

Social and Emotional Impacts of Farmwork Injuries: An Exploratory Study

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ABSTRACT: *Context:* The physical hazards of farming have been extensively studied and reported upon. Far less studied are the social and emotional impacts of farmwork injuries and deaths. *Purpose:* To investigate and document broad but targeted issues regarding the impact on individuals, families, and communities of farmwork injuries and fatalities of farmer leaders. *Methods:* Ten incidents of farmwork injuries with disabilities or fatalities in Pennsylvania were used for a collective case study. Data were collected through a total of 47 interview sessions with 66 individuals including next of kin, other family members, injured persons, and community members. Thematic analysis was used to identify themes and issues in this descriptive study. *Findings:* Community members missed the rich, broad, and comprehensive skills, abilities, and perspectives that farmers brought to community service. Participants expressed that the community assistance and support provided to injured persons and families benefited not only the injured persons and their families and farms but also the community members. Participants reported emotional anguish and loss as well as positive transformations and consequences. As expressed by participants, God and religion play an important role in their beliefs regarding the occurrence and outcome of farmwork injury incidents. *Conclusions:* Social and emotional impacts on individuals, families, and communities are varied and multileveled. The role that religion and storytelling play in the process of dealing with serious injury incidents raises questions regarding agricultural injury prevention.

year. A recordable injury is defined as an injury that required at least 4 hours of restricted activity or required professional medical attention. Almost 4% of the injuries, or about 200 cases a year, result in some form of permanent disability.²

Far less studied are social and emotional impacts of agricultural injuries and deaths. Even those remotely associated with farming are familiar with the stories behind agricultural injury statistics: farms and heritages lost, families struggling to overcome enormous obstacles to stay on the farm, despair and loss felt by communities, and the tremendous outpouring of support. A literature search found 3 studies specifically related to the experiences of families following a farmwork fatality³⁻⁵ and none regarding disability following a farmwork injury. Research on social and emotional effects of nonagricultural traumatic incidents may not readily apply to farmwork injuries given the unique environmental, human, social, and economic factors of agriculture. Farming is an unusual occupation in that, for many, the farm is both work place and residence. (For an overview of differentiations between farm and other families see Rosenblatt and Anderson.⁶) For example, family farms generally rely on family members to “help” with multiple aspects of farmwork.⁶⁻⁹

Anecdotally, it is known that many farmers provide community service along with formal and informal leadership in agricultural, community and

The physical dangers of agriculture work have been studied and reported upon at length. Nationally, between 1992 and 2000, there were 7,337 farmwork fatalities.¹ In 2000 alone, there were 37,256 nonfatal injuries and illnesses that involved days away from work.¹ Between 1995 and 1999, at least 203 Pennsylvania farm operators, family members, volunteer helpers, and visitors lost their lives in farmwork-related incidents.² Recent injury surveys in Pennsylvania suggest that approximately 5,000 recordable farmwork injuries occur in a single

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This project was funded in part by the Northeast Center for Agricultural and Occupational Health, grant award U07/CCU 208030. For further information, contact: Dennis J. Murphy, PhD, Department of Agricultural and Biological Engineering, The Pennsylvania State University, 221 Agricultural Engineering Building, University Park, PA 16802; e-mail djm13@psu.edu.

religious organizations. Such involvement presumably contributes to the overall well-being of their communities. A literature search revealed that, while leadership is a well-studied topic, farmers and their leadership contributions within the community do not appear to have been singularly investigated.

The researchers wanted to investigate and document the impacts of farmwork injuries on individuals and communities. There was interest in whether or not farmers brought unique skills, values or perspectives to their role as leaders and how the loss of their participation would be experienced by others. There were several reasons for focusing on farmers who were actively engaged in their community as leaders. It was assumed that, given active community engagement, the potential for a measurable impact could be documented and that farmer leaders would have a wide range of contacts for a greater range of key informants.

