

Effect of Cameras in the Workplace: Implications for the U.S. Swine Industry

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Executive Summary

As undercover video exposés of U.S. swine farms continue to occur, occasionally depicting significant lapses in implementation of established best practices for swine care and handling, farm owners have started considering methods of improving employee compliance, such as installing video cameras. Although one might predict that the presence of cameras would stimulate high levels of compliance with established workplace procedures, the existing research indicates that is not always the case. The mere presence of cameras does not necessarily elicit staff compliance. Several other factors appear to be involved in establishing and maintaining expected behavior in the workplace.

This document reviews the effectiveness of video cameras in ensuring employee compliance with established procedures and outlines the key constraints. It also explores implementation strategies that may support and maximize resource use and compliance as a function of video monitoring.

The overall recommendation is that researchers need to study the long- and short-term effects of video cameras on worker compliance with swine care and welfare best practices independently and in combination with supportive measures such as caretaker selection criteria, peer monitoring and rapid feedback.

Keywords: video surveillance, swine, farm, animal welfare

Introduction

As undercover video investigations on U.S. swine farms continue to provide fodder for concern about animal well-being, it is imperative for the swine industry to respond appropriately. While there is often skepticism about the accuracy of such exposés, several videos have captured inappropriate animal handling, poor worker attitudes and behaviors inconsistent with best management practices for swine production. The latter issue raises questions about why such incidents occur, given the availability of training programs provided by the National Pork Board and other entities on proper swine care. There is also concern that supervisors are not detecting and addressing improper behavior by animal caretakers in a timely manner.

These incidents degrade consumers' perceptions of the swine industry and its ability to ensure on-farm best practices, which potentially translates into economic losses. In fact, a recent study indicated that concern about poor animal welfare practices caused a significant reduction (more than 56 percent) in pork consumption (McKendree, 2013; McKendree et al., 2014). Therefore, it is critical for the U.S. swine industry to effectively address these problems.

Installing video cameras is repeatedly suggested as a potential solution. People believe that video surveillance will help supervisors more quickly discover inappropriate employee behavior regarding animal care, handling and management. The following is an overview of the documented effects of video surveillance in the workplace and implications for the U.S. swine industry.

Efficacy of Video Surveillance in Controlling Workplace Behavior

The development of new technologies has virtually ensured that most employees will have their workplace behavior monitored in some way (Loch and Conger, 1996; Orthmann, 1998). Researchers have explored the benefits and constraints of workplace surveillance for many years. Common methods of evaluating and controlling employee behavior include tracking computer usage, monitoring email and video surveillance (Spitzmuller, 2006). However, such intervention methods are not without problems. Employers must consider the ethical implications of covert worker surveillance, even when done to protect others (e.g., the elderly and children under their care). Issues related to employee and visitor privacy rights also exist. For example, employers need to determine whether or not employees and others will give consent to being filmed or monitored in other ways (Niemeijer et al., 2010).

The ethical and legal implications arising from using video and other types of electronic employee surveillance might encourage business owners to avoid these strategies. Yet, when not monitored, workers can essentially set their own (potentially deficient) standards of practice (Payne, 2008). These may directly and indirectly cost their employers time and money, and undermine the company's brand integrity.

As a result, video cameras have been, and continue to be, used for a variety of monitoring purposes in human medicine. These include ensuring the quality of elder care (Niemeijer et al., 2010), detecting child abuse by parents with chronically ill or injured children (Southall et al., 1997) and observing overall patient care. For example, when compared to corresponding patient medical records, video analysis identified at least five times the number of mistakes in pediatric resuscitation (Oakley et al., 2006). Supervisors have also used video cameras to verify compliance with hand-washing techniques in human medicine and food preparation (Armellino et al., 2012).

Although several studies on the effects of video monitoring exist in human medicine, researchers have not explored the efficacy of video surveillance on ensuring appropriate animal caretaker procedures. Moreover, there is relatively little data on using cameras to monitor any aspect of farm-worker behavior. One such study, conducted by Racicot et al. (2012a) examined the long- and short-term effects of using audits and installing hidden and visible cameras on employee compliance with established biosecurity measures for entering and leaving commercial poultry barns. The researchers compared the effects of video monitoring with compliance levels when they used an audit or simply posted the farm's biosecurity measures. In the short term (first two weeks after camera installation), the team saw improvements in proper attire (changing boots when entering a farm) and compliance with entering areas considered to be clean, which required wearing coveralls and plastic boots. However, halfway through the six-month study, compliance declined to the point where the only differences from the control measures (posting of biosecurity procedures) were respecting biosecure areas in places where cameras were visible. Six months later, compliance had declined to the point where it did not differ from control measures. Other biosecurity procedures, such as hand washing, declined over time for all groups. Although audits appeared to help some subjects with compliance, overall it did not improve. Further, as has been documented in other studies (O'Boyle et al., 2001), there was poor correlation between self-reported and observed compliance with biosecurity procedures (Racicot et al., 2012a).

Why Might Workplace Surveillance Fail to Elicit Expected Compliance Levels?

In theory, electronic monitoring should help supervisors identify and punish noncompliance with workplace policies and procedures as well as reward those employees who meet expectations (Taylor, 1947). Payne (2008) noted that if this theory were entirely correct, there should be high levels of worker

compliance and corresponding attitudes of dedication to performing duties as desired when monitored in such a fashion. Yet, the existing data on the effects of video cameras and other electronic forms of monitoring on worker behavior have been highly variable and do not appear to support this hypothesis.

