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Abstract

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Keywords

Agrarian, Agriculture, Hearing Loss, Informant-directed Interviews, Myth, Risk, Content Analysis, and Critical Interpretive

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Incorporating Mythic and Interpretive Analysis in the Investigation of Hearing Loss on the Family Farm

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Despite knowing about the dangers of hearing loss, farmers typically choose not to protect their hearing. Examining the myth of farm life, this study aims to discern whether rhetorical myths influence farmers' decisions to wear hearing protection. Researchers conducted 40 interviews with farmers regarding farm life and hearing loss. Results suggest that farmers typically do not use hearing protection; their answers reflect the myths of sacrifice and safety. Analysis demonstrates that knowledge of the relationship between myth and practice should impact future attempts to change farmers' behaviors. Key Words: Agrarian, Agriculture, Hearing Loss, Informant-directed Interviews, Myth, Risk, Content Analysis, and Critical Interpretive

Introduction

Farm life is best understood as situated within the rhetorical power of myth (Baltensperger, 1992). Baltensperger explains that early settlers in the Upper Midwest justified their existence by developing the Great American Desert myth, which continues to be followed by Plains residents today. Accordingly, Plains settlers extolled the nobility of their existence under trying circumstances while promoting the myth of a Great American Desert that tested their endurance skills. Myth among Plains people is "an attempt at self-justification and reaffirmation of a collective identity in adversity" (Baltensperger, p. 61).

The prominence of rhetorical myth in farm life in the Upper Midwest may occur because farmers possess a rich cultural memory. Novelist Sherwood Anderson, writing during the 1920s, illustrates the richness of farm life memory with respect to North Dakota:

Mystery whispered in the grass, was caught and blows across the American Line in clouds of dust at evening on the prairies. I am old enough to remember tales that strengthen my belief in a deep semi-

religious influence that was formerly at work among our people. (as cited in Sidey, 1985, p. 31)

Mysticism lives on, but incurs serious health risks to family farmers and farm workers living in the Upper Midwest.

Because hearing loss on the family farm is a serious issue, it is a relevant area of research for health communication scholars (particularly those living in agricultural regions). Rogers (1994) notes the typical role of the health communication scholar should be to improve society by designing and evaluating health intervention, and disseminating findings for societal benefit. This research project evaluates the use of hearing protection on farms. As such, the authors evaluate the language and talk that farmers use to justify their compliance or non-compliance for using hearing protection.

A rhetorical focus requires a close understanding of the relationship between communication and culture. By focusing on the interplay between symbols (i.e., language, metaphors, myths, and narratives) and society, rhetorical scholarship discerns how cultural meaning shapes individual decisions. One such rhetorical approach analyzes the relationship between cultural myth and ideology. In his book *Mythologies*, Barthes (1988) contends that a myth "hides nothing and flaunts nothing: it distorts; myth is neither a lie nor a confession: it is an inflexion" (p. 129). Stated metaphorically, "myth illuminates and projects a light in the darkness of reality and the haze of misperception over the glow of truth" (London & Weeks, 1981, p. 17). Myths provide legitimacy to a culture because the stories they tell are timeless lessons which serve as emotive forces for maintaining social order (Hart, 1990; Hocker Rushing, 1990; Osborn, 1990; Rowland, 1990; Solomon, 1990).

Like myths, ideologies are "capable of binding people together, not through a set of immutable truths, but through references to historical and political events, and appeals to a material orientation of the world" (Bass & Cherwitz, 1978, p. 215). Ideologies are a collection of beliefs, but where myths attempt to transcend social divisions, ideologies express the interests of the dominant group that provide plausible interpretations of political realities (Bass & Cherwitz; Lucaites & Condit, 1990). McGee (1980) calls these references "ideographs" and purports that "[the] significance is in their concrete history as usages, not in alleged idea-content" (p. 10). In order for myths to evolve, the expectations and demands of historical (traditional) audiences must be met (O'Leary & McFarland, 1989).

