



## All Farmers' Risks Are Below Average

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## All Farmers' Risks Are Below Average

Just down (or is it up?) the road from Marshfield, WI, lies the mythical town of Lake Woebegone, where, famously, “all the children are above average.” The situation is just the opposite for health and safety in the workplace. All workers (including farmers) are below average—at least in terms of their perception of risk.<sup>1</sup> Optimistic bias is the phenomenon by which individuals believe themselves less likely to be harmed by negative events as compared to others. It is, in short, the belief that bad things will happen to other people. This view appears to be situational – it does not apply for any given individual in all instances. If optimistic bias is not universal, it certainly is a common aspect of the human condition, ranging across ages, genders, education levels, occupations, and cultures. Since first being described in the 1980s,<sup>2</sup> there have been literally hundreds of studies of “comparative optimism” influencing peoples’ perception of personal risk in myriad situations. Japanese students, bungee jumpers, sex workers, male drivers, smokers, drinkers, eaters, and sun tanners all find ways to exempt themselves from generally recognized risks. And farmers. Sorensen et al. found optimistic bias to be one of the most consistent barriers encountered during in-depth explorations of farmers’ decisions not to retrofit vulnerable tractors with rollover protective structures.<sup>3</sup> Subsequent discussions of power takeoff shielding also revealed evidence of comparative optimism influencing farmers’ view of risk and related decisions.<sup>4</sup>

While it appears to be a barrier to some desirable safety behaviors, optimistic bias is also acknowledged to be a mechanism for self-enhancement and self-defense. It may serve to protect self-esteem and guard against depression

and anxiety. In some situations optimistic expectations were associated with positive attitudes, positive mood, an elevated sense of control, reduced anxiety, increased attention to risk information, and engagement in more health-promoting behaviors. Thus, optimistic bias is best viewed as a two-edged sword. In addition to its ego-enhancing effects, this unrealistic optimism can be maladaptive and associated with less attentive processing of risk information and reduced motivation to change risky behaviors.

For a phenomenon that has been extensively studied and reported, a great deal of uncertainty remains about optimistic bias. Some argue that the methods for measuring optimistic bias, estimating one’s personal risk and then estimating the risk of others, can be powerfully influenced by statistical artifact.<sup>5</sup> Many have found little evidence of demographic proclivities for optimistic bias, while others feel that better educated persons, males—particularly older males—may experience more such bias (depending upon the risk being explored). Because nearly all studies have been cross-sectional there is limited understanding of the resilience of optimistic bias. Does it wax and wane or is it consistent over time? The few longitudinal studies (on hurricanes and H1N1 influenza in Korea) suggest that, once adopted, optimistic bias for a given risk is a robust and resilient phenomenon. While it may be moderated by recent experience, this is typically a transient reduction with the bias returning to pre-event levels rather quickly.<sup>6</sup>

As noted by Harris and colleagues, the degree of such optimism varies within and across both events and people for reasons that are still being

defined.<sup>7</sup> Some presumably important variables seem to relate to characteristics of the risk event being assessed and others relate to individual characteristics of the people being studied. These variables may tilt the optimistic bias scale either by influencing the perception of risk to self or by shifting the perception of risk to others. Both high frequency of events and notably severe events reduce optimistic bias by increasing the estimate of risk to self. Perceived controllability of events reduces the estimate of risk for self. Stereotype salience serves to reduce perceived risk to self. This refers to the degree of identification (or lack thereof) with the imagined "other" victims. Farmers' belief that hobby farmers ("doctors and lawyers and such"<sup>8</sup>) account for tractor overturn fatalities leads them to reduce the risk to self while inflating the risk estimate for others. Optimistic bias increases with high self-esteem and defensiveness. It declines when there are higher levels of personal anxiety. "Events that are more personally threatening or severe and people who are more easily threatened have higher personal risk estimates and therefore a smaller optimistic bias."<sup>7</sup> (p1235)

Optimistic bias may be an important reason for the limited impact of educational interventions in reducing occupational injury. While a number of studies show considerable resistance to risk education, others suggest that knowledge of a risk may actually increase optimistic bias. Women aware of purse snatching risks in English pubs believed themselves to be more secure and thus failed to adopt appropriate precautions.<sup>9</sup> Certainly New York farmers proved themselves to be quite knowledgeable with regard to the risks of both unprotected drivelines and unprotected tractors without indicating any intention to effectively address these hazards. The literature suggests that adoption of limited or ineffective strategies ("be more careful around drivelines") may actually increase risk because these measures serve to decrease perceived risk to self and increase overall optimistic bias.

So how does one deal with this troubling barrier? The literature provides limited assistance

here. All indicators suggest that risk information transmitted via media serves to increase the perception of "other" risk without impacting "self" risk, thus further increasing optimistic bias. Indirect experiences (happened to somebody else) are *only* likely to increase perception of risk to self if the victim is closely related or viewed as being very similar to the self. Even stressful personal experiences (earthquakes, hurricanes) can only reduce optimistic bias for a limited period of time before it resumes pre-event levels. The initial approach adopted by the New York ROPS Retrofitting Program was not to deal with optimistic bias. Rather than devote energy and resources to trying to convince farmers of the relatively high risk to self, the program consciously endorsed their optimism ("we know you are not at risk"). Messaging focused upon concerns that farmers did acknowledge, the fear of injury to family and hired workers ("but what about them"). All indicators are that this somewhat cowardly approach to optimistic bias has proven to be effective.<sup>10</sup>

Optimistic bias is a very common and quite robust phenomenon that can significantly impact efforts to change behavior. To a large degree it explains the quite limited impact of education as an intervention. Efforts to enhance the safety of persons working in agriculture, forestry or commercial fishing must include strategies for dealing with this bias. Possibly better is to seek ways to sidestep optimistic bias by focusing upon significant motivators other than personal risk.

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