The researchers chose to do a qualitative study as it is ideally suited for exploratory research, particularly when considering complex issues and problematic relationships.¹⁰ Qualitative inquiry is an interpretive process that can be utilized to explore participants' perspectives on the phenomena of interest.¹¹ In this study, the experiences of injured individuals as well as family and community members were of particular interest. General, guided interviews were chosen so as to "allow adaptation to specific respondents and contexts" while also keeping data collection systematic and comprehensive.¹² This article presents an overview of findings from a collective case study conducted to identify and document social and emotional impacts on individuals, family members and communities following farmwork injuries and fatalities.

Methods

Setting. Pennsylvania's farms are nestled in one of the nation's most rural states. With just less than 2,000 small and rural communities, 48 of Pennsylvania's 67 counties are predominately rural and 6 are 100% rural, according to the US Census. Physically, it is a large state containing 45,308 square miles with an estimated population of more than 12,287,150.¹³ The 10 cases reported herein occurred in 9 counties distributed throughout the state.

Case Identification and Participant Recruitment.

Potential cases were primarily identified through the Penn State Agriculture Injury Database for the years 1998 through 2001. Injured or killed individuals less than 18 years of age were not included in the study.

Due to substantial cultural differences that the researchers were not in a position to address, individuals identified as Amish and Mennonite were selected out. Only those individuals whose incidents were confirmed as Farm and Agricultural Injury Classification code 1 (ie, the individual was engaged in work related to agricultural production)¹⁴ were included. These initial delimitations provided 61 potential contacts out of a total of 209. Death certificates and newspaper clippings, from which the injury database is developed, were examined for information that would potentially indicate the farmer was a leader, and these individuals were contacted first. Additionally, Pennsylvanians for AgrAbility project directors were informed of the study. They identified 1 of their clients as a potential case and obtained consent for the client to be contacted by the research team.

Penn State Institutional Review Board approval was obtained before the implementation of the study. To minimize potential distress, no contact with potential participants was initiated until a minimum of 6 months after the incident. Once potential cases were identified, a letter explaining the study and asking for participation was sent to the injured person, or in the case of death, to the next of kin listed on the death certificate. The letter was followed by a phone call to reiterate the purpose of the study, clarify relevant information regarding the injured person, answer questions and, if appropriate, solicit participation in the project.

Of the 16 individuals reached by phone who met the criteria for inclusion in the study, 10 individuals agreed to participate. Two of the 10 interview sessions included a total of 7 additional family members. These 17 participants were designated as primary interviewees.

At the conclusion of the primary interview, interviewees were asked to provide contact information for potential additional participants. It was specifically explained that "These individuals should be able to elaborate on the injured person's participation in the community, their understanding of the incident, the impact of that injury or fatality and, when appropriate, their views on farmwork injuries in general." These additional individuals were identified as potential key informants.

Fifty-four potential key informants were provided by the primary interviewees, an average of 6 contacts per case in 9 cases (in 1 case, it was determined that the individual had not provided any formal leadership to the community and informal service was quite limited [see Table 1]; therefore, no further contact information was requested). All potential key informants were interviewed with the following exceptions: 6 were not

Leadership and Community Attributes of Injured Persons

Case	Agriculture*	Church Leadership	Civic Activities†	Youth Activities‡	Informal Community Service§	Other
1		x	x	x	x	
2	x	x	x	x		
3	x		x	x	x	x
4					x	x
5	x			x	x	x
6					x¶	
7		x	x	x		
8	x		x		x	
9		x			x	x
10			x	x	x	x

*Includes commodity organizations such as Farm Bureau, Grange, organic farming organizations, dairy co-operatives.

†Civic activities include planning, zoning and school boards, fire company, county extension board, agricultural land preservation, Habitat for Humanity, etc.

‡Youth activities include athletics, 4-H, Dairy Princess, Future Farmers of America, Boy Scouts, etc.