The joining of mythic and ideological elements does not take place spontaneously. According to Ellul (1973) "myth and ideology wed via a complicated mixture of ideas and sentiments which entails the grafting of irrational onto the political and economic" (p. 31). Kenneth Burke (1984) notes that "ideology is to myth as rhetoric is to poetry," (p. 303) since, "ideology, like rhetoric, gravitates to the side of ideas, and myth, like poetry gravitates to the side of image" (p. 303). The result of this fusion of myth and ideology becomes a political myth because it entails both cognitive and emotive appeals that greatly impact various aspects of culture (Hart, 1990; Lucaites & Condit, 1990). Barthes (1988) comments on the power and expansiveness of myth in reinforcing the image of the virtuous culture: "all aspects of the law, of morality, of aesthetics, of diplomacy, of household equipment, of literature, of entertainment" (p. 148) are related to myth.

Finally, incorporation of mythic-ideological analysis by health communication scholars is potentially vital for understanding the social and cultural influences. In their evaluation of competencies among practicing health communication specialists, Maibach, Parrott, Long, and Salmon (1994) reinforce the applied competencies of the health communication specialist in understanding societal and cultural influences that reinforce poor health behaviors. A rhetorical approach requires that health communication scholars analyze the cultural rhetoric that potentially shapes individual motives.

Although farmers are aware of the importance of safety and know how to work safely, their behaviors do not always reflect this knowledge (Arcury, 1995, 1997; Quandt, Arcury, Austin, & Saavedra, 1998; Smith, Rosenman, Kotowski, Glazer, McFeters, Keesecker, et al., 2008). Research on farm safety behavior illustrates that farmers' use of hearing protection is low (Smith et al.). Explanations for the lack of safe behavior vary from specific issues such as control over work environment (e.g., the condition of the equipment), economic stress, and access to information to more philosophical issues such as beliefs about risk (Arcury & Quandt, 1998). Farming is a dangerous profession, but farmers are often fatalistic and feel invulnerable to health hazards (Dewar, 1996; Witte, Peterson, Vallabhan, & Stephenson, 1992-1993).

In this study, rhetorical myth in farm life and its contribution to hearing loss on the family farm in the Upper Midwest is investigated. This study begins broadly by discussing the mythic realities between farm life and risk. In this research we contend that the mythic realities that shape farm life contribute to perceptions about the use of hearing protection. We support this contention by conducting a qualitative content analysis of informant directed interviews with farmers. Peterson, Witte, Enkerlin-Hoeflich, Espericueta, Flora, Florey, et al. (1994), who justify the usefulness of interviews for the study of risk orientation among farmers have aided our methodological inquiry. Finally, we provide several implications drawn from our analysis that related to the mythic realities of farm life and hearing loss.

Relevant Literature

Farm life and risk

Agriculture is one of the most dangerous industries in the United States (Smith et al., 2008). On the 1.9 million farms in the United States, 10% of agricultural workers experience a disabling injury each year (Thu, 1998). Farm-related accidents and injuries such as hearing loss are not uncommon, especially during the long hours of planting and harvesting. The media captures stories of devastating farm accidents involving loss of life and limb from powerful machinery, tractor rollovers, and entrapment in storage bins.

The physical cost of farm work, however, extends beyond accidents and injuries to include the loss of hearing. Most research in farm safety is focused on the threat of trauma and the impact of chemical exposure. Hearing loss, as a significant health hazard, is not often publicized. Arcury and Quandt (1998) identify hearing loss as one of the acute and chronic conditions resulting from farm work. Additionally, hearing loss was identified by both male and female farmers as a priority farm health and safety concern (Dewar, 1996). Continuous sounds of 85 decibels or higher are considered hazardous. A tractor typically generates 85 to 95 decibels, a grain vacuum produces 98 decibels, and

pig squeals produce 130 decibels (National Institute for Occupational Safety and Health [NIOSH], 2007). The noise of the machinery, combined with the long hours of use and the lack of hearing protective devices can result in moderate to severe lifelong hearing loss.

The idea of invulnerability and the perception of risk are embedded in the mythic belief system inherent in farming. Peterson (1988) contends that myths provide a method for justifying incongruent behavior and also argues that myths can be used as devices for creating and transmitting reality. Perceptions of agriculture are often linked to the myth of the farmer as the frontier hero. The frontier myth is centered on the historical belief that man [sic] must civilize the country and that God intended all land to be suitable for farming. Man must control nature and, as a result, farmers provide the link between wilderness and civilization (Peterson, 1986, 1991). Taming the land forces farmers to always move ahead of civilization and so they “must experience a certain level of heroic isolation as they lead society into the future” (Peterson 1991, p. 297). This frontier myth/independent view held by farmers is linked to their use of safety practices. Farmers understand that safety is critical, but they do not view themselves as susceptible and believe farming is a high-risk game anyway (Peterson et al., 1994).

