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Sounds of Silence for the Walkman Generation: Rock Concerts and Noise-Induced Hearing Loss

ERIC DANIEL JOHNSON*

"Hope I die before I get old...."

INTRODUCTION

Every year, millions of people experience the sonic assault our society labels a "rock concert." For many people, dancing in a bath of colored lights to the distorted scream of an electric guitar represents an ideal recreational activity. However, something terrible happens every time the house lights dim and the band starts playing. A dangerous condition is created, to which everybody in attendance is exposed.

The danger does not lie in the music's content or in backward, masked subliminal messages, but deep within the physiology of the human ear. The human ear is designed to detect the padded footfall of a predator looking for dinner, not the 130-plus decibels blast of a Vanilla Ice concert. Music at rock concerts reaches volumes that damage and destroy delicate mechanisms in the inner ear, sometimes to such an extent that the body is incapable of

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1. THE WHO, My Generation, on THE WHO SINGS My GENERATION (MCA Records 1966). Perhaps this quote refers to a fear of developing Presbycusis, the natural loss of hearing associated with the aging process. Pete Townshend, lead guitarist for The Who and writer of My Generation, is singing a different song these days: "[I]‘ve shot my hearing; it hurts and it’s painful, and it’s frustrating when little children talk to you and you can’t hear them...." Peter Cohen, Drumming: How Risky Is It to Your Hearing, MOD. DRUMMER, Oct. 1990, at 3 (quoting Pete Townshend).

2. See Chuck Philips, Rock Ain’t Rolling: Prices Up, Attendance Down Nationwide, L.A. TIMES, Aug. 10, 1991, at F1 (reporting that the top five grossing summer concert tours of 1991 had attendance in excess of nine million people). Since there were many more rock bands on tour and this only represents a three- or four-month period of time, the true yearly attendance figure must be many times higher.

3. When referring to the ear, the reference is to the complete human hearing system, including the neural systems associated with the sense of hearing.

4. “Decibel . . . .: a unit for measuring the relative loudness of sounds equal approximately to the smallest degree of difference of loudness ordinarily detectable by the human ear . . . .” WEBSTER’S THIRD NEW INTERNATIONAL DICTIONARY 585 (1986).

5. Names in the News, VANCOUVER SUN, Aug. 31, 1991, available in LEXIS, Nexis Library, Omni File. At the South Dakota State Fair, rap singer Vanilla Ice was asked to play a quieter show than his usual 130-plus decibels show. His manager replied: “Ice would do his regular concert or nothing.” Id.
The result in such instances is noise-induced hearing loss (NIHL), an irreparable medical condition. Literature outside the legal profession is replete with articles discussing the NIHL problem. A central concern of much of this literature is society’s ignorance about NIHL. A secondary focus is the lack of regulations governing leisure-time activities. However, there is little legal scholarship on non-occupational NIHL. This Note’s central purpose is to suggest changes to align society’s regulatory structure with existing medical knowledge about NIHL. Part I of this Note presents a foundation of medical and statistical information relating to NIHL; Part II proposes two potential forms of legislation; and Part III presents and examines objections to this legislation. This Note concludes, based on scientific evidence and


7. Consensus Conference Report, Noise and Hearing Loss, 263 JAMA 3185 (1990) [hereinafter Noise and Hearing Loss] (stating that NIHL, a preventable but not treatable disease, is hearing loss caused by exposure to noise of sufficient duration and intensity); see also infra note 13 and accompanying text.

8. See, e.g., Rock Music Is Still Considered a Major Culprit in Hearing Loss, supra note 6 (reporting that “the only way to treat [NIHL] is to identify the cause early and stop the progression”); Ron Kotulak & Jon Van, Listen, Briefly, for Noises that Harm, CHI. TRIB., July 1, 1990, § 6, at 3 (quoting Dr. Patrick Brookhouser, consensus panel chairman on a National Institutes of Health consensus report) (“Sounds of sufficient duration and intensity . . . will produce hearing loss that is not reversible by any presently available medical or surgical treatment . . .”).

9. See, e.g., Noise and Hearing Loss, supra note 7, at 3189 (advocating aggressive education to solve the problem of lack of public awareness about NIHL; the article notes that “[h]earing loss from nonoccupational noise is common, but public awareness of the hazard is low”); Aram Glorig, Noise: Past, Present and Future, 1 EAR & HEARING 4, 9 (1980) (“Education on hearing conservation is important, even more so than many other kinds of safety education. The consequences of noise exposure are not as obvious as are those from accidents.”); Judith K. Montgomery & Sharon Fujikawa, Hearing Thresholds of Students in the Second, Eighth, and Twelfth Grades, 23 LANGUAGE SPEECH & HEARING SERVICES SCHS. 61, 62 (1992) (“The use of personal noise protection during high level noise exposure should be encouraged as a part of the educational program.”).

10. See, e.g., Noise and Hearing Loss, supra note 7, at 3189 (“Model community ordinances could promote local planning to control environmental noise and, where feasible, noise levels at certain spectator events.”). But cf. David Schwartz & Penny R. Jacob, The Ear: A Terrible Thing to Waste, MIX MAG. (photo. reprint 1991) (quoting Bruce Jackson, live sound designer for Bruce Springsteen: “There is a sound level threshold below which a . . . concert becomes less exciting. . . . It becomes a problem when unrealistic local ordinances restrict us from [providing] adequate sound to the back of the house.”).

11. Most legal literature that discusses NIHL relates to industrial practices, farming, or zoning regulations.

12. A recent article stated, somewhat negatively, that allowing regulation of the permissible decibel level of a rock concert will allow “concertgoers [to] sue promoters and/or performers of rock concerts for hearing loss resulting from such concerts.” Macy E. Stern, Does a Performer Have a First Amendment Right to Impair Your Hearing: Recent Restrictions on Freedom of Expression in the Context of Rock Concerts, HOFSTRA ENT. & COPYRIGHT L. DIG., Nov. 1990, at 6. This Note makes no conclusion about the desirability of allowing a private cause of action in tort for causing NIHL.
public-policy concerns, that some form of regulation is needed to protect the public from damaging decibel levels at public events.

