

What Farm Families Tell Us That Can Be Useful in Educating for Health and Safety

Abstract

A pilot qualitative research study in Weld County, Colorado, was designed to obtain the perspectives of farmers and their families on the occupational health and safety risks they face and to gain their insights into extant and potential preventative measures. A structured interview schedule and an iterative process of qualitative data analysis identified four themes: 1) risks, 2) obstacles, 3) motivators, and 4) supports. Considerations relevant to Extension educators for the development of prevention programs were extracted from the data and presented according to what should be emphasized, what should be included, what should be avoided, and what should be acknowledged in the design and delivery of Extension educational efforts with this population.

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Introduction

From the beginning, Extension educators had as a goal the development and delivery of highly effective educational efforts designed to keep farmers and their families healthy and safe. Many suggestions have been offered on how best to achieve this goal. Recently, Blaine and Patton (2000) raised the issue of the role played by values in Extension's educational programs. They suggested that all Extension programs have been, currently are, and most likely will continue to be guided by the values expressed in Extension's mission statement. They concluded that the role of these values should be given explicit recognition and be openly embraced by Extension educators.

Expanding on this theme, it is our opinion that explicit recognition and consideration should also be given to the values of those who are the recipients of Extension's educational efforts.

The influence of the values and perspectives of program recipients on the effectiveness of prevention programs has long been recognized. Perry and Bloom (1998) have noted that for prevention programs to be effective they must be responsive to the concerns and values expressed by the population to whom they are directed. Green and Krueter have warned that if professionals fail to adequately consult with the target population to determine their needs, their problems, and their aspirations, they risk having their programs and policies remain "sterile, technocratic solutions to problems that may not exist or that hold a low priority in the minds of the [target] people" (1991, p. 21).

The Study

A pilot qualitative research study was undertaken to obtain a fuller understanding of farmers' and their families' perspectives and perceptions of the occupational and environmental health and safety risks they face and to gain their insights about actual and potential preventative measures, including prevention programs. A pre-tested interview schedule was used to discern farmers' and farm families' thinking in five safety-related areas:

- The nature and extent of health and safety risks;
- The accessibility and validity of safety information;
- The nature of behavioral changes required to implement safety information;
- The viability of implementing safety options; and
- The existence and usefulness of safety-related support systems.

Below is a list of the terms used in the interview schedule and their definitions.

Terms Used in Interview Schedule

| Term | Definition |
|--------------------------|---|
| Accident | An unintentional event that leads to injuries that require professional medical care, or result in one day or more time lost from usual activities (Murphy, 1981, p. 332). |
| Attitudes | A predisposition to react in a certain patterned way when confronted with a particular stimulus (Murphy, 1981, p. 332). A relatively constant feeling that is directed toward an object, person or situation and entails an evaluative component (Green & Kreuter, 1991, p. 158). |
| Perceived Barriers | The potential negative aspects of a particular safety/health action that may act as impediments to undertaking the recommended behavior (Janz & Becker, 1984, p. 2) |
| Perceived Susceptibility | One's subjective perceptions of the risk of contracting a condition or suffering a negative effect (Janz & Becker, 1984, p. 2). |

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| Risk Factor | A biological or environmental variable that contributes to a problem occurring, makes the problem worse, and/or makes the problem last longer (Johnson, 1999, p. 3). |
| Protective Factor | A biological or environmental variable that contributes to preventing a problem from occurring, lessens its severity, and/or helps it get better faster (Johnson, 1999, p. 3). |
| Values | The cultural, intergenerational perspectives on matters of consequence. Ultimately, the basis for justifying one's actions in moral or ethical terms (Green & Kreuter, 1991, p. 157). |
| Strategy | A plan of action that anticipates barriers and resources in relation to achieving a specific objective (Green & Kreuter, 1991, p. 435). |

The study recruited farmers and farm families with children between the ages of 10 and 18. According to Kelsey (1994), a substantial proportion of farmers either grow up on a farm or are introduced to farming by family members. It is reasonable to infer, therefore, that primary socialization to farming occurs within the family where "family rules and roles operate as invisible constraints influencing all we do" (Nichols & Schwartz, 1998, p. 93). Based, in part, on their own farm family experiences, farmers come to create for themselves a unique life setting wherein they develop their own perceptions about, and expectations of, what has to be done for them to stay safe. These perceptions, perspectives, and expectations influence how they approach their work and their safety on the farm.