The mythic reality of farm life

Myths are powerful rhetorical constructions that help reinforce and shape cultural life. According to Hart (1990), myths are “master stories describing exceptional people doing exceptional things that serve as moral guides to proper action” (p. 305). Hart’s definition pinpoints the morality of a culture and illustrates how mythic narratives guide social action. In such instances, myth distorts reality. In order for myths to evolve, the expectations and demands of historical (traditional) audiences must be met (O’Leary & McFarland, 1989). Barthes (1988) comments on the power and expansiveness of myth in reinforcing the image of the virtuous culture: “all aspects of the law, of morality, of aesthetics, of diplomacy, of household equipment, of literature, of entertainment” (p. 148) are related to myth. Mythic narratives aid in the shaping of cultural values because they are highly rhetorical. For example, the uniquely American story of the strong-willed and virtuous western sheriff who protects his town and its citizens from harm is a popular American narrative. Here the sheriff-hero character protects the community from the outside lawlessness that infiltrates the culture from an untamed wilderness. The sheriff protects the community from exterior dangers that penetrate the inherent interior virtues of the moral small town. Moreover, Lee (1993) explains that the mythic narrative of the small town, with its pleasant images of “Main Street,” church steeples, and afternoon barbecues, tends to reinforce American values.

As Peterson (1986, 1990, 1991), Peterson et al. (1994), and Peterson and Horton (1995) point out, rhetorical myths of the frontier, religion, and utility aid in the social construction of American farm life. Specifically, the frontier myth is centered on the historical belief that humans must civilize the nation and tame the land by making it productive farmland. The task of making the land productive fell on the “noble” farmer, and, according to Thomas Jefferson, the “cultivators of the earth are the most valuable citizens” (Kelsey, 1994, p. 1172). Peterson (1986) writes, “With the blessing of the whole nation, the farmer set out to turn the plains into an international breadbasket” (p. 7).

Within the mythic frame of frontierism, farmers provide the ideological link between wilderness and civilization. Seemingly, farmers possess a noble calling to master the land and to feed the world. Central to this agrarian frontier myth is the isolated farmer who battles the forces of bureaucracy and Mother Nature "armed with independence" (Peterson, 1990, p. 14) and who serves as civilization's caretaker.

Arguably, a Christian myth supplements the agrarian frontier myth discussed above. The Christian myth promotes the moral imperative of the farmer, and as such, that God looks favorably and sympathetically on the farmer. Farmers are "guided by the Biblical injunction to care for the garden" (Peterson, 1986, p. 12), and rural life is viewed as "moral; it is not merely secular, but religious" (Peterson & Horton, 1995, p. 156). The myth contends that farm life produces better people and that farmers are more "honest" and "virtuous" than city people (Kelsey, 1994, p. 1172). As such, rural life is blessed, and farmers "are the chosen people of God" (Peterson, 1990, p. 13). Thompson (1995) reiterates this myth in *Spirit of the Soil*, noting that "the word 'soil' is implicitly, spiritually, linked to farming...that it is inconceivable to conceive of the farmer...as anything less than steward of the soil" (p. 2). Farmers are often guided by religion and the notion that life's events are linked to faith in God.

A third powerful mythic narrative is the agrarian myth of utility, which describes the earth as a machine. Peterson (1991) explains how the farmer in this narrative is the technician using specialized knowledge and earthy wisdom to control nature. This utility myth embodies the idea that, like a tool, land should be used to maximum capacity and the farmer must use technology to master the land.

Research questions

The purpose of this study is to investigate the connection between farmers' use of hearing protection and the myths of farm life. The preponderance of research on this issue is in the form of brochures and training manuals (Antunez, 2006). Additional research on communication and farm safety addresses issues such as skin cancer (e.g., Parrott, Monahan, Ainsworth, & Steiner, 1998) and agricultural chemicals (e.g., Quandt et al., 1998), but there is an absence of literature exploring farmers' perception and the use of hearing protection. Although demographic data and exploration of other agricultural health issues may be helpful for some audiences, this information is not specific to creating interventions that will influence hearing protection behaviors. Therefore, we advance the following three research questions in the investigation of rhetorical myth and hearing loss on the farm:

RQ1: Given the relevance of rhetorical myth to farm life, how do farmers "talk" about their usage or non-usage of hearing protection while farming?