§Informal Community Service includes activities such as plowing neighbor's and church driveways and parking lots, donating farm products to charity, loaning wagons for parades, giving blood, providing farm tours, etc.

||Other activities include teaching Lamaze, and being active in Masons, American Legion, antique machinery, professional organizations, sportsmen clubs, etc.

¶Periodically provided farm tours arranged by wife.

interviewed when it was determined that no new data were being found; completed contact with 4 individuals did not occur because there was no answer, calls were not returned, or initial contact was made but attempted follow-up calls did not result in a completed contact; 3 individuals who were contacted declined to participate. Therefore, 41 of the 54 originally identified individuals agreed to participate. Furthermore, in 7 interviews, a spouse or children also participated in interview sessions for an additional 8 individuals. In summary, 37 key informant interview sessions were conducted with 49 individuals, an average of 4.9 key informants interviewed per case. Counting both primary interviews and key informant interviews, researchers conducted a total of 47 interviews with 66 individuals.

Overview of Cases. All incidents took place during the years 1998 through 2001. All the injured persons were male, ranging in age from 19 to 72 years. Five of the injured persons died from their injuries; the other 5 suffered some level of temporary or permanent disability. All but 1 of the injured persons were associated with a family farm. Only 1 of the injured persons—the youngest—was not married.

The injured persons were in various stages of their careers and life. The 3 oldest farmers (65-72 years old) were formally retired, though 2 of them still farmed on the same farm. The third had had a previous separate

career and had transitioned into agriculture before retirement. The youngest injured person (of age 19) had been employed full time on a farm at the time of his injury, was attending college, and planned on going into farming. The other farmers (aged 46-51) were in the middle of their careers with 4 of them owning businesses in addition to farming, 1 of which was a processing plant associated with the farm enterprise. Only 1 injured person was farming full time with no outside job or value-added business associated with the farm. One injured person worked on the family farm, which he was to inherit, while holding a full-time professional position.

The injured persons exhibited community involvement, with all being involved in either at least 1 organization or providing community service. They also contributed to their communities in many informal ways, as detailed in the Table 1. As seen, many of the individuals were active in more than 1 of the areas listed.

Study participants

Primary Interviewees. In 4 of the 5 fatal cases, the surviving spouse was the single primary interviewee. In the fifth, 6 family members requested to participate in the primary interview with the spouse of the deceased; these included their 4 children, 1 of their spouses, and 1 grandchild. In 1 of the nonfatal cases, the injured person's wife also participated in the primary interview.

Key Informants. Primary interviewees provided contact information for individuals with whom the injured person had a variety of relationships. Examples of individuals suggested by primary interviewees include minister, church member, politician, neighbor farmer, business partner and colleague, cofounder of local fire company, and director of community organizations.

Data Collection. Face-to-face, open-ended interviews were conducted by the 3 members of the research team between November 2000 and December 2002. The project coordinator participated in all interviews. Prior to each interview, the purpose of the study was reiterated; participants were informed that they could decline to answer any questions or terminate participation at any point. Permission to tape-record the interview was sought. Participants then signed an informed consent form. Primary interviews lasted from 1 to 2 hours. Key informant interviews generally ranged from 45 to 90 minutes. All interviews were recorded and subsequently transcribed.

Guided questions were developed to elicit information on the following: (1) the injured person and their participation in the community; (2) the interviewees' understanding of the incident that caused the death or disability; (3) other farmwork injuries or fatalities; (4) interviewees' perspectives and insights on farmwork hazards; (5) perceptions of the impact of the incident on the organizations, the interviewees, and the community; and (6) a general description of the local community of which the injured person was a member.

Data Analysis. All members of the research team participated in developing themes and codes and analyzing the data. Using thematic analysis, an iterative process for qualitative data analysis that uses identifiable themes, the research team identified major themes for coding the data.¹⁵ The research team determined that numerous and narrowly defined codes could inadvertently obstruct the openness and flexibility that Strauss and Corbin¹⁶ claim necessary for perceiving patterns in the data. The researchers selected 10 broad categories or themes that would better allow for patterns in the data to emerge.