I. THE NIHL PROBLEM

A. Physiology of the Human Ear

Noise-induced loss of hearing is an irreversible, sensorineural condition that progresses with exposure. Although hearing ability declines with age . . . in all populations, exposure to noise produces hearing loss [in addition to] that resulting from the natural aging process; this is caused by damage to nerve cells of the inner ear (cochlea) and, unlike some conductive hearing disorders, cannot be treated medically.13

The human ear is a delicate sensory organ capable of detecting sounds that move the eardrum distances best measured in atomic units.14 The structures responsible for translating the mechanical pressure waves from the air into neural signals received by our brains are the stereocilia of the inner ear.15 While other structures are also susceptible to noise-induced damage, the hair-like stereocilia are the weakest part of the hearing mechanism.16

The stereocilia act like microscopic switches. Sound waves bend the hairs and “turn them on.” This starts a complex biochemical process that converts the motion of the stereocilia into neural signals. These signals are sent to the brain, causing the perception of sound.17 Stop the stimulation and the hair cells straighten; the switch is turned off, which we perceive as silence. Louder sounds bend the stereocilia more than softer sounds. When the stereocilia are overstimulated (bent too far), they take longer to recover; this manifests itself as a “ringing” in the ears known as “tinnitus.”18 After repeated instances of

14. BARBARA CANLON, THE EFFECT OF ACOUSTIC TRAUMA ON THE TECTORIAL MEMBRANE, STEREOCILIA, AND HEARING SENSITIVITY: POSSIBLE MECHANISMS UNDERLYING DAMAGE, RECOVERY, AND PROTECTION 7 (1988) (“It has been estimated that the human ear can detect sounds that are so weak that it causes the eardrum to vibrate less than the diameter of a hydrogen molecule.”).
15. Id.
16. Id. at 13.
18. Elliott Murphy, Townshend, Tinnitus and Rock & Roll, ROLLING STONE, July 13, 1989, at 101 (“Tinnitus . . . is an annoying and unceasing ringing, rumbling or staticky sound in the ears that rarely goes away.”).
overstimulation, or even after one instance if the stimulation is intense enough, the stereocilia will be damaged or killed—the switch is broken.19

Noise-induced hearing loss is a devastating disorder because it is an insidious process. The victim typically will not notice the impairment until speech becomes difficult to understand.20 This is because NIHL starts in the higher frequencies and spreads to the lower frequencies in the human sensory range.21 It is the higher frequencies that carry the information necessary to differentiate one speech sound from another.22 Thus, someone developing NIHL might not notice the problem until he or she starts to hear “goad” instead of “soap”23 and “fish” instead of “fist.”24 At this point, unfortunately, the damage is irreparable.25

A hearing aid cannot cure the problem,26 and hearing aids cannot be used even to treat some cases of NIHL.27 Thus, NIHL has a major impact on people’s lives. Hearing loss can make it difficult to conduct almost any kind of business activity, and listening to music would be difficult, if not completely unenjoyable.28 For victims of NIHL, everyday activities once taken for granted become a source of stress.

19. Noise and Hearing Loss, supra note 7, at 3186; Rock Music Is Still Considered a Major Culprit in Hearing Loss, supra note 6, at 133 (“Hair cells in the inner ear that are damaged by excessive noise look as though they exploded, or someone stepped on them.”).
20. Noise and Hearing Loss, supra note 7, at 3188.
21. Id. at 3186.
22. Id.
23. Vowel sounds are recognizable for a longer period of time than consonants. Eventually, someone suffering NIHL will hear only vowels. Sandy Rovner, It’s a Noisy, Noisy World, WASH. POST, Feb. 6, 1990, at Z11.
24. Leading Work-Related Diseases and Injuries—United States, supra note 13, at 2133.
25. Id.; see supra notes 6-8 and accompanying text.
26. Peter Jaret, The Rock & Roll Syndrome, IN HEALTH, July-Aug. 1990, at 51, 53. Hearing aids are fitted to an individual ear by determining what frequencies the ear has trouble hearing. The hearing aid is set to amplify those frequencies so that the person with the hearing aid will perceive sound as if he had no hearing loss. A hearing aid may compensate for NIHL, but it cannot repair the damage.
27. Noise and Hearing Loss, supra note 7, at 3185; Departments of Labor, Health and Human Services, Education, and Related Agencies Appropriations for 1992: Hearings Before the Subcomm. on the Departments of Labor, Health and Human Services, Education, and Related Agencies of the House Comm. on Appropriations, 102d Cong., 1st Sess. 1747, 1761 (1991) (statement of Dr. James B. Snow, Jr., Director, National Institute on Deafness and Other Communication Disorders) (“[T]here are certain circumstances where hearing aids simply cannot and should not be used. . . . [T]his is particularly a problem with the sensorineural hearing losses . . . .”).
28. The problems associated with a loss of a sensory system are severe. Most people do not realize the extent to which they rely upon their sensory systems until one of them is taken away.
B. The Extent of the NIHL Problem

An estimated thirty million Americans suffer some form of hearing loss.\(^29\) Ten million of these cases are attributable to noise exposure.\(^30\) Twenty to forty million Americans are exposed regularly to damaging levels of noise, and thus are at risk of developing NIHL.\(^31\) In fact, scientific data indicate a recent sharp increase in the incidence of NIHL.\(^32\) One explanation is that more children are developing NIHL,\(^33\) often because of exposure to high volume music.\(^34\) This is particularly relevant since many of the people attending rock concerts are young.\(^35\) These same people are also likely to listen to music on personal stereos, something that represents a recent and dangerous development from the standpoint of hearing conservation.\(^36\)

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\(^{30}\) Id.; Bill Stokes, Sound Progress, CHI. Trib., Oct. 6, 1991, at 11 (The Good Health Magazine) (reporting that 28 million suffer hearing loss; at least 10 million caused by noise exposure); Noise and Hearing Loss, supra note 7, at 3185 (reporting that 10 million people suffer from NIHL).

\(^{31}\) 30 Million Have Some Loss of Hearing, supra note 29, at 60 (“[T]he American Speech-Language-Hearing Association says more than 40 million Americans work, play and live around noise that may be dangerously loud.”); Noise and Hearing Loss, supra note 7, at 3185 (“More than 20 million Americans are exposed on a regular basis to hazardous noise levels that could result in hearing loss.”).


\(^{33}\) See, e.g., 137 CONG. REC. E3712-13 (1991) (statement of Rep. Patricia Schroeder) (reporting one million cases of NIHL in children under the age of 18); Smith, supra note 32. According to audiologist Dean Garstecki, head of the hearing-impairment program at Northwestern University, “we’ve got 21-year-olds walking around with hearing-loss patterns of people 40 years their senior.” Anastasia Toufexis, Now Hear This—If You Can, TIME, Aug. 5, 1991, at 50, 51.

\(^{34}\) Hearing researcher John House, president of the House Ear Institute in Los Angeles, foresees an increasing problem with NIHL caused by loud music. Rock Music Is Still Considered a Major Culprit in Hearing Loss, supra note 6, at 133. In a study of 94 children with NIHL, live or amplified music was the second most often identified cause, comprising 12% of the total cases. The most often identified cause was fireworks/firearms, comprising 46% of total cases; only in 70% of total cases could a cause be identified. 137 CONG. REC. E3712-13 (1991) (statement of Rep. Patricia Schroeder) (citing Brookhouser et al., 1991). A British study concluded that people between the ages of 15 and 23 who regularly use personal stereos and attend concerts suffered hearing loss at twice the rate of their peers. Id. at E3712 (citing West and Evans, 1990). A New Kids on the Block concert averaged 98 decibels. Id. (citing Clark, 1991, and Brookhouser, 1991); see infra note 39.