Method

The families interviewed for the study lived and farmed in Weld County, Colorado, an area where many farm families have been farming for two, three, and four generations. Weld County, with approximately 2,909 farms and an average of 717 acres per farm, ranks in the top two counties in Colorado in the number of farms (Census of Agriculture, 1992). Approximately 75% of the operators reside on their farms, and nearly 65% list their principal occupation as farming.

The eight families in this pilot study all lived and worked on family farms. Six families were recruited through university contacts with the state's agricultural community. The remaining two families were recruited using a snowball sampling method. All were two-parent, intact families that had from two to four children. Fathers ranged in age from 36 to 50 years, with a mean age of 42.6 years, while the mothers' ages ranged from 33 to 47, with a mean of 39.1 years. All of the farmers had at least 20 years experience in farming (most had 30+ years), with a mean number of 34.8 years. Their farms produced beans, corn, sugar beets, alfalfa, wheat, barley, sunflowers, and millet. Four of the farmers also raised feeder cattle and pigs.

In keeping with a growing trend in agricultural health and safety studies, the study used qualitative research methods (Baker, 1995; Elkind, 1991; Gorkovich, Bokemeier, & Foote,

1995; Perry & Bloom, 1998; Quandt, Arcury, Austin, & Saavedra 1998; Thu, Donham, Yoder, & Ogilvie, 1990). Data collection involved intensive face-to-face interviews conducted by two social scientists, each with over 20 years of interviewing experience.

The structured schedule and interviewing techniques followed the principles developed by Gordon (1992). A structured interview guide permits easy comparison of responses between respondents (Patton, 1990), reduces interviewer bias, and increases consistency between multiple interviewers (Rubin & Babbie, 1993). The open-ended interview format provided respondents with opportunities to fully explain the rationale for their views, thereby overcoming the limitations usually associated with surveys, polls, and questionnaires that are formatted using limited range response options.

The interviews were conducted in participants' homes between June and August 1998, a peak time in agriculture production that respondents called "push time". All interviews were audio taped, averaged 2.5 hours (some lasted as long as four hours), and generated approximately 759 pages of typed transcripts. An iterative process of qualitative data analysis (Boyatzis, 1998) was conducted in order to draw out major themes from the participants' perspectives and attitudes regarding the quality of life and the role of safety in the lives of their farm families. Four overarching themes were independently identified and agreed upon by the researchers: 1) risks, 2) obstacles, 3) motivators, and 4) supports. These themes were subsequently applied in answering the research questions.

Results

Nature of the Risks

Respondents tended to be sophisticated in their understanding of the nature of the risks they faced, taking into account both context and circumstances. The hidden long-term effects of unwitting exposure to unrecognized hazards were particularly worrisome to them.

- There are degrees of danger depending on the job being performed and the type of equipment being employed.
- There are multiple dangers inherent in almost all aspects of agricultural production: the operation of complex and powerful machinery, the use of toxic chemicals, being in close proximity to unpredictable animals, and facing the awesome power of the weather and ungrounded electricity.
- There are common and chronic stresses to farming that can have substantial negative impacts on one's psychological health and sense of well-being.
- The risks can be deadly at times, severely incapacitating at other times, and, though seemingly benign in the short term, potentially devastating in the long run.

Causes of Accidents

Respondents were equally sophisticated in their understanding of the causes of accidents, tending to eschew explanations that were excessively linear for explanations that were predominantly complex.