There are various methods by which to approach coding and analyzing data. As we were a multidisciplinary team, bringing complementary strengths to the project, we chose a team approach utilizing consensus for coding and analyzing the interview data. While not as common as some methods, some accounts provide support for the benefits of teamwork such as increased rigor of analysis.^{17,18} It was determined that all coding would

be done first by each individual researcher and then reviewed collectively as a team for consensus. The collective review time was used to discuss various views and perceptions regarding the data and to address potential problems in coding, such as coders projecting mood and style onto the data, which might undermine consistency of judgment.

A matrix was designed to record coded text and notes at the interview and case levels, thus providing a master for every interview and case. For each interview, when consensus was reached on coding text, the interview master recording all coded text was created. Similarly, all interview masters in a case were reviewed individually and then collectively to create a case master. Case masters provided an overview of the case, that is, data that illustrated salient points, reoccurring issues, and triangulation (ie, support of an issue or perspective by different informants) as well as diverging points of view. The project coordinator recorded memos, questions, and concerns that were not otherwise recorded in the matrixes. Case masters were reviewed for subthemes as well as new themes. Interview masters and transcripts were consulted as necessary.

Results

The intent of this exploratory study was to investigate and document broad but targeted issues regarding the impact of farmwork injuries and fatalities. This section reviews and discusses major findings of participants' perspectives on farmers as leaders, community support to the family, and individual responses following the traumatic incident.

Farmers as Leaders. With 1 exception, the farmers in this study were deeply involved in their communities. For the most part, they were religious men. They were valued for the constellation of knowledge, skills, and perspectives they brought to any endeavor. Due to the nature of farming, rich, broad, and comprehensive skills were viewed, in part, to be a natural corollary to their being a farmer. Many farmers have similar skills; what then distinguished these farmers from others? One answer is that they were generous in sharing their skills and knowledge and especially generous with their time—a commodity often in short supply for farmers. They extended themselves through small and large deeds, making formal and informal contributions to their communities. Another aspect of their character is that they were consistently described as forthright and honest. On the whole, these farmers were valued community members to whom others frequently turned.

He was well respected in the farm community so when people saw him participating in this they said, oh (he) is involved with this, this must be a good thing.—Executive director, community organization

I would often call him when I was trying to figure out how to solve a problem. . . . He would take some time to think about it and, you know. . . so that was gone.—Executive director, community organization

Community Members Helping Out. The practical help that was provided by community members to the families in fatal and nonfatal cases took the familiar forms of handling routine household tasks such as providing food, doing laundry and mowing yards. Equally routine in farming communities was the help and offers of help with farm chores and tasks—milking cows, filling silos, planting corn, etc. Most often there was a combination of individual, family, and community-wide responses. On the whole, when help was given, it was generally welcomed and valued. In those cases of severe disability where 1 or more individuals took a lead role in organizing activities, this leadership assistance was valued and relieved a layer of responsibility from family members. In some cases, such assistance may have been critical to saving the farm operation.

When I got hurt, I have a very good friend who, ah, the one friend that the farm wouldn't be here [without] because he moved his cattle over to our farm and he helped my son and my wife. . . . They moved the cattle here the day after I got hurt.—Injured person

The actual management of the farm, the one big difference is there's a neighbor and a friend . . . the wife and the husband, they not only organized most of this, this construction, but they have been very instrumental in the overall management and trouble-shooting of all the farm stuff . . . even though the day-to-day milking and field work and such is done by hired people, these (friends) have really filled in where my wife and I, the kinds of things that we were not able to do.—Injured person

Strong responses by the community provided encouragement to those in recovery as well.

