



Moving social work norms via theater for senior farmers

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ABSTRACT

Problem: Senior farmers have a 2.6-fold risk of fatal injury compared to their younger counterparts. Usual educational interventions have resulted in limited success in reducing injury. **Method:** An innovative strategy, didactic readers theater, was piloted. Farmers' stories provided the foundation for the scripts. The approach incorporated adult learning strategies based on Ajzen's Theory of Planned Behavior. The intervention was marketed as a "dinner theater" to farm couples. Three short socio-novels (plays) were presented by local farmers who served as actors. Following each play participants completed a reaction form and participated in a short discussion about the play's content. One week later a phone survey was completed that tapped further reaction to the content and behavior changes. **Results:** Thirty-three farm household individuals (including 16 couples) participated. Participants expressed favorable reaction to the intervention. Within one week post intervention, 42% had made safety changes and 67% were "thinking about/intending" to make changes. **Discussion:** The use of real stories contributed to the success of this intervention. Farmers identified with the stories and began to think and talk about the impact that aging exerts on their health and safety. Interaction among the group identified work modifications which empowered the farmers to make positive changes in their own work behavior. **Summary:** Educational interventions with farmers have met with limited success in reducing farm-related injuries. Moreover, few interventions have utilized the family unit. This novel program, incorporating local organizations and using limited financial resources, resulted in swift behavior changes. **Practical applications:** Total Worker Health includes not only the worker, but also the family. Interventions that include family units should be considered when possible. This format is effective, easily adapted to local issues, can be delivered using existing infrastructure, and is acceptable to the farm community. It is currently being tested on a larger scale.

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1. Introduction

Agriculture represents one of the most hazardous work environments and has the oldest workforce in the United States. The average age of farm operators has increased 16% over the last three decades. In 2012, the average age of principal farm operators was 58.3 (USDA, 2014). One-third of the operators were 65 years of age or older. Numerous studies confirm that older farmers are at high risk for injury. Non-fatal injuries that are sustained by older farmers are generally more severe than those of younger farmers (Myers, Layne, & Marsh, 2009). A review of data from two national surveillance systems found that older farmers accounted for over half of all farming deaths between 1992 and 2004, a 2.6-fold increased risk compared to their younger counterparts (Myers et al., 2009).

Factors associated with aging contribute to senior farmers' increased risk for injury. With aging, one generally experiences vision and hearing problems, decreased strength and flexibility, mobility issues, the onset

of chronic illnesses, and increased use of medication. Studies have shown that farmers who exhibit these factors are more likely to be injured. A large cohort study of United States farmers aged 50 and over noted that farmers with mobility problems were twice as likely to experience injuries than farmers without mobility problems (Heaton, Azuero, Phillips, Pickens, & Reed, 2012); increased risk of injury was also evidenced for farmers with chronic bronchitis and restless sleep (Marcum, Browning, Reed, & Charnigo, 2011). Voaklander, Umbarger-Mackey, and Wilson (2009) noted a link between the use of medications and increased injury in their study of Canadian farmers. The evidence provides support for modifying work behaviors as age advances.

Despite the prevalence of chronic health conditions, farmers continue to work. While the amount and type of work may shift as they age, older farmers carry workloads similar to their younger counterparts (Lizer & Petrea, 2007; Reed, Rayens, Conley, Westneat, & Adkins, 2012; Voaklander, Dosman, Hagel, Warsh, & Pickett, 2010). The persistence to do farm work is rooted in both the culture of agriculture and the farmers' definition of health as "the ability to work" (Reed et al., 2012). Life satisfaction is linked to their sense of accomplishment from farm work (Maciuba, Westneat, & Reed, 2013). A thorough understanding of these beliefs, values, and motivations is required to

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effectively minimize the risks faced by older farmers and farm workers (Myers et al., 2009).