RQ2: Do the farmers interviewed for this study justify their usage or non-usage of hearing protection while farming with mythic rhetorical components?

RQ3: What major rhetorical myths, if any, do the farmers interviewed for this study use to justify their usage or non-usage of hearing protection?

In order to understand hearing protection usage and/or non-usage among farmers, the researchers incorporated a methodology that provides a flexible framework for assessing hearing protection on the farm. Therefore, consistent with critical-interpretive investigations, this research encourages informants to discuss their experiences, with a flexible interview protocol as an overall guide.

A Critical-Interpretive Method

Anderson (1987), Creswell (1999), and Higgins (1991) all advocate a qualitative approach in which researchers become "participant observers" within a particular culture to gain greater insight about the meaning of social action from the perspective of cultural members. Although other communication researchers have used qualitative interviews to uncover meaning systems within cultural groups (Lange, 1990, 1993), this study incorporates the methodological framework designed by Peterson et al. (1994) because it relates directly to farm life risk. Specifically, in their study of the health risks related to Texas farmers, Peterson et al. incorporate a methodology based on informant-directed interviews. These face-to-face interviews are "powerful methods for understanding how people order and assess their everyday worlds" (Peterson et al., p. 203). Peterson et al. created an interpretive text based on extended and semi-structured interviews that "serve as an exemplar of critical-interpretive research as a means for discovering the value orientation of any culture" (p. 203). Kidd, Scharf, and Veazie (1996) justify using qualitative methods in occupational environments (such as farming) because "these methods best capture the individual's point of view regarding the individual's work, examine the constraints of a work role, and secure rich descriptions of the work situation" (p. 225). Interviewing farmers offered the opportunity to view hearing protection perspectives from the participants' point of view.

The members of the research team for this project share an interest in qualitative methodologies and health communication behaviors. In terms of this specific project, all three researchers are concerned about the lack of hearing protection use and the rationale for this disregard of healthy behaviors. The primary researcher is a conservationist and environmental/rhetorical scholar. He studies the dialogue associated with various health and environmental issues. He also provides leadership for environmental community groups that work with a variety of issues including water management. The second researcher is a partner in a farming operation. She is concerned about protecting the health and hearing of her spouse, children, farm employees, and neighbors. She is also a health communication scholar and interested in discovering the ways research in the discipline can aid in understanding this health behavior. A third member of the research team is a qualitative scholar with experience in interview protocols and methodologies. She is also an active member of community conservation organizations and has been involved with additional research projects related to agriculture and environmental issues. All three scholars believe that an understanding of the rationale for this health behavior is a precursor to addressing the issue in a way that can change the behavior. After securing Institutional Review Board exempt status approval from North Dakota State University, the researchers began the process of data collection.

Participants

The researchers utilized a convenience sample of 40 crop production farmers who were willing to share their daily practices and to discuss the issue of hearing loss related to farm life. Informants were first contacted by telephone as a means to gauge their willingness to share their stories. The participants ranged in age from 20 years old to 73 years old. There were 32 male and eight female participants with 31 owner/operators and nine farm workers. All participants worked in the Upper Midwest and all had lived and/or worked on farms their entire lives. The education level of the participants ranged from a high school diploma to some graduate school. Informal discussion indicated that 33 respondents had some level of diagnosed hearing loss (mostly the loss of high-pitched frequencies) and two of these participants wore hearing aids.

Interviews

Consistent with the methodological framework designed by Peterson et al. (1994), interviews were conducted with farmers about the use of hearing protective devices on the farm. Initial phone calls were followed by extended, semi-structured interviews conducted at the farms. Author Hest traveled to the farmer's homes and visited various farm sites. In addition to visiting with the farmers, she observed farm practices as the farmers conducted their work. Generally, each interview lasted 40 minutes. Interview length depended on the informant's interest, willingness to communicate, and competing time constraints. The shortest interview lasted ten minutes, while the longest interview lasted over two hours.