\(^{35}\) Approximately 4,500 out of the 15,000 fans at a Steve Miller concert were under the age of 18. Paul Colford, Rock of Ages Draws the Crowds, NEWSDAY, Sept. 15, 1991, at 21. Steve Miller is a venerable rock star who has been in the business since the 1960s; the proportion of young people at rock concerts given by newer acts is likely to be much higher.

Furthermore, it is not known if children are more sensitive to noise than adults. In fact, this uncertainty led one pediatrician to caution: "[T]he absence of knowledge concerning the noise sensitivity of the hearing organ in children implies the need for a cautious attitude."38

II. PROPOSED RESPONSE TO THE NIHL PROBLEM: MODEL LEGISLATION

While Congress recognizes NIHL as a problem, little has been done to prevent it outside the workplace. Regulations have been promulgated controlling the level of noise to which employees may be exposed. These regulations allow eight hours of exposure at ninety decibels; the maximum time of exposure must be decreased fifty percent for each five-decibel increase above that level. Thus, according to OSHA regulations, at a 130-decibel Vanilla Ice concert, the maximum time of exposure for employees is

37. "Most authors agree that criteria adopted for adults . . . could not be applied to children because the comparative noise sensitivity is unknown." Alf Axelsson, Noisy Toys: A Possible Source of Sensorineural Hearing Loss, 76 PEDIATRICS 574, 574 (1985).

38. Id. at 577. While this article was referring to the noise level generated by toys, the statement is also applicable in the present context. The article concludes that there is circumstantial evidence indicating that children may be more susceptible to NIHL than adults. Id. at 578.


41. Note that the decibel scale is not a geometric scale, but a logarithmic scale. Thus, for each three-decibel increase, the amount of sound energy is doubled. See Rock Music Is Still Considered a Major Culprit in Hearing Loss, supra note 6. This distinction is important when examining comparative decibel levels of concerts to determine how long the ear may be exposed before damage occurs.

42. Noise Exposure Standard, supra note 39. While the sound intensity is doubled with every three-decibel increase, the U.S. government standard uses a more permissive five-decibel increment. The International Standards Organization standard 1999.2 (1989) recognizes the three-decibel rule rather than the five-decibel rule.
exceeded less than two minutes after the start of the concert. Even when earplugs are worn, damage starts sixty minutes into the concert.

Admittedly, the Vanilla Ice concert is an extreme example. However, it is not as extreme as it sounds. A review of the literature indicates that it is common for concerts to average 120 decibels; going to see a concert this loud is analogous to sticking your head under the hood of a car and listening to the horn blow for one or two hours.

This Note proposes legislation with the goal of reducing the future incidence of NIHL in the United States. Two possible methods by which this goal might be achieved are (1) requiring a posted warning at concert venues, or (2) actually setting a ceiling on the decibel level of concerts. This Note refers to the first type of proposed legislation as “warning” legislation. The second proposed type of legislation is referred to as “control” legislation.

Warning legislation is common in our society. Examples are cigarette and alcoholic beverage packaging and the packaging on almost all consumer products. Legislation designed to deal with the NIHL problem might read as follows:

It shall be unlawful for any person or entity to promote or sponsor any event involving amplified sound to which the public is invited, and at which employees subject to the Occupational Safety and Health Act of 1970 are present, if under the terms of the Department of Labor Occupational Noise Exposure Standard, hearing protection would be required for the sponsor’s employees working at the event, unless the following statement is located in a conspicuous place at every public entrance to the event: “Warning: This event involves sound levels loud enough to cause incurable hearing loss or deafness. Workers at this event wear ear protection as required by federal law.”

43. Cf. Rock Music Is Still Considered a Major Culprit in Hearing Loss, supra note 6 ("Rock concerts, the enemy of the ear, with their usual decibel level of 120, can be safely listened to for about 7.5 minutes . . . . If the level goes up to 125, the safety margin becomes three minutes when ear damage sets in . . . .").

44. This assumes that earplugs reduce the intensity of the sound entering the ear by about 25 decibels. See Cohen, supra note 1, at 5.

45. See, e.g., Rock Music Is Still Considered a Major Culprit in Hearing Loss, supra note 6; 137 CONG. REC. E3712 (1991) (statement of Rep. Patricia Schroeder) (listing rock concerts at 130 decibels); Frank James, Rock 'n—Say What?, CHI. TRIB., July 21, 1989, § 5, at 1, 2 (“When they’re really cooking, Metallica, the Cult or your plain generic rock group can hit 120 decibels.”); Elizabeth Venant, The Fury and The Sound, L.A. TIMES, Aug. 30, 1991, at E1-2 (stating that rock concerts can reach 130 decibels); 30 Million Have Some Loss of Hearing, supra note 29 (finding rock concert decibel levels to be about 120 decibels).

46. Leigh Silverman, Earning a Deaf Ear: Loud Music & Hearing Loss, AUDIO, Jan. 1989, at 76, 78. If Johnny asked Sally to go see a Metallica concert, Sally might respond with some enthusiasm about such a great date. If, however, Johnny asked Sally to stick her head under the hood of the car and listen while he honked the horn for two hours, Sally would (rationally) think Johnny was crazy. This analogy, while amusing, illustrates the effects a concert has on hearing.
Such statement shall also be located in a conspicuous place on every advertisement for the event, as well as on all tickets for admission. The statement must appear in conspicuous and legible type in contrast by typography, layout, or color with other printed matter on the advertisement. In the case of broadcast media advertisements, this warning must be communicated in an intelligible manner during the last ten seconds of such advertisement. 47

This legislation would inform the public of the NIHL risk associated with loud music. 48 Under this language, the legislation would reach any concert at which employees subject to OSHA are required to wear hearing protection devices, such as earplugs. 49 Thus, it would reach almost every concert or bar venue involving amplified music. 50 The warning would be seen at the entrance to the venue, as well as on advertisements and admission tickets. The warning could also be heard during broadcast media advertisements. This would increase the likelihood that individuals would purchase hearing protection prior to the event. 51

Warning legislation has many advantages. It is inexpensive to implement and enforce, and does not excessively intrude upon personal liberty. In addition, the similarity between the proposed legislation and existing regulations provides a well-established body of literature to draw upon in interpretation and enforcement of the new legislation. However, on the negative side, the effectiveness of warning legislation is uncertain. Warning legislation also fails to solve the problem of NIHL; it merely points out its existence to the public. 52

The alternative control legislation this Note proposes would regulate the permissible peak decibel level of a concert via an established standard 53 coupled with an enforcement mechanism, such as requiring the electricity powering the amplifiers to be turned off or imposing civil or criminal

48. See supra notes 19-45 and accompanying text.
49. See supra notes 39-41 and accompanying text.
50. The proposed legislation would impact any public concert, but it would leave private listening situations untouched.
51. Alternatively, legislation could require that ear plugs be available at concert venues and bars to patrons who request them.
52. However, in jurisdictions that recognize assumption of risk as an affirmative defense in a tort action, a warning might act as a complete bar to tort recovery.
53. For example, the regulation might set a maximum level of 110 decibels. See Schwartz & Jacob, supra note 10. Dr. John House, president of the House Ear Institute, suggests “a limit of 110 dBA as the maximum—the peak level—at concerts . . . . 90 dBA would be too low because people don’t go to concerts eight hours a day, five days a week . . . anything over 110 dBA is . . . potentially harmful.” Id.
penalties.\textsuperscript{54} The goal would be to prevent concerts from reaching harmful listening levels.