Support, like the community has given me, gives you this sense of, you know, there is a certain determination to kind of pursue whatever you've got to pursue in life because people have had that kind of level of confidence [in you]. Because . . . there

really is a certain sense of hopelessness, you know. But I figure, you know, people have tried this hard, I've got to keep trying, myself.—Injured person

Such outpouring of help did have its drawbacks at times. Participants depicted concerns about safety, the time it takes to train volunteers in a particular farm's procedures, and misguided offers. Trade-offs to the benefits of support may be that a family loses its privacy and concern over a sense of debt.

To be honest with you though, it is hard for people who never worked on your farm before to walk in off the street. They want to do well; they want to help you out. And they do it. . . . It takes a long time to train somebody [who] doesn't know what they're doing.—Family member of fatally injured farmer

There was an outpouring, an unbelievable outpouring. It's just incredible the numbers of people that came forward. Some that didn't realize it was not a dairy farm, there were people that were going to form a group to come . . . assist with the milking.—Wife of fatally injured farmer

It was hard on them too because they're a very private family and I remember telling [my husband] at the time that, "You know, this could very well be the end of our [friendship]." I know in his heart he doesn't feel that there's any way that he can ever repay [us] and so it has kind of caused a problem that way in [that], you know, we're not near as close as we used to be and I know a lot of that is because we were so involved in their everyday life that they almost feel violated by that.—Friend of injured person

Participants portrayed the outpouring of emotional support as an affirming response that balanced the immediate pain as well as providing beneficial opportunities:

When I learned what happened, I thought how in the world are we ever going to deal with this? That this wasn't happening at all and [was] just overwhelming. . . . The community certainly did come together and express itself in so many ways and obviously the most clear one to me was this viewing where all these people showed up and wanted to be there and share in that time. And I think in that pulling together they gave themselves strength but also certainly provided that for the family.—Minister

But I think people were very, um, how do I put it, somehow very grateful for the chance to give.

I think that ... it gave them a chance to put their best foot forward. So I mean it has really brought out the best in people. And the other thing is, some of the people that [the injured person] had difficulties with over the years are [now] some of his most staunch supporters, and that's really... it makes you want to cry. I mean, people are just unbelievable, you know. ... You give them a chance to come in with dignity and sort of repair whatever damages came between you.—Wife of injured person

Coping with Change. Participants indicated that there was a good deal of emotional anguish: relationships were challenged, families struggled with a multitude of changes, organizations grappled with the loss of a valued member, and those who survived a farmwork injury faced a future of struggling with physical issues. In spite of this, participants overwhelmingly portrayed numerous positive aftereffects following the incident.

Emotional anguish that was not easily resolved was a frequent theme. A father who had extensive injuries lamented about his daughter and her relationship with his friend:

She's kind of using him for a crutch, I think. ... She's looking at him now the way she used to look at me. And that's given me some tough times because I'm being replaced.—Injured person

A father of an injured person offered this regarding his own feelings and observations of his son:

The hardest thing as a parent looking at him is knowing he's practically done. ... If you'd have seen him before he got hurt in the morning and watch him get up now, it's like 2 different people. ... Knowing what arthritis is going to do to us all mostly anyway... and he's already got it bad at 21. ... That about kills me when I know what he has to look forward to and that's the thing as a parent and there's nothing you can do for it. ... That's depressing to me. He's in more pain than he'll ever let on. ... We hear him moan. ... I think it's done his nerves in. He still has dreams about it.

Still, often what was lost opened the door to something new and valued. Wives ascribed value to the changes in roles thrust upon them. In the case of injury, wives took on more responsibility for the farm.

I realized it was my farm too and I had to do a lot of things that I didn't have to do before because of his injury. In a spiritual sense it is extremely a blessing; marriages go through a lot. ... We needed more unity. We didn't need to be doing our own

thing; we needed to be doing the same thing on the farm. Working together as a team. So that was the lesson.—Wife of injured person

In fatal cases where the wives assumed full responsibility for the family and household, they voiced an appreciation for changes in perspective and developed independence.