Each participant was asked questions about the relationship between hearing loss and farm life. The primary interviewer posed open-ended questions (for example, "What would encourage you to wear hearing protection devices?") as a means to begin the interview process. From this point, the interview process generally became less structured, in order for participants to share their narratives without interruption. When the participant finished sharing, the primary interviewer asked follow-up questions based on the information provided by the participants.

Data analysis

The interviews were not tape-recorded because a majority of the farmers indicated they were not comfortable with this procedure. Additionally, the logistics of interviewing individuals in outdoor or farm shop settings would not facilitate quality recordings. Further, Kidd et al. (1996) offer that in this type of environment, written recording methods "best capture the individual's point of view regarding the individual's work, examine the constraints of a work role, and secure rich descriptions of the work situation" (p. 225). The primary interviewer recorded participants' responses on a general interview form, and immediately after each interview, wrote a summary. Each participant reviewed the summary to ascertain the validity of the interview's account. All 40 participants indicated that the interviewer's account accurately represented the interview.

At this point, an analysis was independently conducted to decipher relevant myths in the transcribed accounts (Miles & Huberman, 1994). In other words, authors Meister,

Hest, and Burnett independently coded responses from the transcribed interviews. Then, jointly Meister and Hest compared and contrasted all of the categories until they agreed on a final list (Table 1).

For example, after an initial reading of all of the interview summaries, the first and second researchers jointly created the list of categories including the category of "Time." Next, Hest and Burnett independently compared their coded comments in the interview summaries. Specifically, one interviewee stated that he did not wear hearing protection because "I don't think about it. I'm always in a hurry." The two researchers independently coded this statement as part of the "Time" category. Initially, the level of inter-rater agreement was 92%. All discrepancies were discussed until a final inter-rater agreement of 100% was reached.

The analysis of the discourse contained in the accounts enabled the identification of patterns of motivation constructed in "the interplay between farmers' assumptions and their symbolic enactments" (Peterson, 1988, p. 259). In addition to helping gauge the internal logic of the farmer narratives, the analysis focused on the beliefs, attitudes, and perceptions related to noise levels on farm sites and the use of hearing protection. Aiding the analysis of farmer mythic discourse in the recorded interview accounts was Hart's (1990) rationale for the importance of myth. Herein, we supplemented the methodological framework of Peterson et al. (1994) with guidelines for the analysis of rhetorical myth in our qualitative content analysis. Hart points out that in studying mythic discourse, attention should be paid to how myths provide a heightened sense of authority, continuity, coherence, community, choice, and agreement. Thus, the analysis procedure combined the methodological framework of Peterson et al. with Hart's reasons for studying rhetorical myth.

The analysis of the data (generated by the informant-directed interviews) followed these procedures: (a) search for isolated categories from the interviews, (b) as suggested by Hart (1990), assess each category identified in step one as providing a heightened sense of authority, continuity, coherence, community, choice, and agreement, (c) determine the significance of each mythic "heightened sense" and assess the commonalities between them, (d) determine any rhetorical opposition that exists between the categories, and (e) construct the major "heightened sense" myths that contribute to an understanding of farmer hearing loss.

The specific process can be understood with the following example. Researchers examined interviewee comments that had been placed in each category (e.g., "I'm always in a hurry" found under the category of "Time"). In reviewing the body of comments in a category, the researchers examined the connection to mythic discourse (e.g., the challenge of "Time" has always been present for farmers—thus a sense of "continuity"). Next, the link between categories was explored (e.g., ways the challenge of "Time" is related to "Hard Work"). The analysis process then involved an identification of any contradictions or conflicts (e.g., how farmers can reconcile the notion of "Caring for what God has provided," but not care for their own physical health). Finally, the researchers utilized this analysis to identify the over-arching myths of "Sacrifice," and "Safety/Invulnerability."

Table 1

Categories and Subcategories of Summaries

<u>Category</u>	<u>Example of Sub-category</u>
Hard Work	General statements about the physical hardships of farm life.
Faith and Morality	Several references to God, morality, stewardship, prayer, Bible passages, church attendance, church involvement.
Uncertainty	Reference to the risks associated with farming; several references to the weather, to yields, and machine repairs.
Stewardship	“Care-takers,” of the land. Caring for what God has provided.
Relationships	Several references to the importance of family, neighbors, community.
Independence	Several references to the “freedom” associated with farming.
Expertise	Several references to the expertise and knowledge to be a capable farmer, including references to farm related technology, machinery, and maintenance.
Risk	Several references to the health hazards of farming. Specific references included statements about the need to be “aware of your surroundings” while using farm machinery.
Frustration	General statements about the frustrating nature of farming; including references to farming as a “gamble” and a “risk.”
Time	Several statements related to the long hours devoted to farming and its hurried nature.