While control legislation would be more effective than warning legislation, control legislation would be more expensive and difficult to implement and enforce; in sum, it is more complicated than warning legislation.\textsuperscript{55} Control legislation also intrudes more into issues of personal autonomy.

Despite the disadvantages of each form of legislation, for the reasons advanced in Part I, this Note advocates passage of some form of legislation governing these issues. As with any controversial issue, however, there are opposing viewpoints. The next Part sets forth and examines three likely objections to the proposed legislation.

\section*{III. ANALYSIS OF OBJECTIONS TO THE PROPOSED LEGISLATION}

Three likely objections to almost any form of proposed legislation are that such legislation is: (1) unnecessary, (2) paternalistic, and thus not desirable, and (3) not within the scope of the legislature's power. The objection that NIHL legislation is unnecessary is really a combination of three discrete arguments: (a) it is unnecessary because the NIHL problem is not large enough to justify legislation, (b) it is unnecessary because public events such as concerts are not a significant cause of NIHL,\textsuperscript{56} and (c) it is unnecessary because legislation will not reduce the incidence of NIHL. Paternalism, as used in the second objection, means that the legislature is taking action to protect an individual from himself without his consent. The argument is that paternalistic laws infringe upon personal autonomy, and thus are undesirable. In the NIHL context, the third objection, that such legislation exceeds the power of the state and federal governments, can be split into two separate

\begin{footnotesize}
\begin{enumerate}
\item See, e.g., Stem, supra note 12, at 9 (suggesting a volume-limiting device as a possible way to control the volume of a concert).
\item Due to the technical complexities in measuring and reproducing sound, this Note does not include model language for the control legislation.
\item This argument runs as follows: Even if NIHL is a problem in our society, concerts are not the cause. If concerts were the cause, a clearer evidentiary picture would appear explicitly implicating concerts as a cause of the NIHL problem.

Experts in the field disagree about the extent of the problem. According to Edward L. Applebaum, Chairman of the Ear, Nose, and Throat Department at the University of Illinois College of Medicine, "The extent of the problem is unclear . . . we don't see a large number of people with noise-induced hearing loss from rock." See James, supra note 45, at 2. Some patients do exist, however, and Applebaum warns that he is not sure if there is a problem or not. In contrast, Rebecca Merideth, an audiologist in California, has tested 30 musicians and all of them displayed some degree of NIHL. "It's . . . overwhelming evidence for me that there's a major problem here." Id.
\end{enumerate}
\end{footnotesize}
arguments: (a) either such legislation violates the First Amendment freedom of speech guarantee or (b) it violates the Due Process Clause of the Fourteenth Amendment. While other objections exist, the three outlined above seem the most convincing, and consequently are analyzed in the next section. For the sake of clarity, each objection is examined in turn.

A. Is NIHL Legislation Necessary?

The objection that this legislation is unnecessary cannot withstand close scrutiny. The magnitude of the problem alone suggests that some form of legislation is necessary. The loss by an individual of a sensory system is not a "trivial" problem, but a devastating disability that society should approach with complete seriousness. While Congress already recognizes NIHL as a problem, nothing has been done to prevent its occurrence during leisure activities. If the disability is serious enough to allow recovery when it occurs in the workplace, legislatures should take steps to prevent its occurrence during leisure activities.

It might be argued, however, that while NIHL is a problem, concerts are not a significant cause of the affliction. Thus, the argument goes, NIHL legislation would be ineffective because it would not attack the root of the NIHL problem.

57. An estimated $835 million was paid in workers' compensation claims for occupational hearing impairment in the period 1978 to 1987. Leading Work-Related Diseases and Injuries—United States, supra note 13, at 2135. If 20 to 40 million Americans are at risk of developing NIHL, it likely will be as expensive if not more expensive. Logic suggests that society should try to limit such a massive cost. See also supra notes 29-31 and accompanying text.

58. "The problems of deafness are more complex if not more important than those of blindness. Deafness is a much worse misfortune because of the loss of the most vital stimulus, the sound of the voice that brings language, sets thoughts astir and helps us in the intellectual company of man." Rovner, supra note 23 (quoting Helen Keller).

59. See supra note 39.

60. Occupational Hearing Loss Called Greatest 'Medico-Legal' Problem, 16 Noise Reg. Rep. (BNA) No. 5, at 37 (Feb. 27, 1989). Compensation under Federal Employer's Compensation Act for loss of hearing in one ear could reach $43,000; under the Federal Longshoremen's Act, it could reach $26,000. For loss of hearing in both ears, these numbers become $166,000 and $99,000 respectively. State benefits for loss of hearing in one ear range from $2,900 to $23,000; for loss of hearing in both ears, the range is from $11,000 to $80,000. Id.

61. Our society already takes steps to protect people during leisure activities, but more needs to be done. Imagine Johnny's mother and father. When they go to work in a factory, their hearing is protected by federal law. When Johnny goes to see Metallica with Sally, however, their hearing is dependent upon the whim of a sound man for the band. If the problem is serious enough to enact workplace regulations, something should be done to protect people at concerts. See supra notes 39-46 and accompanying text.
Yet, even if concerts are not the sole cause of NIHL, they play some role in the process.\textsuperscript{62} NIHL is caused by a cumulation of damaging noises. An individual's exposure to noise during the day consequently reduces the level of permissible noise exposure at night.\textsuperscript{63} For example, if a person works in a noisy\textsuperscript{64} environment or experiences other noise exposure during the day and goes to a concert at night, the damage is cumulative, not exclusive.\textsuperscript{65} Loud concerts also condition\textsuperscript{66} people to listen to loud music, which might lead to loud home and personal stereo listening. Moreover, concerts frequently attain ear-damaging volumes. They do not just have a probability of causing damage, they actually cause damage. These factors indicate that, no matter what role concerts play in causing NIHL, something needs to be done to protect the public.

It could also be argued that this legislation is unnecessary because it will fail to achieve its stated goal of reducing the incidence of NIHL. However, control legislation would regulate or eliminate a cause of NIHL, damaging decibel levels at concerts.\textsuperscript{67} Warning legislation, on the other hand, would be accurately targeted at a high-risk group: people who attend concerts are also frequent participants in other high risk activities that contribute to NIHL.\textsuperscript{68} Thus, these individuals would learn that loud music is harmful, and perhaps apply this knowledge when they engage in private activities. Finally, the controversy that both types of legislative proposals would generate educates the public of the existence and severity of the NIHL problem.

\textsuperscript{62} Silverman, \textit{supra} note 46, at 79 ("Hearing loss can develop in rock fans after fewer than ten concerts.").