And with my son away at college, if things can't be fixed with hot glue or tape. ... We don't sweat the small things anymore. No, I think it has changed my perspective on a lot of things, things that used to really worry me now I don't give a second thought to because they are just not important. In the blink of an eye everything changes and it's not overnight, it's in the blink of an eye.—Wife of fatally injured farmer

The youngest injured person lost his life-long desire to farm and refocused his studies in college:

Truthfully... more good came out of me getting run over than bad. If I wouldn't have got run over I probably never would have left [his studies at that time]. ... I thought I wanted to be a farmer and when I got ran over ... I decided I had always thought about doing something different. ... It kind of changed my perspective a lot.

A number of respondents shared how friendships took on elements that likely would not have occurred if not for the farmwork incident.

Well, you know, all of a sudden this relationship came to a crashing halt and jumped from here to there because we didn't have time for the niceties. ... You only had time for what was absolutely, positively important and that took the relationship so much further than it would've any other way. ... And that was the best thing about it. We actually said when it was over we wanted to go back and do it again. You know, not experience the accident again, but we wanted to go back and do that experience again.—Friend of injured person

In 1 instance where the injured person expressed bitterness his wife took a different perspective:

A lot of things have happened since then and it's just really awesome so I'm not going to sit here and complain. I bless those [body parts] that are gone. I don't tell him that, but they saved our marriage, so saved our farm probably too.—Wife of injured person

At the community level, key informants described deep losses—of friends, mentors, leaders, and people

who got things done—while also depicting counterweights to those losses through what was gained. Such gains often arose as a way of honoring the individual, particularly in fatal cases. Individuals explained that they took on responsibilities formerly filled by an injured farmer, which they would not have done otherwise. Memorials, which benefited the community, were created such as scholarships, a volunteer award, and additional hand bells for a church. Organizations maintained their efforts on projects important to the deceased.

You know, I remember the first few meetings when he wasn't there, it felt, you know, there was some big part of the board that was missing; it was just like this one voice of the board wasn't there that you normally hear.—Executive director, community agency

Actually (I'm) participating a little more in some areas (at church) of the things that he had been doing.—Friend of fatally injured farmer

We've strengthened our resolve to work harder because when you lose someone like that you just don't want their cause to die, you know.—Executive director, community agency

God and Faith. One of the most persistent themes that appeared was that of faith and God.

But because, I think, I've become religious in the sense that I turn it over to God and I leave it in his hand. I leave it in the angel's hand to guard over us and watch over us 'cause I've seen that I can't stop it. I mean you can only go so far with safety; I mean, you need to take the normal precautions but you don't need to go overboard.—Wife of injured farmer

Two wives attributed a "better" outcome of the situation to the will of God.

I handed it over to the Lord and He did miracles, not the miracles that [the victim] wanted but some day he'll understand.—Wife of injured farmer

And I said to this dairy farmer [who had been driving the tractor that ran over her husband] that I'm very sorry that he's the one that this accident happened [to], but I think he saved something worse happening to our family because I think it would have caused a divorce, it would have caused us to be emotionally unstable or something. . . . So, I think God protected us from something worse. I mean [the husband's] death is awful but it could have been 2 of my family members involved.—Wife of fatally injured farmer

In 3 cases, individuals described how, against all odds, everything was in place for the injured person to survive—such as key medical personnel being on hand. This same reasoning was used whether the person survived or not, thereby illustrating to them God's intentions for the outcome for an incident. In 1 case, the injured person who survived with extensive injuries put it most simply:

You know, you don't argue with an 8-ton tractor without some help.

Fatalism. The "will of God" and providence appear as both subtheme and subtext in the above quotes. The notion of "fatalism" regarding farmwork injuries and safety is not new.¹⁹⁻²¹ Fatalism also surfaces in this study without a direct attribution to God:

[They] are 2 of the most highly respected men, as farmers, as men, as people in our organization and when you think of something like that happening to them, you think, Oh my gosh, if it could happen to them, [then] it could happen to me. Because they're intelligent, they're experienced; I mean, it's not like it's their first year of farming.—Executive director, farm organization

Discussion

It is to be expected that the loss of a valued community member's contributions would cause strife, and this appeared in our study. As likely it should be, none of the individuals was so key to an organization that the organization could not continue with its primary work. If anything, the loss of an admired and respected member encouraged other members to carry on the work in their honor. It is also to be expected that individuals and communities will mourn, honor, and move on following such a loss. This is part of the ebb and flow of life.

