SAFETY REWARDS
How They Can Help & Hinder

By David Oswald, Fred Sherratt and Simon D. Smith

NO CLEAR CONSENSUS EXISTS within construction safety literature as to whether companies that use safety rewards are safer than those that do not. Through an ethnographic approach, the study presented in this article investigated a rewards system used on a large construction project. The researcher utilized participant observation as a main research tool within the safety and health department, attending the project between one and three times a week for 3 years. Data were collected through site walkarounds, attending meetings, informal discussions and the project safety survey results.

The results suggest that safety rewards are worth incorporating in wider safety management systems, as the majority of workers believed these rewards encouraged them to act in a safer manner, especially when the individual award was of financial worth. For the rewards program itself to be reputable, clear protocol and criteria should be established for safety acts that are worthy of winning an award. Group awards that reward low or no incidents within a certain period create risks of underreporting, so it is recommended that other incentive options be explored. A clear protocol should also be established on restrictions and limitations for work groups with high turnover.

Introduction

One strategy adopted on U.K. construction sites in an attempt to mitigate unsafe behaviors is the implementation of a safety rewards scheme. It has long been understood that a link exists between unsafe acts and incidents, and within the construction industry it has been argued that a reduction in unsafe acts must be achieved (Shin, Lee, Park, et al., 2014) to see improvements in practice. The aim of the case study research presented in this article was to explore the safety reward system as practically implemented on a single large construction project (of value more than £500 million) in the U.K. More specifically, the research aimed to answer the following questions:

•How influential was the safety reward system perceived to be?

•What constituted a motivating award?

•What can hinder the success of individually targeted and group-targeted reward systems?

Construction Safety Reward Systems

The aim of rewards, incentives and recognition is to alter the ideas, values and practices carried out to achieve safety behaviors (Eiff, 1999; Vredenburgh, 2002; Wiegmann, Zhang, von Thaden, et al., 2002). They generally present bonuses, gifts or prizes to employees or groups of employees for achieving certain target levels of injury- or incident-free working hours (Vecchio-Sadus & Griffiths, 2004). Safety awards are used on construction projects, yet their effectiveness is still debated.

Proponents claim that safety can be improved through behavior-based safety approaches, in the form of safety observations, goals, feedback and incentives to promote safe behavior (Cameron & Duff, 2007). For example, Mullan, Smith, Sainsbury, et al. (2015), found that studies that used rewards, incentives and punishment were more effective than those that merely provided information about consequences of "unsafety" or how to perform the behavior. Yet, critics of behavior-based approaches argue that drawbacks can exist with undertaking safety observations, such as eroding trust, promoting blame and an unhelpful focus on quantity of observations (Oswald, Sherratt & Smith, 2018), and that incentives can be counterproductive in the long term (Guo, Yiu & González, 2015). Cameron and Duff (2007) also note that researchers have overwhelmingly favored initiatives based on goals and performance feedback, only without having to be of material reward, and Hopkins and Maslen (2015) highlight that individuals seek to please their bosses for psychological rewards, independent of any material rewards involved.

Safety incentives in construction can target individuals throughout the organizational hierarchy from senior executives (McDermott, Zhang, Hopkins, et al., 2018) to frontline workers (Oswald, Sherratt & Smith, 2017). In research terms, there has been more focus on frontline workers through discussions of behavior-based approaches and analysis of incident rates and reward schemes. For example, from an analysis of strategies' effectiveness in reducing injury rates, Alarcón, Acuña, Diethelm, et al. (2016), found that safety incentives and rewards were effective and that companies that do not implement them have an incident rate 51% higher than companies that do. Likewise, Goodrum and Gangwar (2004) found that incentives are effective at improving many of the safety performance metrics used in construction. Yet, Hinze (2002) found that the safest firms are not necessarily the ones that use safety awards, and

KEY TAKEAWAYS

•**Safety rewards are worth incorporating in wider safety management systems, as they can influence safe behaviors of more than half the frontline workforce.**

•**Reward systems are only beneficial when decisions and protocols around the systems are deemed to be fair by those in the organization. This fairness helps, rather than hinders, the promotion of a just culture.**

Geller (1996) argues that safety incentives reduce injuries when used correctly, but when implemented incorrectly they can do more harm than good. Maslen and Hopkins (2014) explain that it is not the financial incentive alone that motivates individuals to be safe, but instead that incentives tap into other human motives such as the need for approval and the need to be recognized as making a valuable contribution.

Research Methods

This case study project used an ethnographic approach to the empirical research (O'Reilly, 2005). Ethnography is an:

> iterative-inductive research [that evolves in design through the study], drawing on a family of methods, involving direct and sustained contact with human agents, within the context of their daily lives [and

FIGURE 1
SCHEME ENCOURAGES SAFE WORK

Percentage response to "The Safely Award Scheme encourages me to work safely" (*n* = 424 respondents).