\textsuperscript{63} \textit{See Noise and Hearing Loss, supra} note 7; \textit{Noise Exposure Standard, supra} note 39 (explaining that noise-induced damage is a function of time of exposure and intensity of exposure); \textit{Leading Work-Related Diseases and Injuries—United States, supra} note 13, at 2133 ("Noise-induced loss of hearing is an irreversible, sensorineural condition that progresses with exposure.").

\textsuperscript{64} Imagine a worker in a factory. This worker has an eight-hour shift in a factory with a decibel level of 90. According to the Department of Labor Occupational Noise Exposure Standard, this worker has suffered maximum allowable sound exposure. \textit{Noise Exposure Standard, supra} note 39. If this worker then goes to a concert at night, it is likely that damage will occur more quickly and be more severe because of the daytime exposure. \textit{Cf.} \textit{137 Cong. Rec. E3712} (1991) (statement of Rep. Patricia Schroeder).

\textsuperscript{65} \textit{Noise Exposure Standard, supra} note 39, table G-16 n.l.

\textsuperscript{66} An alternative explanation to concerts conditioning people to listen to loud music is a "vicious circle" argument. Listening to loud music leads to NIHL, which makes it more difficult to hear, which leads to louder listening levels. This occurs frequently in the music industry. \textit{See} Cary Tennis, \textit{Crank It Down}, \textit{EQ}, Sept.-Oct. 1990, at 22.

\textsuperscript{67} \textit{See supra} notes 39-45 and accompanying text.

\textsuperscript{68} \textit{See, e.g.,} \textit{137 Cong. Rec. E3713} (1991) (statement of Rep. Patricia Schroeder); \textit{see also supra} note 36.
This Note advances two more arguments which indicate a need for this legislation. The first is an economic efficiency argument, and the second is referred to as “Gap Theory.”

An economic efficiency argument depends essentially on a cost-benefit analysis between multiple approaches to a problem. Society is not currently dealing with the NIHL problem. Thus, an increasing number of people are at risk of developing NIHL. If this trend continues, it can be assumed that eventually some expenditure of resources will be necessary either (1) to attempt to ease the problem, or (2) to attempt to solve the problem. However, preventative action now, consisting of public education or regulatory controls, would be far less costly than trying to cure NIHL in the future. Instead of allowing this problem to grow any worse, the most economically efficient solution would be to take steps now to lessen the impact of the problem. Legislation is one such step.

A final argument supporting the need for some form of legislation is labeled “Gap Theory.” This theory suggests that the statistical evidence regarding the impact of NIHL in our society is deceptive for two reasons. First, noise exposure in society has grown dramatically in recent years, especially among children; second, the full effects of harmful noise exposure take years to manifest. The suggestion is that NIHL exists as an even larger problem than it appears statistically because a difference exists between the lifestyles of children in the United States (the “Walkman Generation”) and the way their parents lived when they were children. This difference, combined with the delay between exposure to noise and onset of noticeable hearing loss creates a “generation gap” in society that obscures the true magnitude of the NIHL problem.

The existence of this gap cannot be proven with certainty. However, available evidence leads to an inference that this gap exists. Loud music is a relatively recent development in our society. Rock music did not develop until the 1950s, and the sound systems that are a hallmark of today’s concerts were developed during the 1970s. Thus, only for the last ten or twenty years

69. It seems logical to assume that development of a treatment for NIHL would be costly, given the high price of medical technology today.

70. National Strategy for the Prevention of Noise-Induced Hearing Loss Proposed, 16 Noise Reg. Rep. (BNA) No. 2, at 11 (Jan. 16, 1989) (“Because no remedial action can completely restore or compensate for hearing capacity that has been lost, prevention is the preferred strategy.”).

71. See supra notes 20-25 and accompanying text.

72. Noise from Leisure Activities Getting Less Attention, 17 Noise Reg. Rep. (BNA) No. 3, at 20 (Jan. 29, 1990) (noting that in rock concerts 10 years ago, amplifiers were 20,000 to 30,000 watts; whereas, concerts today have amplifiers of 100,000 to 500,000 watts. “These levels imply an immediate risk for acoustic trauma and hearing loss”).
have concertgoers commonly been exposed to damaging levels of noise. This time frame coincides with the development of personal, portable stereo devices ("Walkmans," as labeled by the Sony Corporation), which also represent a serious danger to the hearing of users.\footnote{See supra note 36 and accompanying text. The Sony Corporation began marketing Walkmans in the United States in late 1979. For Your Ears Only, ECONOMIST, Dec. 26, 1981, at 21.}

Furthermore, in the last ten years there has been a documented increase in the prevalence of NIHL in the United States, especially among children.\footnote{See supra notes 32-35 and accompanying text.} For example, during a recent study researchers gave hearing screening tests to 1,500 students. The researchers found an 11.3% failure rate for eighth graders. This, when compared to a 3.4% failure rate in 1979, is greater than a three-fold increase.\footnote{Montgomery & Fujikawa, supra note 9, at 62.}

This evidence indicates that there is a "gap" in our society. People older than about forty grew up in an era when rock concerts and Walkmans did not exist, while people younger than thirty have been exposed to both for large portions of their lives; however, they are not yet old enough for the full extent of any damage to be evident. For many children, the question is not if NIHL will develop but when and how severe will it be.\footnote{See supra notes 32-38 and accompanying text.}

NIHL can be analogized to a form of societal cancer. The problem exists, but it is concealed. The extent of the NIHL problem will grow rapidly in the next twenty years. Since one cause of the problem is readily identifiable and easily targeted, steps should be taken to prevent the problem from balloon-\footnote{Perhaps the recent increase in the NIHL problem may be explained by the closing of this "gap." See 137 CONG. REC. E3712 (1991) (statement of Rep. Patricia Schroeder); supra text accompanying note 33.} One obvious step would be to regulate the identifiable cause.

B. Is NIHL Legislation Desirable Despite Its Paternalistic Nature?

The second objection is that the control legislation is paternalistic. Note, however, that the warning legislation is not paternalistic, since it remedies a lack of understanding of the subject.\footnote{See infra notes 90-92 and accompanying text. In a sense, control legislation is not paternalistic either because it prevents a third party from harming the subject of the legislation.} Therefore, this objection is limited to the more restrictive control legislation.