- The pressures of time, with farmers having only a small window of time in which to complete tasks, such as harvesting crops, at ideal climatic conditions.
- The pressures of an ever-changing and increasingly unpredictable agri-economy.
- The belief that most accidents have multiple causes that cannot always be defended against.
- A sense that almost all farmers cut corners on safety at one time or another, and some simply and tragically "get caught."
- The unwitting and unprotected exposure to ubiquitous powerful agricultural chemicals. (All respondents expressed serious concerns about both the long- and short-term effects of unprotected exposure to agricultural chemicals. Their concerns were not only for their own health and safety, but included the unknown effects on their families' health and on the environment.)
- Some causes of accidents, believed to be out of a farmer's control, including such things as time pressures, the vagaries of the weather, the deteriorating agri-economy, the damaging effects of agricultural chemicals, and the repetitive nature of tasks.
- Other causes, believed to be under a farmers' control, including such things as taking unwarranted short cuts, jerry-rigging machinery, carelessness, hurrying, lack of concentration, fatigue, and impatience. "We do handle certain hazardous chemicals and I know I have good intentions every year of being more careful and constraints of time and everything else, sometimes leads me to be more careless than I should be...It's carelessness that comes from constraints of time or fatigue."

Obstacles

Obstacles, for the purpose of the study, were defined as the inability to recognize alternatives, to identify choices, and to feel personally empowered to choose freely between viable alternatives. Respondents identified obstacles that were personal, social, and cultural that conditioned and constrained them from consistently behaving in a safe manner.

- The pressures of time and of the economy (again leading the list of obstacles).
- The impractical policies and condescending attitude of representatives of government agencies that needlessly erode confidence in the information provided by these groups.
- Safety information that is perceived as lacking in objectivity, credibility, and/or scientific rigor.
- Distrust of safety information issued by professionals who have no farming experience.

- The attitudes of farmers themselves that contribute to engaging in unsafe practices, such as the belief that, having gotten away with it once or twice, one would not get caught this time and the assumption that accidents only happen to the other guy.
- The belief that farmers are risk takers makes risk taking normative.

Motivators

Factors were identified that appear to encourage the discovery and implementation of safe practices. Primary among these facilitating factors was the strong and prevalent influence of the farm family itself, with its strong sense of interdependence and mutual ownership of the land.

This finding is consistent with the work of Garkovich and her associates, who found that farming families had many reasons for willingly tolerating significant risks of injury and loss, for accepting very narrow profit margins, and for enduring frequent reversals. Chief among these reasons was a belief that "the farm and the land and the family are one" (1995, p. 226).

This familial-ecological perspective contributes to a farming family's self-identity and feelings of interdependence and provides the context and framework for understanding the perceptions and attitudes farm families have about the nature of the risks in farming, the salience of the risks, and the options they pursue for containing the dangers. Based on the findings of the present study, the family itself appeared to play a significant role in motivating family members to conduct themselves in a safe manner. Participants placed particular emphasis on the parent-child relationship and were diligent in teaching their children about farm safety.

Children's Impact on Parents

- Knowing that one's family depends on one both economically and emotionally was strong motivation to keep oneself as safe as possible.
- The parent's own safety knowledge and practices were reinforced by working along side their children.
- The importance of creating and maintaining a safe environment was constantly in one's awareness because the family farm is both a home and a place of employment.
- Family responsibilities dictated that one must act in a safe manner--staying safe for the sake of the children.

Farmers as Safety Instructors

A significant role assumed by farming parents was the education of their children about farm safety. The parents were unanimous in their opinion that they were in the best position to teach their children and to determine when their children were capable of performing specific tasks.

- Parents provided individualized training in safe agricultural practices, and these lessons begin at a very early age.
- Parents served as role models for their children and were conscious that they must always behave in a safe manner when children were observing them.
- When making a decision about a child's ability to perform a specific task, readiness was not measured in chronological age but was based on the child's sense of responsibility and maturity to perform a given task. Maturity and capacity do not develop in everyone at the same time or to the same degree. Therefore, age is neither a satisfying marker nor an absolute criterion in judging readiness.

Supports

There are multiple resources available to farm families to support and enhance the level of safety on the farm. Cooperative Extension, farming journals, and Growers' Associations are all resources on farm safety and safe practices that have traditionally been available to farmers. These resources have an established track record of credibility and were generally viewed by respondents as both practical and reliable sources of safety information. Respondents also included respected colleagues as excellent sources of safety information.