Grief is a transformative process,²² and relationships are a vital element in these stories of recovery, mirroring Walsh's premise of "relationships as lifelines for resilience."²³ "Crisis as opportunity" aptly describes the experience of many participants. These stories emphasize the view that farmers and farm families are resilient.¹⁹ They serve as models for the transformative potential of crisis and grief.

The support community members provide following a farmwork injury incident works on multiple levels including practical and emotional; it helps to keep a business operating, reinforces a sense of community, and helps families and communities cope with the crisis. Such support can be a multiedged

sword; needed support may keep things running and provide encouragement for recovery while it also may bring challenges in coordinating and supervising the support, a loss of privacy and a sense of indebtedness. This suggests that it may be helpful for those in the position to do so to try and manage or moderate the downside aspects of support. Participants' stories of the ways in which God played a key role in the farmwork injury incident and the aftereffects resonate with research on religion and coping. Studies show that religious individuals will likely frame a traumatic event in terms of the divine. Paraplegics indicated that God had a reason when asked, "Why Me?" in a study by Bulman and Wortman.²⁴ Pargament found that church members pointed to God's will, rather than individual responsibility or chance, when assigning accountability.²⁵

Approximately 85% of Americans report that religion is either very important or fairly important in their personal lives.²⁶ Pargament notes that 1 of the elements of religion is that of the functional tradition. In effect, religion provides a means of dealing with "seemingly insurmountable facts of life" such as death, tragedy, and suffering.²⁵ Given the importance of religion, it is natural that respondents include references to God when reflecting on unexpected farmwork injury incidents. What is noteworthy here is participants' perspectives on God's role in terms of safety, farm injury incidents, and the outcomes of such incidents.

Murphy outlines multiple factors that contribute to the hazards of farming and the difficulty in engendering change, noting that many of these individual factors have been discussed in the literature but not so their synergistic effect. He suggests that "Looking beneath the surface can shine a light on underlying influences obscured by *conflicting* [authors' emphasis] values and beliefs." One fundamental factor that serves as a barrier is "... the cultural belief that farming is a hazardous and unpredictable occupation. This contributes to the belief by farmworkers that little can be done about farm safety and health except be careful".¹⁹

It is well documented that knowledge alone does little to affect behavior change toward safety.^{19,27} Witte notes that "Typically, health communication researchers adopt reductionist perspectives..." when "In reality, however, individual health-related behaviors are influenced by a diverse set of messages or interactions across multiple levels of communication at several points".²⁸ Additionally, Parrott states, "Many health beliefs and behaviors are formed, maintained, and reinforced in less formal settings and not strategically designed to influence...."²⁹

Narrative psychology³⁰⁻³² posits that stories are how individuals make sense of the world. Sarbin

points out "... the universality of the story as a guide to living and a vehicle for understanding others,"³⁰ and Brunner asserts that storytelling and culture are intermingled, with each one informing the other.³¹ Often, survivors are called upon to "testify," to tell their story, for farm safety programs, in part, as a means for quite literally scaring farmers into safer behavior. Since storytelling works on multiple levels, we have to ask, "What are the different elements which may be received and/or conveyed"? Certainly, the telling of these stories reinforces farming as dangerous and that danger is unavoidable.