The argument is that the government should impose paternalistic legislation reluctantly because it is an infringement upon personal autonomy. This
objection is based on a long history of anti-paternalism in American political theory.79

Although hostility to paternalism is not reflected in our Constitution,80 and many regulations exist that may be labeled paternalistic,81 anti-paternalistic attitudes do seem to influence policy makers in our society. Such influence manifests itself both as a lack of candor about paternalistic motivations underlying legal controls82 and as a negative attitude towards paternalism in legal literature.83 Some commentators conclude that while some paternalistic legislation may be legitimate, generally it is undesirable and there should thus be a bias against it.84

The bias against paternalistic legislation is desirable in that it discourages frequent, cumulative, and minor intrusions into people's lives.85 The presumption does not, however, serve to overrule all paternalistic legislation, and some commentators advance tests to determine when paternalistic laws are justified. Thus, paternalistic laws are sometimes justified when (a) adequate nonpaternalistic reasons for enacting the legislation exist, (b) some

79. Anti-paternalistic sentiments are strong in the political philosophy of our society. "The only purpose for which power can be rightfully exercised over any member of a civilized community, against his will, is to prevent harm to others. His own good, either physical or moral, is not a sufficient warrant." David L. Shapiro, Courts, Legislatures, and Paternalism, 74 VA. L. REV. 519, 519 n.1 (1988) (quoting JOHN STUART MILLS, ON LIBERTY 68 (Gertrude Himmelfarb ed., 1982) (1st ed. 1859)). While this credo is not given much weight by the judiciary, it nevertheless seems to embody an American societal value.

80. Id. at 521 ("[B]ecause no general bar to paternalistic action is explicit or implicit in our Constitution, legislatures should be freer than courts to embark on paternalistic courses, subject only to popular will and to limited constitutional restraints."); Picou v. Gillum, 874 F.2d 1519, 1521 (11th Cir.) (noting the lack of a constitutional right to be free of paternalistic legislation), cert. denied, 493 U.S. 920 (1989).

81. California: Keep a Lid On It, TIME, Jan. 13, 1992, at 21 (recording that 24 states and the District of Columbia have mandatory motorcycle helmet laws). Every state has a mandatory seatbelt law because the federal government withholds funding from states that do not have the law. Other paternalistic laws require hunters to wear bright jackets while hunting, require life preservers on boats, and require that life preservers be worn while water-skiing.

82. For example, courts have been reluctant to embrace efficiency theories when defending the constitutionality of mandatory motorcycle helmet laws. Instead, courts typically embrace the "missile hazard theory," an argument in support of mandatory helmet laws that seems to be more of a rationalization than a justification. For an explanation of the "missile hazard theory," see Kenneth M. Royalty, Note, Motorcycle Helmets and the Constitutionality of Self-Protective Legislation, 30 OHIO ST. L.J. 355, 366 (1969); Picou, 874 F.2d at 1521 (citing the "missile hazard theory" to support the constitutionality of mandatory motorcycle helmet laws). Cf. Bisenius v. Kans, 165 N.W.2d 377, 382 (Wis. 1969) (noting that "the concept that it is my neck and I have a right to risk it when and where I please has had some limitations placed upon its application").

83. See, e.g., Cass R. Sunstein, Legal Interferences with Private Preferences, 53 U. CHI. L. REV. 1129 (1986); Royalty, supra note 82.

84. Shapiro, supra note 79, at 570 (concluding that an anti-paternalistic presumption should act as a deterrent to paternalistic legislation).

85. Id. at 550.
form of incapacity in the subject exists, or (c) it is shown that the legislation prevents a serious risk of injury while interfering minimally with personal choice.\textsuperscript{86} The proposed control legislation fits within all three of these categories, and thus overcomes the bias against paternalistic legislation.

1. Adequate Nonpaternalistic Reasons Exist

Paternalistic laws are sometimes justified if adequate nonpaternalistic reasons exist for enacting the law. Rephrased, this means that if purposes for legislation exist other than the desire to protect people from themselves, then the legislation is not wholly paternalistic and should not trigger the presumption against paternalism.

One common nonpaternalistic justification is an efficiency argument.\textsuperscript{87} For example, efficiency is sometimes used to justify mandatory motorcycle helmet and seatbelt laws.\textsuperscript{88} A similar cost-benefit argument was made in the previous Part of this Note, and it applies equally here.\textsuperscript{89}

2. Some Form of Incapacity of Subject Exists

Paternalistic state action may also be justified when some form of incapacity afflicts the subject of the action.\textsuperscript{90} Typical incapacities are mental illness, age, lack of education, and cognitive defects in human thinking.\textsuperscript{91} Here, three of these are relevant.

\textsuperscript{86} Id. at 544, 545. Anti-paternalism is the presumption; the burden of persuasion is on the proponents of legislation. This burden can be met by showing (1) adequate nonpaternalistic reasons for enacting the legislation, (2) clear incapacity of the subject, such as lack of education, or (3) by showing that risk of serious injury is great and the interference with personal choice is small. Id.

\textsuperscript{87} Id. at 544 n.123; see supra text accompanying notes 69-70.


\textsuperscript{89} See supra notes 69-70 and accompanying text.

\textsuperscript{90} Shapiro, supra note 79, at 547. When a lack of capacity exists, it is not paternalistic to take action to remedy the lack of capacity. Obviously, the remedy chosen will depend on whether the person choosing is pro- or anti-paternalistic. A pro-paternalist might desire more restrictive legislation, while an anti-paternalist would want a less intrusive remedy, probably education. Also, if the legislation goes beyond curing the incapacity to actually preventing the choice to engage in the activity, the legislation becomes paternalistic.

\textsuperscript{91} Cf. Sunstein, supra note 83, at 1165-68.
The most important incapacity in this context is a lack of education. Most people are not aware of the hazards posed by loud music. Most literature on the subject advocates aggressive education as part of the solution to the NIHL problem. Therefore, control and warning legislation are justified because they would educate the public of the risks posed by loud music.

Another important lack-of-capacity argument in this context deals with the manner in which the human mind functions. It is well-accepted that humans tend to minimize low probability or future risks. This is the familiar sentiment: "It won't happen to me." NIHL is well-suited for this sort of cognitive distortion—it is a slow-developing, insidious problem that does not manifest itself until years after the damage occurs. This justifies legislative intervention.

One final lack-of-capacity argument concerns the typical age of the people in attendance at concerts. While not everyone at a concert is young, concerts attract many children and adolescents. This is an age group that traditionally is not known for its ability to plan for the future, and thus the government often allows more interference in the private lives of children. This combination of factors suggests that some sort of restrictive legislative interference is appropriate and desirable.

3. Risk of Serious Injury Great While Interference With Personal Choice Small

One final argument in support of paternalistic legislation is that the intervention is justified when the risk of serious injury is great and the interference with personal choice is small. These considerations underlie the adoption of mandatory motorcycle helmet and seatbelt laws, where the risk of serious injury is great and the legislation does not significantly intrude upon an individual's personal autonomy. However, legislation that limits individual

92. See Rovner, supra note 23 and accompanying text; see also NIH Panel Calls for Federal Agency to Coordinate Hearing Loss Efforts, 17 Noise Reg. Rep. (BNA) No. 3, at 19 (Jan. 29, 1990) (noting a need for education regarding NIHL; the panel was composed of medical personnel and researchers in audiology); National Strategy for the Prevention of Noise-Induced Hearing Loss Proposed, supra note 70, at 11.

93. See, e.g., Noise and Hearing Loss, supra note 7, at 3189 (concluding that "[h]earing loss from nonoccupational noise is common, but public awareness of the hazard is low" and that education is one solution to the problem); see supra note 9.