The most common types of farm safety interventions to date have involved educational programs, safety audits, and environmental revisions. While farmers have acquired a great deal of farm safety knowledge, there is little evidence to support the effectiveness of these types of interventions in reducing the number of farm-related injuries. As Cole (2000) points out, knowledge alone is not enough. We must tap into the attitudes of farmers and their families to influence their safety behavior. McClure, Mack, Wilkins, and Davey (2015) concurred that simply educating individuals about injury risk and providing them information will not solve the public health injury problem. New approaches are needed. The failure of educational and incentive programs has led to a growing popularity of norm-based interventions (Miller & Prentice, 2016). Myers et al. (2009) concluded that effective injury prevention programs should encourage safe work behaviors and practices by older farmers and advocated that solutions need to be developed in concert with the farm community.

The way people act is greatly influenced by what they know about the actions of others in their communities. Within any culture there is an underlying social norm — the perception of how one is to act and function within that culture. Changing the norm, or altering the norm, can lead to behavior changes (Miller & Prentice, 2016). Aboud and Singla (2012) identified three focal areas for developing interventions aimed at changing behavior — theories of behavior change, evidence for the success and failure of past attempts, and an in-depth understanding of one's audience.

This article describes a promising practice to reduce injury and fatalities to senior farmers — didactic readers theater — and reports on the success of the first pilot of the intervention. In this venue, community-based theater is used to help audiences recognize the importance of certain behaviors and beliefs. Didactic theater includes discussion among the audience of the play's themes following the presentation. This allows the audience to reflect on the content and incorporate the information within their own lived experiences and within the social norms of the group. As information is shared and processed, individuals are empowered to make changes (Kontos et al., 2012). Readers theater was first popularized in Europe during and following World War II when resources were scarce. This type of performance requires familiarity with the script but not memorization and focuses on the words and ideas being communicated rather than on the performance itself. With limited choreography and short scripts, the theater is easily affordable and adaptable to community events carried out by local volunteers. Our approach incorporated adult learning strategies, constructivism, and information processing to situate the information within the person's own context so the person could form a new mental model (Cole, 2002). The overall goal of the intervention is to empower farmers and their families to recognize the injury risk factors of aging farmers and take action to reduce or eliminate such risks.

2. Method

In a recently completed study with senior farmers and their families that focused on how to best approach the continued injury challenge, investigators discovered that the farm population desired interventions that supported continued work and appreciated their culture (Reed & Claunch, 2015). Furthermore, the use of stories and humor was suggested as intervention methods as opposed to statistics and structured guidelines. In response to these findings, an innovative strategy, didactic readers theater, was piloted.

The foundational theory for the study, Ajzen's (1991) Theory of Planned Behavior, incorporates individual beliefs, self-efficacy, and the perceived influence of the community's social norms. The play's content, coupled with the discussions, provided the platform for individual and group change.

Approval by the university's institutional review board was obtained prior to recruitment. The one night intervention was marketed as a dinner theater, engaged local farmers as actors, and was presented at a site well known to farm families in central Kentucky. Farm couples were recruited to facilitate continuing communication after the event. The local cooperative extension office assisted in recruitment and in securing individuals to serve as the "actors." The actors reviewed the scripts one week before the event and participated in a short rehearsal the day before the event.

A meal, which is a common cultural component of farm meetings, preceded three short socio-novels (plays) based on stories shared with the investigator in previous studies. The plays ranged in length from 2 to 15 minutes and portrayed some of the physical/cognitive issues associated with aging on the farm. They were laced with humor in keeping with farmers' previous suggestions. Thus, the theater format allowed farmers and their families a "third person" view of risks, results, and possibilities of adaptation. Following each play the investigator led a short discussion about the content to reinforce some of the key health and safety messages and to garner participants' perceptions and their ideas of how to address the aging issues.

Two methods were used to rate the theater's effectiveness. First, immediately following each play, participants completed a "quick reaction" form using a 5-point Likert scale to rate the plays on an individual basis with regard to realism and applicability to aging on the farm. One week after the theater event, a follow-up telephone survey was conducted rating all three plays as a group. The survey also asked about work behavior changes and knowledge gained from participation. Participants rated how much they thought about, talked about, or took action on their health and safety based on the intervention. The primary focus of the follow-up survey was to determine the impact the information presented may have had on the participants' farm work behavior.