Results

I carry hearing protectors with me, but never wear them. I can't hear high-pitched sounds anymore, but I can hear everything my wife has to say to me!

This quotation, from one of the farm workers interviewed, illustrates the common practice of simply not wearing hearing protection. In fact, 85% of the farmers in the study rarely or never wear hearing protection. Sixteen of the participants (40%) do not own hearing protective devices even though they regularly work around noisy equipment. Only four of the respondents (10%) wear hearing protection most of the time and no respondents (0%) always wear protection. Additionally, four (10%) respondents wear hearing protection when hunting, but never wear hearing protection when working around farm equipment.

Two general lines of response emerged in the interviews. First was the group of 16 respondents who indicated that, even though they do not use hearing protection, they know that they should. One participant stated, "Farmers are around noise all the time, we need to get into the habit of wearing hearing protection." Another farm worker, who has suffered hearing loss, but does not wear protection indicated, "We need to show farmers the seriousness of hearing loss; people don't realize the consequences." A third farmer shared, "It's like wearing sunscreen, I know I should do it, but I just don't take the time." Grieshop, Stiles, and Villanueva (1996) found that farm workers "believe that God and luck play a substantial role in outcomes regarding work safety, yet they also believe their personal actions can reduce injuries" (p. 30).

The second major chain of reasoning was identified from responses of the ten participants who never wear hearing protection and feel that there is not a problem. As one farmer stated, "Most of the work is not very loud, it's just not needed." Another participant shared, "I don't feel the need to wear them, my hearing is fine." A third farmer indicated, "I'm just not around loud machinery that often."

Specific application of the qualitative content analysis to the interview summaries yielded two predominant myths that seemingly provide participants with a heightened sense (Hart, 1990) of reality: Sacrifice and Safety/Invulnerability. The researchers interpreted these myths as dominant because of their frequency and saliency to the other categories identified in Table 1. Within the myth of sacrifice are the sub-categories of time, comfort, and utility. The myth of safety/ invulnerability yields the sub-categories of personal relevance, technology, and faith.

Sacrifice

Consistent with the agrarian frontier, religious, and utility myths, the issue of choice or having control surfaced from the data as a predominant myth. Recall that the frontier myth reinforces the "independent farmer" manifestation; the religious myth provides the moral fortitude for isolation, and the utility myth conceives the farmer as the technician. As such, farmers are the "independent-moral-technicians" whose sacrifices are seemingly more significant than their hearing. Supported by myth and secure in their skills, farmers choose to work long hours to the point of exhaustion, and farmers choose to bypass safety steps in order to get back into the field and back to work as quickly as possible. One farmer said, "When it's harvest time, nothing matters but getting the crop in." Another farmer indicated, "With the poor yields in the grain the last few years, I'm more concerned about saving my farm than saving my hearing." As indicated, many of the respondents know that they should wear hearing protection, but make the choice not to do so.

One significant reason for sacrifice is the issue of time. Respondents indicated that they did not want to take time from their hectic schedule to find and put on hearing protection before they began working. One farmer stated, "Time is money; when I'm busy I don't always take the time to find the hearing protection." A couple of farmers flatly claimed that hearing protection was a "waste of time." Another farmer indicated that he did not "want to bother with it." Further, ten respondents mentioned the fact that weather, soil conditions, crop conditions, and other factors force farmers to always be in a hurry. This is consistent with Quandt et al. (1998) who found that farm workers engage in risky behavior "when there is time or economic pressure to get the field work finished" (p. 365). As such, time constraints apparently preclude the "independent-moral-technician" from protecting his/her hearing. Seemingly, hearing loss is not an issue that threatens the mythic reality of the "independent-moral-technician." Rather, working through the hectic schedule of farm life (sacrifice) is seemingly more consistent with the mythic reality of farmers.