94. Sunstein, supra note 83, at 1167 n.133 and accompanying text.

95. See supra note 35 and accompanying text.

96. For example, the use of alcohol and tobacco is restricted by age.
autonomy to a small extent is dangerous in that it is easy to overlook the cumulative effect of small intrusions. 97

Despite this cumulative effect hazard, NIHL legislation should be adopted. The risk of serious personal injury (loss of hearing) is great, 98 while the only interference with personal choice posed by NIHL control legislation is reduction of the volume of concerts. Fans of extremely loud music will be forced to deafen themselves in the sanctity of their own homes, rather than at public events.

Some might argue, however, that the risk of injury for concertgoers is not as severe as the injury being risked by those operating a motor vehicle. This is an accurate statement, but there is another significant difference between these examples: the risk of hearing damage at a concert approaches certainty, compared to the very small risk of having an accident each time an individual operates a motor vehicle.

This Note suggests that paternalistic legislation is justified when the product of (1) the severity of injury being risked and (2) the probability of injury occurring exceeds some threshold value, $X$. Algebraically, this formula is:

$$\text{Injury Risked} \times \text{Probability} > \text{Threshold } X.$$

Mandatory motorcycle helmet and seatbelt laws are justified because the injury being risked—death—has a low probability of occurring in any one automobile or motorcycle ride. The NIHL legislation proposed here is also justified because while the injury being risked is less severe than death, if a concert is loud enough, the probability of it occurring is 100%.

In summary, this legislation is desirable despite its paternalistic nature (a) because there are adequate, nonpaternalistic justifications for the legislation, (b) because of shortcomings in the human mind, a lack of public education regarding NIHL, and the age of the legislation’s target population, and (c) because the infringement on personal autonomy is small, while the risk being guarded against is serious.

In addition, some people might argue that paternalistic legislation is justified because it is paternalistic. This argument has been labeled by one commentator as the “different person” argument. 99 According to this

97. See Shapiro, supra note 79 and accompanying text.
98. See supra notes 39-45 and accompanying text.
99. DONALD H. REGAN, Justifications for Paternalism, in THE LIMITS OF LAW 189, 203 (J. Roland Pennock & John W. Chapman, eds., 1974). Regan notes that the person who risks the harm at time one and the person who suffers the harm at time two, while the same person, will reasonably have different desires. In other words, any reasonable person who suffers serious injury would wish that he could “go back in time” and change his decision to engage in risky behavior. Thus, it is desirable for the state to
argument, a person at age twenty-one and the same person at age forty can be characterized as different people. However, the person at age forty will have a different outlook on life than the same person at age twenty-one, and might regret behavior engaged in earlier in life. Thus, if society can identify childhood or adolescent behavior that the person will likely regret at age forty, it is legitimate for society to take steps that will affect the person at a younger age to forestall the regret. Applying this argument to the instant situation, it is foreseeable that the hypothetical forty-year-old, if asked, would regret the fact that he suffers from NIHL and would have, if given the opportunity, changed his earlier behavior to avoid the result. Society should make this choice for him now, and prevent the development of NIHL.

A relevant issue is the legitimacy of government interference in lifestyle choices. Paternalistic legislation presents a slippery slope problem—since the preceding rationale may be used to justify many things, how do we limit its application? As noted, one argument is that paternalism is justified in cases such as this, where the risks are great and limitations on personal autonomy are minimal. In contrast, the central purpose behind an activity such as mountain climbing might be the element of risk involved in the activity.100 Thus, even though the risk is great, government interference is undesirable. Conversely, people are unlikely to build a lifestyle around the risk of going deaf at concerts, and thus government interference is legitimate.

C. Are the Regulations Beyond the Powers of the Legislature?

The third objection is that the enactment of NIHL legislation is beyond the powers of the legislature. This objection is examined from the perspective of an in-court challenge to the legislation, since this would likely occur if these regulations were enacted. The issue for a court would be whether it is a valid exercise of the police power for the legislature to enact this legislation, not whether the legislature should enact this legislation.101

interfere, to take the choice away from the individual in the first place in order to prevent the harm from occurring. Shapiro, supra note 79, at 549 (noting that a person will suffer regret "if he commits himself to a course of action that he later wishes to abandon because of a change of goals"). It is justifiable under this theory if the state acts to ward off the regret before it occurs.

100. REGAN, supra note 99, at 200.

101. City of Wichita v. White, 469 P.2d 287, 288 (Kan. 1970) (noting that "[i]n reviewing questions of constitutionality courts are not to be concerned with the wisdom, expediency, necessity or desirability of a legislative enactment. The legislative history of these laws, in this state and others, demonstrates that they have dedicated proponents and equally dedicated opponents. The question before us is not what the legislature should do but what the legislature can do").
A presumption of validity accompanies any police power regulation.\(^{102}\) "[T]he law will be upheld if it bears a rational relation to a legitimate legislative purpose and is neither arbitrary nor discriminatory."\(^{103}\) If the law violates some personal constitutional protection, however, the courts will not uphold it.\(^{104}\) Because the "rational basis" test usually represents no impediment to legislative action,\(^{105}\) the issue is whether a constitutional protection has been violated.\(^{106}\)

There are two attacks on the constitutionality of these regulations. These attacks are that the regulations (a) violate the First Amendment Freedom of Speech Clause, or (b) violate the Due Process Clause of the Fourteenth Amendment.

1. Legislation Violates First Amendment

The first attack on the power of the legislature to enact these regulations is that they violate the First Amendment guarantee of freedom of speech. This attack applies to the control regulations, though not to the warning regulations.\(^{107}\) The argument is that these regulations violate the First Amendment because part of the message of the music is contained in its volume.

\(^{102}\) Id. at 289.


\(^{104}\) Richards, 743 S.W.2d at 749 ("If, however, a statutory inhibition does not implicate some personal constitutional protection, its validity is determined by the rational basis test.").

\(^{105}\) Michael J. Perry, Modern Equal Protection: A Conceptualization and Appraisal, 79 COLUM. L. REV. 1023, 1070 (1979) (stating that rational-basis review is "inconsequential").

\(^{106}\) Berman v. Parker, 348 U.S. 26, 32 (1954) ("Subject to specific constitutional limitations, when the legislature has spoken, the public interest has been declared in terms well-nigh conclusive. In such cases the legislature, not the judiciary, is the main guardian of the public needs to be served by social legislation . . . .")

\(^{107}\) In Miami Herald Publishing Co. v. Tornillo, 418 U.S. 241, 258 (1974), the Court held that forcing a newspaper to print something may constitute a violation of the First Amendment.

However, a First Amendment attack on the validity of the warning legislation would appear to be precluded, given the previous acceptance of cigarette warning regulations. While there are some differences between cigarettes and loud music, the two areas are substantially similar. See supra note 45 and accompanying text.