3. Results

A total of 33 individuals (participants and actors) were enrolled. Ages ranged from 43 to 81 with a mean age of 64 years. Since the recruitment was focused on farm couples, there was almost an even distribution by gender with 17 males and 16 females participating. The average number of farm work years among the cohort was 55. Most, but not all, of the participants knew each other prior to the meeting.

Feeling relaxed and non-threatened, farmers were willing to share ways they had adapted their approach to farm work as they aged. A case in point is the interface of fatigue and injury. After one play that included stories about fatigue and its consequences, participants talked about their own fatigue, how it interferes with their work and how they combat it, even to the extent of admitting that they take naps in the afternoon. After one person made the bold admission to napping, others chimed in with relief and laughter that it was good to know others were doing the same thing. By the end of the night, many participants left with the realization that they too could take a break in the afternoon without feeling they were "being lazy" (e.g., outside the norm). Realizing that the non-risky behavior (e.g., taking a nap or break during the day) was socially acceptable was liberating and empowered the individuals to form a new mental model of their own behavior. This, in effect, moved the social norm for performing farm work. Fig. 1 illustrates how this was accomplished.

Responses from the quick reaction form, completed after each play, were favorable for each aspect rated (see Table 1). All participants felt the plays were realistic and applicable to issues about aging on the farm. Over 90% indicated they would use the information themselves and share it with others.

The follow-up survey sustained this enthusiasm, noting the realism and applicability of the content. The top rated features about the intervention included the reality of the stories and messages used, the non-threatening relaxed atmosphere in which the messages were presented,

Dissemination of health and safety message (excerpts from plays)	
•	<i>“I had to slow down or it would kill me.”</i>
•	<i>“I found out I do a lot better if I take that break.”</i>
•	<i>“Maybe as we get older we finally have those things sink in; all that rushing just wears us out and lands us in trouble.”</i>
•	<i>“I don’t have to work all day – at least not today.”</i>
Discussion	
•	One older farmer “admitted” he began napping 2 years ago <i>“I have to; I can’t go all day anymore ... it really helps me.”</i>
•	Another chimed in <i>“I have to break for [tv show].”</i> (humor, laughter)
•	Daughter of older farmer & wife of a farmer <i>“Dad...I didn’t know you did that [nap].”</i> (all laugh), then looked at her husband and said <i>“See, I told you so...a [nap] is good for you”</i>
What did you learn tonight? (group discussion at end of event)	
	<i>“It’s okay to take naps!”</i> (laughter)

Fig. 1. Moving the norm from “Work Hard/Never Stop” to “Naps are Good”.

the use of local farmers as the actors, the discussion and interaction following the plays, and the entertaining format that kept their attention. More importantly, within one week of the theater event, 42% of the participants had already made significant safety changes based on their participation and 67% reported “thinking about/intending” to make changes. As reflected in Table 2, the farmers and their families were pro-active in implementing practices to improve their health and safety.

4. Conclusions

Cole (1997, 2000, 2002) has long advocated that stories and narratives are powerful mediums in guiding and understanding our conduct as well as the conduct of others. The translation of real-life experiences into stories that integrate facts, perceptions, emotions, intentions, actions, and consequences into coherent meaning is effective in changing attitudes and behavior (Cole, 2002). The use of real stories from real farmers contributed to the success of this pilot intervention. Participants identified with the stories and started to think about ways they could make positive changes. As one participant stated, “It wasn’t your story, but it was. You could identify but not be threatened. Messages were delivered in a non-threatening way which allowed you to get involved.” This corresponds with farmers’ suggestions that humor and stories would “soften the blow” of serious topics (Reed & Claunch, 2015), and supports the theoretical foundation of the intervention. Participants were able to incorporate their individual beliefs about farm work and evaluate their self-efficacy to change their behavior within the context of the community’s social norm on work performance. The group context provided the springboard for moving the wider social norm.