A second element shaping farmers' tendency toward sacrificing their hearing is comfort. Several respondents felt that hearing protection was uncomfortable to wear. One farmer contended, "You feel like you have a head cold." One respondent stated that the muffler-style hearing protector pressed too hard into the sides of her head. Another participant said the ear plugs felt dirty in his ears, and an additional respondent said that he has problems with wax in his ears with ear plugs. One farmer complained that a farmer is always using dirty hands to put in and take out hearing protection. Again, hearing loss is not a significant issue that threatens the independent and religious reality of farm life.

Additionally, sacrifice is reinforced by utility, or the need to hear external noises. Two respondents indicated that hearing protectors muffle too much of the external noise, and this becomes dangerous. For the technician, muffled noise caused by hearing protection is not useful. One farmer said, "What if someone is trying to get your attention by yelling and you can't hear them?" Another farmer indicated that "you need to hear the outside noises" because you have expensive equipment and "you need to hear if the machine is working properly." Another respondent shared, "I like to be able to hear all of the outside noises."

Safety/invulnerability

Although the level of noise on a typical family farm reaches dangerous levels (Myers, 2001; NIOSH, 2007), many farmers feel that the noise level is not problematic for them. Specifically, some respondents indicated that hearing protection was just not a relevant issue for them. One worker stated, "Even if you are in a loud tractor or a loud truck, it's not that bad." Typical responses were "I don't worry about that," "Things are not that loud," or "It's a not a big deal." One farmer said, "The instances when hearing protection is necessary are limited." Despite the fact that most of their friends and neighbors are hard of hearing, a majority of the interviewees indicated that their hearing was just fine, so they did not need to "bother" with hearing protection.

Some respondents indicated invulnerability by putting their faith in "newer" and better equipment. The "independent-moral-technician" is predisposed to a faith in technology. The utility of technology plausibly provides a heightened sense of

invulnerability and safety. Despite evidence that prolonged exposure to even the newer tractor cabs still allow for dangerous noise levels and the fact that even the newest evacuators, feed grinders, power tools, and augers are still horrifically noisy, many farmers believe that newer equipment guarantees safety. One farmer indicated that hearing loss is not as big of a problem because "tractors with cabs are more common." Another participant said, "A lot of older farmers can't hear because the older equipment was so loud. Late model equipment has quieter cabs." One farm worker stated, "We just don't have to worry about noise so much anymore because the equipment is so good."

Consistent with the research on agrarian myth (frontier, religious, utility), the farmers in this study exhibited behavior and expressed beliefs supporting personal choice and a personal invulnerability as paramount over personal safety. Our analysis points out that the "independent-moral-technician" is either willing to sacrifice his/her hearing because of time constraints and discomfort, or because they feel a "heightened sense" of invulnerability. Interestingly, both responses, sacrifice and safety (invulnerability), are reinforced by mythic manifestations related to the frontier, religion, and utilitarianism. Still, most clearly, the responses of sacrifice and safety are related to religion. Moral fortitude demands sacrifice (plausibly even that of hearing), and safety and invulnerability is the just reward of the faithful. While the issue of hearing loss is inconsistent with the mythology of the "independent-moral-technician," oddly enough, the sacrifice of hearing is consistent.

Discussion and Implications

This study illustrates not only the mythic realities shaping farm life, but also the willingness by farmers to protect these mythic discourses while sacrificing their hearing. So powerful are the mythic narratives of the frontier, Christianity, and utility, that the farmers interviewed for this study are willing to sacrifice their health in order to preserve these myths. Interestingly, faith, fortitude, and sacrifice provide the necessary rationale for not using hearing protection on the farm.

Faith is the most significant mythic narrative surfacing from this analysis. In fact, faith in God and the gifts provided are reflected in stewardship duties; caring for the bounty that God provides will result in a bountiful harvest because God protects those with invulnerable faith. Likewise, this study also illustrates the necessary "stock" or fortitude that farmers must possess. Here farmers are the "independent-moral-technicians" whose existence is manifested in their hard work and efficiency. Seemingly, putting on hearing protection before working around noisy equipment threatens the efficiency of the farm operation.