Some respondents made relevant use of recent advances in telecommunications as a source of safety information and as a method for improving the level of safety on their farms. Finally, reducing Workmen's Comp premiums for attendance at safety training seminars was seen as a very attractive incentive.

- Portable telephones kept family members in touch with each other while working and were especially useful in emergencies.
- Web sites on the Internet were used to acquire safety information.
- Farmers trusted selected agencies, such as Cooperative Extension and the Growers' Associations.
- Farmers favored monetary incentives from insurance companies through the reduction of insurance rates for attendance at safety seminars.
- Farmers appreciated dealers who based the trade-in value of equipment on the presence and condition of standard safety components.
- Farmers took training programs leading to the certification that was required for purchasing chemicals.
- Farmers attended safety simulations and demonstrations presented by farmers' organizations.

Discussion

The results of the interviews suggested a variety of farmer perceptions and practices that need to be considered in order to keep pushing forward with the development of robust intervention and prevention approaches. For example, the important role played by farm *families* in consciously motivating farmers to be attentive to safety issues, to act in safe manners, and to teach and model safe practices for the sake of loved ones is an aspect of family farming that should be fully explored in the design, packaging, and delivery of farm safety educational programs.

Among the more challenging factors for Extension educators suggested by the data were the following.

- A general belief among farmers that a large preponderance of farmers periodically or episodically cut corners on safety.
- A relatively uniform belief by farmers that there is a low probability of their being injured on any given day.
- An intermittent (and potentially disastrous) lack of focus and attention by farmers resulting from fatigue and high levels of chronic stress.
- A broad distrust by farmers of safety information emanating from professionals with little to no farming experience.
- The relatively pervasive perception of farmers that farmers are risk-takers by definition and, therefore, that risk taking is normative behavior for farmers.
- The negative and counterproductive reactions of farmers to professionals (no matter how knowledgeable or competent they are) who are perceived as arrogant and/or condescending.
- The perception that little or no confidential community support is available to farmers who are on the verge of succumbing to the psychological pressures so prevalent in modern farming.

Considerations

An understanding of farmers' attitudes and practices can help provide direction to Extension educators in developing education, prevention, and training programs. Relevant considerations were extracted from the comments of the study's participants and organized according to what should be emphasized, what should be included, what should be avoided, and what should be acknowledged.

Emphasize

- Highlight safety on the farm as a family issue that requires full family involvement in establishing and developing an atmosphere of safety. This perspective is consistent with the recognition that the farm home is also the workplace.

- Emphasize farming parents as the primary safety educators.
- Concentrate on the essentials of safety and safe practices, focusing primarily on the more important and immediate factors that contribute to overall farm safety. Farmers want to know what is important and why; they want essential information uncluttered by matters they perceive as marginal and peripheral to their health and safety.

Include

- Include in the rationale for proposed policies and practices explicit references to the supportive research performed by sources that farmers perceive as neutral and objective. In general, farmers need to be assured that the policies being enacted and the practices being required all rest upon solid facts and a realistic appraisal of the threat. To an extent, this depends upon the ability to establish clearly and convincingly both the need for and the efficacy of such policies and practices.
- Actively seek out and include farmers' opinions, experiences, and perceptions about health and safety issues under consideration both in the initial and in the final stages of deliberations.
- Include farmers and their families as consultants and co-teachers.

Avoid

- Shun all attitudes and practices that may be interpreted by farmers as condescending and arrogant, that project elements of superiority and guardianship.
- Eschew practices and policies that lack a sense of proportion and context, and that are perceived as lacking in balance, realism, and/or scientific support. Farmers desire data, not conjecture. Situations that can lead to intense resistance and ridicule should be avoided.
- Avoid the perception of treating farmers as if they cared little about their own or their families' health and safety.

Acknowledge

- Acknowledge that levels of maturity, skills, and competencies, and to a lesser degree chronological age, are viable criteria when recommending tasks for children and youth.
- Recognize that there are production risks inherent to farming that are outside the realm of farmer control and that chance plays a part in accidents, as it does in every aspect of life.
- Take into account that most farmers do, in fact, cut corners on safety and, in the words of one respondent, will periodically act in a way that is "carefully careless."

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