An argument might be made, however, concerning the implications of forcing sponsors to issue warnings in broadcast media. This Note argues that these attacks would fail. See Red Lion Broadcasting Co. v. FCC, 395 U.S. 367, 400-01 (1969) ("In view of the scarcity of broadcast frequencies, the Government's role in allocating those frequencies, and the legitimate claims of those unable without government access to gain access to those frequencies . . . we hold the regulations and ruling at issue are both authorized by the state and constitution."); FCC v. Pacifica Found., 438 U.S. 726, 748 (noting that broadcasting has more limited First Amendment protections than other types of media), reh'g denied, 439 U.S. 883 (1978).
There is no dispute that music is a form of communication protected by the First Amendment. Therefore, any restriction on this medium of communication must meet First Amendment objections. However, protection under the First Amendment is not absolute. The Court allows "time, place, or manner" restrictions that satisfy a specific test.

The Court has developed a three-pronged test to determine when a restriction on speech is legitimate. The government may impose reasonable restrictions on the time, place, or manner of protected speech as long as the restrictions "are justified without reference to the content of the regulated speech, that they are narrowly tailored to serve a significant governmental interest, and that they leave open ample alternative channels for communication of the information." Thus, the three prongs of this test can be described as content neutrality, narrow tailoring, and alternative channels.

The controlling factor in determining whether a restriction is content neutral is the intent of the government in restricting the speech. "The government's purpose is the controlling consideration. A regulation that serves purposes unrelated to the content of expression is deemed neutral, even if it has an incidental effect on some speakers or messages but not others." Here, the regulation in question is not aimed at the content of the music, but is aimed at the volume of the music. Thus, this legislation satisfies the first prong of the test since the regulation of speech is "justified without reference to the content of the regulated speech."

The second prong of the test is whether the government regulation is "narrowly tailored to serve a significant governmental interest." It seems clear that the government has a significant interest in preventing harm to the general populace. To satisfy this prong of the test, the restriction must also be narrowly tailored. Thus, it might be argued that the proposed regulations are not "the most narrow legislation" that could be enacted to achieve the desired result. However, "a regulation . . . of protected speech must be narrowly tailored to serve the government's legitimate, content-neutral interests but . . . it need not be the least restrictive or least intrusive

109. Clark v. Community for Creative Non-Violence, 468 U.S. 288, 293 (1984) ("Expression, whether oral or written or symbolized by conduct, is subject to reasonable time, place, or manner restrictions.") (emphasis added)). There seems to be no dispute that decibel-level regulation qualifies as a restriction of the manner of expression.
110. Id.
111. Ward, 491 U.S. at 791.
112. Id. (emphasis in original) (quoting Community for Creative Non-Violence, 468 U.S. at 293).
114. See supra note 52 and accompanying text; Mussivand v. David, 544 N.E.2d 265, 270 (Ohio 1989) (quoting Skillings v. Allen, 173 N.W. 663, 664 (Minn. 1919)).
means of doing so."\textsuperscript{115} Therefore, the second prong of this test is also satisfied.

The final part of the test is whether adequate alternative channels of communication remain after the restriction is imposed. The Supreme Court in \textit{Ward} seemed to foreclose this argument in relation to volume regulation when it held that volume regulation "does not attempt to ban any particular manner or type of expression at a given place or time. Rather, [it] continues to permit expressive activity . . . and has no effect on the quantity or content of that expression \textit{beyond regulating the extent of amplification}."\textsuperscript{116} Thus, it appears that there is no viable First Amendment attack on this legislation.

2. Legislation Violates Fourteenth Amendment

It might still be argued, however, that the legislation violates the Due Process Clause of the Fourteenth Amendment. This attack, like the First Amendment attack, is only applicable to the control legislation and not the less-restrictive warning legislation. The argument is that this legislation violates a right to privacy\textsuperscript{117} or some similar right.\textsuperscript{118} This argument also has no weight. In the context of mandatory motorcycle helmet and seatbelt laws, the judiciary has consistently refuted these claims.\textsuperscript{119} Likewise, the judiciary should apply the same reasoning to NIHL legislation.

CONCLUSION

The medical evidence examined in Part I of this Note is conclusive. All of the evidence can be distilled into one statement: loud music damages hearing. Furthermore, as shown in Part III, there is no justifiable or legal impediment to the implementation of regulations designed to prevent cases of hearing damage sustained at rock concerts and similar events. Based on the preceding discussion, this Note concludes that these regulations are legitimate as well as necessary to solve the NIHL problem.

\textsuperscript{115} \textit{Ward}, 491 U.S. at 798.
\textsuperscript{116} \textit{Id.} at 802 (emphasis added) (citations omitted).
\textsuperscript{117} \textit{Picou v. Gillum}, 874 F.2d 1519, 1520-22 (11th Cir.) (examining a challenge to a motorcycle helmet law as violative of the right to privacy or a broader "right to be let alone" by government), \textit{cert. denied}, 493 U.S. 920 (1989); \textit{People v. Kohrig}, 498 N.E.2d 1158, 1160-61 (Ill. 1986) (involving a similar privacy right challenge to a mandatory seatbelt law), \textit{appeal dismissed}, 479 U.S. 1073 (1987).
\textsuperscript{119} \textit{Picou}, 874 F.2d at 1520 & nn.1-2 (noting that every court that has faced this issue has ruled against the challenger).
One final question remains: Which form of regulation would best address
the policies and concerns in this area? One central concern that must be
addressed is the slippery-slope problem. Government intrusion into everyday
life is not a desirable occurrence. On the other hand, NIHL does represent
a significant concern, and corrective action is necessary to solve the problem.
Thus, a solution to the problem must balance these conflicting interests by
developing minimally intrusive, yet effective regulation.

The most serious problem is the public's lack of education. Therefore, the
enactment of some form of warning regulation is of primary importance. The
notice required by such a regulation would educate the public about the NIHL
hazard represented by amplified music. Because this lack of education is not
limited to any particular age group, it should be targeted at all events
involving amplified sound.

More problematic are control regulations. This Note advocates passage of
control regulations applicable to events where minors are permitted. This is
due to the government's interest in protecting minors, people who traditionally
are not given the same range of personal freedoms possessed by adults.

However, at events where minors are not allowed, these justifications
for greater government interference lose their authority. Thus, control
regulations should not apply in these contexts. In these situations, the warning
regulations would (ideally) educate the public about the danger. Individuals
could then choose whether to incur the risk. The choice, however, would be
an informed one, something that does not occur under the current state of the
law.

120. Cf. supra notes 79-85 and accompanying text.
121. See supra note 96 and accompanying text.
122. Examples of events where minors are not allowed include those held in bars and nightclubs. An
interesting issue, and one beyond the scope of this Note, is whether employees (such as waiters) at these
establishments wear earplugs while they work. It seems doubtful that they do, since earplugs might
make it difficult to take orders from customers. Therefore, it seems possible that such establishments
might be violating current OSHA regulations. The tendency for these establishments to violate OSHA
regulations might justify the more restrictive control regulations.