Farm communities are close knit and rely on each other for social and occupational interaction. Families often work across generations and constantly compare their farms and their work practices against those of their neighbors, establishing social and cultural norms that

are highly valued (Garkovich, Bokemeier, & Foote, 1995). Establishing support for non-risky healthy behavior reduces the social pressure an individual may feel to do the risky behavior (Miller & Prentice, 2016). Our study demonstrated the success of meaningful conversations grounded in the culture and reality of the farm families’ lives.

One suggestion expressed by participants in a previous study by the authors, involved developing a relationship of trust with the farmer (Reed & Claunch, 2015). This includes working with organizations that are respected and trusted by the farmers. Partnering with the local county extension office in the pilot project provided a strong buy-in from the community and contributed to the participation in the program. Not only were the participants enthused about the venue but the county agents also recognized the potential that farm theater has for encouraging older farmers to make positive behavior changes to improve their health and safety.

This pilot study was conducted at the conclusion of a two year study to identify strategies for safety of older farmers and in response to what was learned from those participants (Reed & Claunch, 2015). While the positive reaction and the changes evidenced were a pleasant surprise, the results should be viewed with caution. The participants were purposively selected from three farm communities in one state, thus, they may not represent the larger farm population. There is no evidence that this intervention is more effective than other interventions. We were limited in funding and time to explore the more long term effects of the intervention, which may wane over time; however, the intervention seemed promising.

Didactic theater is gaining popularity in changing health behavior (Kontos et al., 2012). To our knowledge, prior to our pilot, only one small research study has used community-based theater for farm health and safety education (Elkind, Pitts, & Ybarra, 2002). Participant response to that theater was positive but the development of a larger study did not occur. Our foray into the use of didactic readers theater

Table 1
Participant ratings from the quick reaction form.

	Strongly agree/Highly likely	Somewhat agree/Somewhat likely	Total favorable
The play realistically portrayed issues about aging’s impact on farm work	82%	18%	100.00%
The issues addressed in the play were applicable to aging while farming	84%	16%	100.00%
How likely is it you would use the information presented in the play	43%	51%	93%*
How likely is it you will share the information from the play	43%	50%	92%*

* Does not sum to 100 due to missing values.

Table 2
Reported changes and planned changes.

Changes made	Changes planned
<ul style="list-style-type: none"> Increased communication between farmer and spouse/family Paced themselves on doing farm work — didn't work as hard and fast Intervened during an agricultural field day to prevent injury from an activity deemed unsafe More careful while mowing <ul style="list-style-type: none"> Used seatbelt and made sure roll-bar was up Reassessed safety of field for mowing 	<ul style="list-style-type: none"> Getting cell phone for communication Talking with others about safety issues Spending more time with family Not pushing so hard/taking breaks Getting help from others

with adult farmers holds promise that this innovative approach can change the social work norms of farmers and lead to better health and decreased injury. A larger community efficacy trial of didactic readers theater for farm families is currently being conducted by the authors.

5. Summary

In this small pilot study, the format of didactic readers theater was effective, easily adapted to local issues, delivered using existing infrastructure, and acceptable to the farm community. This novel intervention, incorporating local organizations and using limited financial resources, resulted in surprising and swift behavior changes that may lead to the desired goal of reducing injuries experienced by the aging farm population. It is currently being tested on a larger scale.

6. Practical applications

Total Worker Health includes not only the worker, but also the family. Interventions that include family units should be considered when possible. Basing interventions and communications within the perceived reality of farmers will aid the effectiveness of new interventions. The rapid translation of research to practice is demonstrated by this pilot study which was grounded in the findings of a preliminary study to identify strategies for safer farming practices among older farmers. Didactic readers theater may have similar application to other age farmers and to other working populations, particularly those with strong cultural work norms and self-regulation.

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