While faith and fortitude provide the mythic justification for not using hearing protection, the eventual loss of hearing provides the necessary sacrifice, or sacramental duty, for demonstrating faith. As pointed out earlier in this study, many farmers are keenly aware of the health risks imposed by their profession, yet they consistently and willingly act against such knowledge. The strength of the myth enables, and even glorifies, farmers for putting duty above health.

Still, farm cooperatives, insurance companies, university extension service workers, and other people interested in making the farm a safer place are finding it increasingly difficult to make any changes. Efforts to increase farm health and safety

practices, for the most part, have been largely unsuccessful for a variety of reasons. One challenge is that often non-farmers, such as extension agents, seek to change behavior that they do not fully understand. As Higgins (1991) argues, "Farmers and non-farmers, because they are members of different cultures, do not share the same systems of meaning....they hold different perceptions of the reality of farming" (p. 217). To the non-farmer, the willingness to sacrifice hearing seems irrational. Yet, the non-farmer potentially does not fully understand the mythic realities that shape farm life. Understanding the mythic discourse that shapes, reinforces, and defines farm life reveals the broad extent to which sacrifice, and other religious "threads" of reality operate as traditional and possibly "master" narratives for rural life. Thus, non-farmers need to understand the mythic narratives shaping farm life in order to facilitate hearing protection use. To be competitive in today's market, a farmer must hold extensive financial knowledge and skill, mechanical and technical skill, and incredible management ability. Yet with all this knowledge, farmers seem unable to protect themselves. The agrarian myth that is central to the beliefs many of us have about farmers and that farmers hold of themselves, is self-defeating. Kelsey (1994) argues that "the values of agrarianism conform to the realities of neither late 19th century agriculture nor modern agriculture" (p. 1172). Peterson (1991) further contends that the notion of the farmer as a "victim" who is powerless against "politics" and "technology" has limited the farmers' ability to change and adapt. She asserts, "By reducing farmers to victims, we relieve them of all responsibility for solving agricultural problems" (p. 304). As previously indicated, many farmers recognize the value of hearing protection, but do not make the choice to protect themselves. Today's agriculturalist is much more sophisticated than the mythic "noble hero." We need to foster a new myth that more accurately represents today's farmer, a myth that embraces safe choices instead of enabling poor choices. Peterson concurs with "exploring these tensions is an essential step towards enabling farmers to use myth's creative potential rather than remaining trapped within its boundaries" (Peterson, 1991, p. 306).

An area for future research is the role of the non-farmer in increasing farm safety. As exhibited by the responses in this study from the farmers who know safe practices and do not employ them, traditional education programs directed at farmers themselves seem to be ineffective. Future studies could address the role of the farm spouse or farm partner in facilitating safe practices. Perhaps the farm spouse, rather than the farmer, should be the primary target of safety education and trained on how to promote daily safe farm practices.

Additionally, farm safety campaigns need to move beyond education to understand the mythic nature of this profession. Telling a farmer to protect his/her hearing is not effective when hearing is balanced against the future of the farm itself. A farm is more to a farmer than just land and equipment, it is often a sacred trust passed on from the past to be maintained for the future. As one farmer in the study responded, "The only thing I care about is keeping this farm going so that my children can have the chance to farm if they want to. That's what my dad did for me and I'm not going to let this farm leave my family." Effective safety campaigns must understand and address the impact of the myth on daily practice.

The main limitation of this study is that we interviewed farmers in their shops or fields, and they were reluctant to have the interviews tape-recorded. Ironically, the noise

from the farm would have made some of the recordings unintelligible. As a result, there are no transcripts from which to draw, simply the researcher's notes. Despite this drawback, as Peterson et al., 1994 suggest, doing interviews in the field may have led to more honest reflection, and the farmer might have been more open and willing to disclose in that comfortable location. Future qualitative research ought to delve into this note-driven method of data analysis.

Although this study provides insight into how mythic visions shape the realities of farm life, and how such realities appear to provide a justification for "sacrifice," this study does not specifically profile recommendations for making the farmer more health conscious. Thus, to some, possibly even those concerned individuals intent on making the farm a safer and healthier place, this study is limited because it does not help "solve" the problems of farm safety and risk. We respond to this challenge by conceding that this study could be supplemented by data-driven studies on farm behaviors. Specifically, it is recommended that programs designed to make the farm a safer and healthier place take time to understand the relationship between myth and culture. This study addresses this complex relationship.

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