Legend:
- Strongly agree: 15
- Agree: 52
- Not answered: 9
- Disagree: 20
- Strongly disagree: 4

FIGURE 2
SCHEME ENCOURAGES INTERVENTIONS

Percentage response to "The Safely Award Scheme encourages me to make interventions when I witness people working unsafely" (*n* = 424 respondents).

Legend:
- Strongly agree: 17
- Agree: 48
- Not answered: 10
- Disagree: 21
- Strongly disagree: 4

cultures], watching what happens, listening to what is said, asking questions. (O'Reilly, 2005, p. 3)

Ethnographic studies allow researchers to immerse themselves in a chosen empirical setting for long periods throughout which the researcher's experience, in terms of participation or observation at the research site, is used to generate an interpretation of the events that take place (Dey, 2002). Drawing upon both quantitative (e.g., questionnaire surveys) and qualitative (e.g., interviews, observation) data (Kawulich, 2005) to explore a phenomenon in detail creates what Pole and Morrison (2003) call "inclusive ethnography."

In this case study project, the lead researcher adopted the role of participant observer, becoming a member of the safety and health department. Traveling to the research setting approximately twice a week for 3 years between 8:00 a.m. and 5:00 p.m., the researcher gathered a significant body of data. In a 3-year period, more than 1,500 hours were spent at the setting, with more than 200 field notes recorded and 150 units of documentary data collected. A portion of this data was relevant to the theme of safety rewards. The researcher used the safety and health advisors as key informants and gatekeepers to gain access to observation opportunities. The advisors were located in different physical areas of the project and were able to introduce the researcher to the various construction work groups through a snowball sampling strategy. Being a large civil engineering project, the operative trades were typically ironworkers, welders, scaffolders and carpenters. The researcher adopted an overt approach in which the purpose of the research was explained to workers and a protocol developed for established rapport with participants (Oswald, Sherratt & Smith, 2014). The data gathered related to this theme was categorized further into two subthemes: individual- and group-based awards.

In this study, data collection involved using contextually appropriate ethnographic methods that included combinations of participant observation of workers at key areas on construction sites (including site inductions and other forms of training, site offices, canteens and work sites); informal and unstructured interviews with employees throughout the hierarchy from directors to site laborers; and documentary analysis of the contractor's site safety survey results. This exposure to the natural setting, rather than a contrived setting, is arguably a major strength of ethnographic approaches in terms of validity (LeCompte & Goetz, 1982). The qualitative and quantitative data were organized using NVivo software and analyzed through a thematic analysis (Braun & Clarke, 2006). In terms of generalizability, a sample population analysis (statistical generalizability) was not undertaken; instead, case studies seek analytical generalization, which is an appropriate logic for this type of research (Yin, 2013). Analytic generalizability is "the extraction of a more abstract level of ideas from a set of case study findings—ideas that nevertheless can pertain to newer situations other than the case(s) in the original case study" (Yin, 2013).

Results

The safety award scheme in operation on this site had two award types: individual- and group-based awards. In the individual type, nominated employees could win a monetary award (e.g., shopping voucher) for a positive safety act that month. To encourage inclusion of all employees, anyone on the project could nominate an act by another worker. However, this also created some challenges: little choice existed in months with low nominations; winners were often from the departments that were proactively
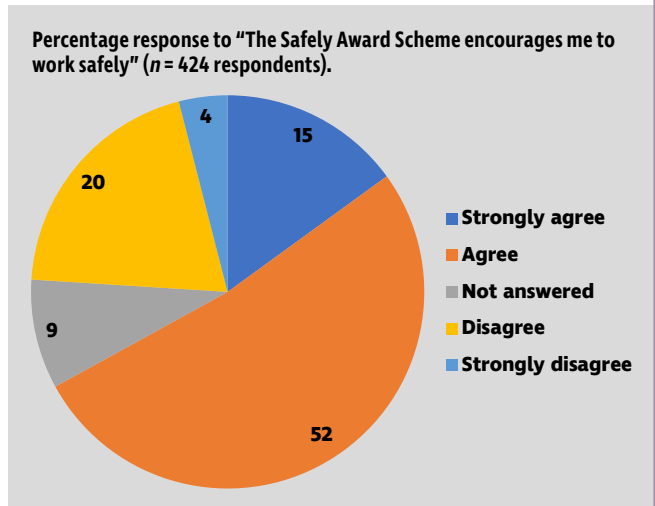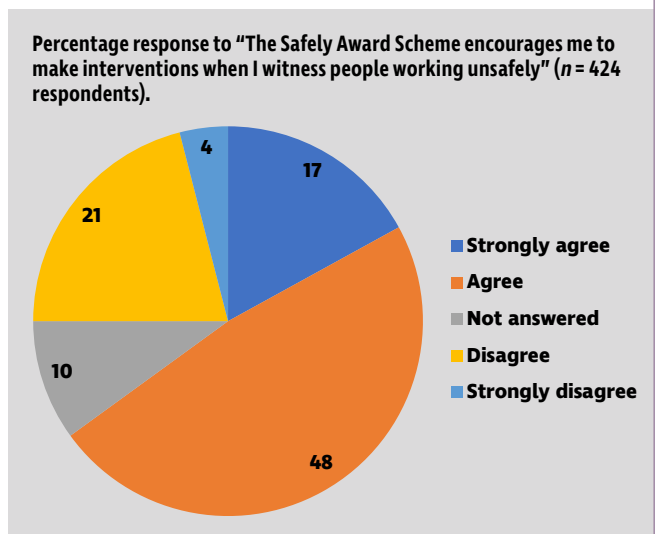
engaging with the award system; and at times employees were rewarded for acts that did not always seem worthy of being rewarded. This led to suspicions of injustice within the awards process, with one worker suggesting that "only one team is [ever] awarded." The team to which this worker referred was a department that had many work groups and individuals winning awards. In the winning group, all members received a team T-shirt for a length of time (typically a year) without a lost-time incident.

