presence refers to seeing an officer on the road, or more specifically speed traps, driving in traffic near you, or pulling you over. Slow driving is when somebody, pedestrian or driver, impedes or slows down traffic. Discourtesy refers to situations such as being cut off, drivers not using turn signals, and ignoring how a three or four way stop works. Illegal driving refers to other drivers breaking the speed limit, running red lights or stop signs, and driving too fast for conditions. Traffic obstructions include road construction, unmarked potholes, and not being able to see around large vehicles.

Interestingly, females scored higher than males on the Hostile Gestures ($p<.03$) and Illegal Driving ($p<.04$) subsections of the DAS. Those students who had never been in auto accidents reported liking Upbeat & Conventional music more than those involved in accidents ($p<.05$). All other differences were not significant.

Table. Correlations between Music Genre Preferences (STOMP) and Driver Anger Scale (DAS)

		Reflective and Complex	Intense and Rebellious	Upbeat and Conventional	Energetic and Rhythmic	Metal	Reggae
Driving Experience in Years	Pearson Correlation	.133	.017	.033	-.037	.069	-.028
	Sig. (2-tailed)	.079	.820	.661	.624	.364	.712
	N	175	175	175	175	175	175
Hostile Gestures	Pearson Correlation	-.056	-.046	-.024	-.104	.037	-.144
	Sig. (2-tailed)	.462	.548	.752	.169	.630	.056
	N	175	175	175	175	175	175
Illegal Driving	Pearson Correlation	.038	.052	.034	-.055	.031	-.144
	Sig. (2-tailed)	.615	.497	.655	.467	.686	.058
	N	175	175	175	175	175	175
Police Presence	Pearson Correlation	-.051	-.151*	-.079	-.106	-.053	-.059
	Sig. (2-tailed)	.503	.046	.298	.162	.483	.439
	N	175	175	175	175	175	175
Slow Driving	Pearson Correlation	-.256**	-.221**	-.158*	-.139	-.107	-.175*
	Sig. (2-tailed)	.001	.003	.037	.066	.159	.020
	N	175	175	175	175	175	175
Discourtesy	Pearson Correlation	-.193*	-.077	-.161*	-.132	-.047	-.153*
	Sig. (2-tailed)	.011	.313	.033	.083	.539	.043
	N	175	175	175	175	175	175
Traffic Obstructions	Pearson Correlation	-.066	-.091	-.059	-.024	.020	-.129
	Sig. (2-tailed)	.384	.233	.438	.752	.793	.089
	N	175	175	175	175	175	175
Age	Pearson Correlation	.227**	.055	.077	.028	.081	.034
	Sig. (2-tailed)	.003	.474	.314	.710	.288	.657
	N	174	174	174	174	174	174

Discussion

We found that our hypothesis was not supported as students who reported listening to Metal did not show significant indications of anger on the DAS questions. While those participants who reported listening to Reggae were less bothered by slow driving and discourtesy, so too were participants who reported listening to Reflective & Complex as well as Upbeat & Conventional music.

Although studies like the one by Krahe and Bieneck (2012) suggest a link between music and affect and others a link between tempo and speed (Brodsky, 2002) our results were inconclusive. Even if a clear correlation between aggressive driving behaviors and music genre had been established you cannot control what a driver listens to in their vehicle. Future studies should be done with a simulator with different types of music that can be programmed to take participants through the situations described in the DAS. To get a more accurate rating of anger, participants could also have their physiological indicators of anger, such as increased perspiration and heart rate, monitored while completing the driving task on the simulator.

Limitations of this study include a sample size of predominately women. Also participants were not observed in situations described in the DAS questionnaire. All results were from self-reported sources made in an uncontrolled environment.

Results show that music may have an effect on aggressive driving or at least attitudes towards aggressive driving, however we cannot recommend listening to certain music genres to decrease aggressive driving based on this research.

Selected References

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