These findings raise interesting and potentially important issues. There is the question as to what the relationship *is* between narratives, conceptions, beliefs, behaviors, and injury interventions? The data call attention to the tension between proactive preventive attitudes and behavior versus the acceptance of farming as dangerous and the notion that injury events may even be unavoidable acts of God. Therefore, it seems appropriate to raise the question as to whether or not accepting the pervasive belief that farmwork injury incidents are inevitable, and believing that God has a role in these incidents and their outcomes, lessens the need for some to think about and act on taking safety precautions. This would correspond with the deferring style as defined as 1 of Pargament's 3 styles of religious coping. With this style, the individual relies on God rather than himself/herself (self-directing) or in partnership with God (collaborative).²⁵

There may be a more global point to contemplate as well. There is a cultural divide between those in the research community who view occupational injuries and fatalities as discrete events set apart conceptually and behaviorally from the day-to-day lives of farmers, farm families, and community members. Many researchers in health communication, health education, sociology, and psychology, among others, recognize the necessity of addressing the relationship of religious and spiritual beliefs to health and well-being.^{29,33-37} Parrott affirms that "The individual predisposition to think, feel, or act based on belief in a spiritual power greater than humans affecting the course of nature and the role of humans within that realm has far-reaching health effects." Harris et al maintain the need to "tailor health messages to religiosity," while Egbert et al suggest the need for research as to "... how religious commitment can be used in constructing persuasive health messages." Yet, this is rarely addressed in agricultural and farm safety and health literature. Is it possible that researchers and injury intervention specialists are unintentionally guilty of ethnocentrism by exporting our conceptual models of injury detection and prevention on those we are trying to help?

Study Limitations

This was an exploratory study with a small purposive sample. The intent—to investigate and document social and emotional impacts of farmwork injury incidents—is exceedingly broad. At the same time, the focus on farmer leaders limits the potential range of data and therefore limits the potential range of impacts revealed.

The results of this study reflect stories captured at a particular point. One's perspective may change, in part, with time, mood, and additional experiences and may depend upon the audience (eg, family, friends, church members, other farmers, researchers). The accuracy of participants' responses may be affected by these same issues, as might their ability to carefully consider the questions asked and effectively communicate their perspective. "God and Faith" as a theme were not identified early enough in the process of analyzing the data for questions to be added to the interview outline. Therefore, this issue can only be addressed in this article in a limited manner.

Summary and Conclusions

The original intent of the researchers was to explore broad areas of experience associated with farmwork injuries and fatalities. It is to be expected that some notions will be confirmed and others either disconfirmed or left up in the air. Exploratory research also holds the promise of raising unexpected issues. This certainly holds true for this study.

The personal "testimonies" of farmers who have been injured in farmwork-related incidents are often utilized as precautionary tales for farm safety. There is a need to assess how farmers incorporate these stories into their own beliefs regarding farmwork injury prevention, along with whether or not they are valuable, and effective contributions to injury prevention.

As a theme that ran through the interviews for the 10 cases, this study strengthens the view that God, faith, and religion are important elements to be considered in health and safety education. The relationship between religious viewpoints of farmers, their conceptualization of the causes of farmwork-related injuries, and their behavior deserve additional study. The present study dealt with only the postinjury event consequences, and it is true that narratives of events are in large part a by-product of postevent construction. It is not known whether or not this reflects the mindset of individuals prior to an injury event, nor how the narrative is received and interpreted by other farmers. Thus, it is not clear what role, if any, religious views and conceptions of "God's Will" play in farmers' beliefs

and actions regarding injury prevention. An adequate assessment of the role of religious views and their impact on farmers' adoption of (or failure to adopt) safety practices to avoid injury events would include interviews of farmers who have *not* experienced a serious injury event to themselves, family members, workers, or friends. Future studies might help to determine if fatalistic views of injury events are primary ways of coping with tragic loss as opposed to being a way of thinking that inhibits safe work practices.

Finally, care and thought should be given to the effect that researchers' and injury prevention specialists' beliefs and perspectives have on research and injury prevention efforts. Future studies should investigate the lack of inclusion of God, faith, and religion in research and injury prevention efforts, despite their pervasive presence in folk explanations, as well as how researchers' and injury prevention specialists' own views affect their efforts.

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