Such awards aim to incentivize both positive safety behaviors (through individual awards) and avoidance of negative safety behaviors that could lead to incidents (through group awards). The individual and group awards in the scheme were designed to complement each other by incentivizing positive safety behaviors and disincentivizing negative ones.

Effectiveness of the Award Scheme

The survey results indicated that the majority of workers believed the scheme had a positive influence on their own safety behaviors, suggesting that award schemes should be seriously considered in an overarching safety management system. More than 65% of the respondents either agreed or strongly agreed with the statements, "The Safely Award Scheme encourages me to work safely" (Figure 1); and "The Safely Award Scheme encourages me to make interventions when I witness people working unsafely" (Figure 2).

This suggests that financial incentives have a place within an overarching safety management system. However, the design of an effective reward system is far from simply providing an incentive that motivates workers, as undesired and unexpected behaviors can still occur.

Those who disagreed or strongly disagreed gave further insights in the comments section of the survey. For example, comments included:

"[There] shouldn't be awards. Working safely is something mandatory."

"I don't believe in a reward scheme for safety. All staff should act safely on a construction site without the carrot of a chocolate watch."

"Rewards are the wrong way to go about this. A systematic change in the culture is what is needed, not short-term gains through rewards."

Although the safety award scheme is not expected to be influential for behavior change of all employees, the survey results suggest that it influenced the majority and is therefore deserving of further attention.

Individual- & Group-Based Awards

At the frontline, operatives were strongly financially motivated. For example, one respondent stated, "Operatives are only interested in money so [give out] vouchers."

The frontline workers often expressed frustration when superiors were awarded with the individual safety reward. For example, an operative responded, "Why do supervisors get awarded? We do the work and they already take the money."

In some cases, the winners of the award did not believe they had gone above and beyond normal safety expectations to be awarded. For example, a supervisor stated, "Well, I'm confused. I actually won an award, but I had done nothing special. I was just doing my job."

The challenge with the monthly award was that often there were only a few candidates to choose from, meaning the award could be given for an act that did not seem worthy. For opera-

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tives, the individual award had a greater influence as a motivator than the group awards, which had little financial worth. For example, the team T-shirts being distributed for 100 and 365 days without a lost-time incident were regarded as poor motivators for workers. An operative stated, "We don't have a bad accident for a year, and we get a [expletive] T-shirt. A year is quite a long time. When am I ever going to wear a team T-shirt?"

Therefore, both the individual and group award should be designed and detailed with care, as the findings show they are susceptible to unexpected challenges and undesirable behaviors. For example, in one of the safety and health meetings, an advisor warned others of a previous experience, stating, "We need to be careful with the award. On my last job, guys started a fire so they could put it out in an attempt to win the award."

Unexpected challenges also arose around the awards process. For example, the unsteady and transient nature of the workforce caused confusion surrounding protocol for team awards. For example, a safety and health manager stated, "Four out of 22 of the guys have been there a year and they want T-shirts for all of them. Only four should qualify; but then one of the guys said, 'you can't give one sweetie to one kid and not to another.' In the end it was decided at management level that none would be issued."