For example, one study evaluated the effect of videotaping health care workers on their compliance with proper hand-washing procedures with and without feedback (Armellino et al., 2012). Although the workers were aware of the video surveillance, hand hygiene rates did not improve until they received feedback via a poster of performance metrics on a public board. Following that, improvement was sustained over time. These results suggest that video monitoring with rapid feedback is more effective in facilitating sustained hand hygiene compliance than monitoring alone.

It is important to consider why covert or even open video surveillance of staff may not elicit compliance as expected. First, there is debate as to the whether such monitoring efforts facilitate consent and compliance or instead elicit employee resistance to their employer's goals (Payne, 2008). It has been well documented that many employees resent being monitored in this manner and may act accordingly to undermine such efforts. For example, employees may alter or actively avoid monitoring equipment and areas (Nussbaum & du Rivage, 1986; Stanton, 2000, 2002; Stanton & Weiss, 2000) and may do so at the expense of performing the duties that they are actually hired to do (Spitzmuller & Stanton, 2006). Even when conditions appear to be almost perfect for successful surveillance, workers still devise ways to avoid detection (Bain & Taylor, 2000). Employing video monitoring technology may therefore prove to be of little value if it is consistently and deliberately circumvented.

Another major constraint on the usefulness of video surveillance can be workplace culture. Although managers should be able to use video cameras to monitor employees and penalize or reward behaviors, if the organizational culture is such that managers and peers routinely fail to comply with company policies and procedures or, in fact, celebrate resistance to workplace compliance, problems may go unresolved (Graham, 1995). Additionally, managers may choose not to discipline workers caught behaving improperly due to concerns about creating further conflict and disruptive behavior (Payne, 2008; Lankshear & Mason, 2001). Racicot et al. (2012a) concluded that, on poultry operations, farmers' attitudes and leadership might influence employee compliance with biosecurity measures. Thus, if the farmers did not carefully attend to established biosecurity measures, employees and visitors may have presumed that their full compliance was likewise unnecessary. Other studies have also indicated the importance of supervisor attitudes and behaviors in facilitating or undermining compliance with safety measures in industrial settings (Hayes et al., 1998).

The usefulness of video surveillance is clearly compromised in circumstances where there is insufficient supervision or follow-up on the information being captured. Therefore, to ensure wise resource expenditure, owners and supervisors must understand how to implement a monitoring program that involves supportive measures beyond mere surveillance (Payne, 2008).

Implications for the U.S. Swine Industry

Given the wave of undercover video exposés on swine farms depicting improper animal care and handling, the industry must explore all viable options to ensure compliance with best practices for swine production. On-farm employee monitoring is clearly essential to achieve the goal of proper animal care. However, existing literature indicates that employers must consider whether or not to notify employees and visitors of the video surveillance, while also thinking about the ethical and legal ramifications

associated with violating their privacy. In addition, owners much carefully select the specific type of monitoring they will implement.

Despite these precautions, studies indicate that variance from established procedures may still occur regardless of surveillance. For instance, Racicot et al. (2012a) observed that some individuals appeared to deliberately not comply with biosecurity procedures on commercial poultry farms. This suggests that individual psychological characteristics may have contributed to noncompliance; consequently, researchers should examine employee attitudes, personality attributes and motivations (Racicot et al., 2012b). Additional studies indicated several predictors of compliance, including personality traits, experience and education. Among the personality traits found to be significantly associated with biosecurity compliance were responsibility, complexity and being action-oriented (Racicot et al., 2012a). According to the authors, farm hiring managers should consider these characteristics when selecting job applicants, assigning employees to tasks and enhancing on-farm training programs.

The findings by Racicot et al. (2012a,b) dovetail nicely with earlier observations made by Coleman et al. (1998) who explored factors impacting human-animal interactions and the quality of care provided by employees on farms. Coleman et al. (1998) reported that in regard to caretaker behavior toward animals, the most consistent predictors of behavior were people's attitudes. Empathy appeared to contribute to conduct of animal-related caretaking activities, but other factors that were correlated with attitude appeared to be much less predictive. Consequently, to facilitate animal care and well-being, researchers have made recommendations and developed training programs targeting specific caretaker attitudes and behaviors. For example, Prohand Pigs is a training program for caretakers that involves predicting worker behavior as a function of their attitudes and beliefs about animals (Hemsworth, 2007).

Collectively, the existing literature suggests that video surveillance alone may not be a panacea for addressing compliance issues in any work environments. Taken in context with the data on human-animal interactions, simply installing video cameras on farms is unlikely to present the swine industry with a viable solution for addressing farm-level animal care and welfare issues. However, the finding that video cameras can help identify gaps between employees' self-identified levels of compliance and actual compliance suggests that their use may enhance employee training or result in new procedures (O'Boyle et al., 2001; Oakley et al., 2006). Further, video monitoring, in conjunction with immediate or near real-time feedback, may enhance compliance and reinforce expected behavior over time, which may help to avoid declines in performance (Armellino et al., 2012; Racicot et al, 2012). Doing this may assist caretakers with self-identifying and correcting lapses in implementation of procedures, which may be as important as (and perhaps more important than) enabling others to police their behavior. Furthermore, using peer feedback may also improve the efficacy of on-farm video camera surveillance. Payne's (2008) meta-analysis of workplace surveillance methods indicated that monitoring of workplace behaviors by peers differs from other strategies by being associated with both high levels of employee consent and low levels of resistance. Unlike electronically monitored employees, those who are peer monitored tend to accept and support the organization's goals, which may be due in part to employees retaining a sense of autonomy and being connected with positive teamwork (Smith, 1996; Payne, 2008). Theoretically, using these strategies collectively should help create a culture of support for employees relative to promoting animal care that results in improved compliance. Testing of these hypotheses is necessary.

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