For team awards, there was confusion over the criteria when teams with a transient workforce or high turnover qualified. This typically resulted in awards not being distributed, creating feelings of injustice among workers. In this case, a lack of

clarity existed as to whether the whole team should be awarded, when only four out of 22 had been present during the entire duration of the award period. The use of such parameters also created risks of underreporting with regard to the group-based award. For example, in reference to the 100-day incident free group award, one advisor stated, "I wouldn't want to be the guy that ruined the whole team's award on day 99."

This could have encouraged underreporting of incidents on the project, which was widely acknowledged by research participants. For example, one member of the security team stated, "So much gets swept under the carpet it has become a trip hazard." Hence, there was awareness of the risks of nonreporting, but no clear suggestions on how to manage them.

Discussion

The survey results suggest that safety award schemes are worth incorporating in wider safety management systems, as they have potential to influence most workers to act in a safer manner. Goodrum and Gangwar (2004) found that craftworkers have a much more positive reaction to incentives than their managers, and the results in this study also suggest that a safety

reward system that incentivizes frontline workers is one of worth. However, despite having the ability to influence most frontline workers, a safety reward must be designed appropriately to have impact; even still, some workers will have the opinion that awards should not be needed to incentivize safe work. A poorly planned safety award system risks causing more harm than good in terms of worker perceptions of organizational fairness, a just culture and worker reporting.

A key component in an organization's safety culture is the manner in which safe and unsafe behaviors are evaluated and the consistency of the rewards and penalties issued (Reason, 2008). Eiff (1999) stresses the need for a fair evaluation to promote safe behaviors and discourage unsafe ones. Bolt, Haslam, Gibb, et al. (2012), report that a just/fair characteristic was one of the many characteristics that contributed to the safety and health success of the 2012 London Olympic Park project, which achieved zero fatalities and an incident frequency rate of 0.15 (Wright, 2012). Hopkins and Maslen (2015) also argue that evaluation is considerably more of a motivator than the money that goes with it. One worker's statement that "You can't give one sweetie to one kid and not to another" suggests he thought the proposed actions were unfair. This challenge is perhaps intensified in the construction industry. Unlike other industries, the construction industry has a project-based, dynamic, transient nature in which a high turnover of workers frequently exists. Stable groups have not only been linked to improved safety performance (Gherardi & Nicolini, 2002) but also to productivity (Hughes & Thorpe, 2014). However, many construction frontline work groups are small, and therefore group members are more likely to feel that they can make a difference (Hopkins & Maslen, 2015). Instead of awarding all work group members T-shirts in the high turnover group, no T-shirts were awarded despite the team qualifying for the award, which could appear unfair. Vrendenburgh (2002) notes that distributing prizes and money without a clear, consistent set of contingencies can reduce the potential to obtain the desired outcome. Hence, it is critical that construction companies creating incentive schemes have a clear, fair protocol for such situations.

Another potential issue is when the award directly equates prizes with number of incidents (Krause & McCorquodale, 1996). The results in this study support the notion that these programs encourage workers to not report an incident so they will not lose individual incentives or be the reason that the whole group does not receive an award. OSHA is critical of injury rate bonuses because these schemes suppress reporting (Fairfax, 2012). The agency is particularly critical where a team is awarded if no one is injured within a certain time frame, as the pressure to not report is overwhelming. Reporting an injury may affect not only an employee's bonus, but also a coworker's. Hence, the group award can send a paradoxical message to workers, as organizations encourage reporting all incidents to learn lessons, yet the organization is also rewarding fewer lost-time incidents. The extent of this issue led Hopkins and Maslen (2015) to recommend that CEOs should be incentivized to reduce incidents, while workers should instead be incentivized to report bad news rather than suppress it.

The "Positive Reward System Features" sidebar summarizes the key elements of a positive reward system as identified through this case study project.

Conclusion

Safety rewards are worth incorporating into wider safety management systems, as they have potential to influence most

workers to act in a safer manner. However, they should also be designed with an appropriate award, and judged fairly using clear protocols on what actions are worthy for winning and where restrictions or limitations apply. This case study suggests that for frontline workers, the individual award should be of financial worth; the act should be perceived as above and beyond normal safety expectations; and clear guidance should be established on who qualifies for the individual awards. For the group awards that reward low or no incidents within a certain period, the risks of underreporting remain, which suggests that other options should be explored. A clear protocol should also be established on qualification for groups with high turnover. The authors recommend that reward systems be clearly thought through, with criteria clearly stipulated to avoid underreporting, feelings of unjustness and confusion over award qualification, and lack of social acceptance for unworthy winners. Future work should explore what helps and hinders reward systems in other contexts and countries to build further theoretical understanding of this complex area of safety and health. **PSJ**

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