ORGANIZATIONAL CITIZENSHIP BEHAVIOURS IN HIGH RISK INDUSTRIES: AN INVESTIGATION INTO EFFECTS ON OCCUPATIONAL SAFETY

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Abstract

This study examined the relationship between helping (organizational citizenship behaviours) and workplace safety. It is the second study in a sequence, building on an initial study by Burt and Williams (2012). The aims of the current study are three-fold. Firstly, further evidence was sought to support the argument put forth by Burt and Williams (2012) suggesting that there are situations in which helping behaviours can lead to an increase in safety risk. Additionally, based on findings from Burt and Williams (2012), the following two situations were investigated: I) why do helpers often not tell the target of help that help has been given; and, II) in the instance where help inadvertently leads to a safety risk increase for the target, why does the target fail to communicate this risk increase back to the helper. The personality traits of humility and agreeableness were hypothesised to positively relate to the first and second situations, respectively. The sample consisted of 79 participants across a variety of high risk occupations. Participants completed an anonymous questionnaire, containing measures of job risk, negative outcomes of helping behaviours, humility, agreeableness, single item measures to assess situation I and II, and subsequent measures to further investigate these two situations. The results showed clear evidence that helping can be associated with safety risks. Both of the personality-based hypotheses failed to reach significance. However, the results suggest that helpers often fail to tell the target of help that help has been given, through a lack of understanding regarding the importance of communicating one's helping behaviours, and a lack of time or opportunity. Additionally, results suggest that the instance where help inadvertently leads to an increased safety risk for the target (but the target fails to inform the helper of this risk increase), occurs through the target wanting to protect the helper's confidence, and not wishing to be seen as ungrateful. The results provide valuable information to significantly add to the limited literature regarding helping behaviours and occupational safety. The findings from this study potentially allow organizations to decrease the negative safety outcomes of such behaviours. Limitations and suggestions for future research are discussed.

Overview

Research by Burt and Williams (2012) examined whether helping behaviours may result in a decrease in workplace safety. The lead author of this research was motivated to conduct the study after witnessing a fatal workplace accident. The case was described in the following way:

"While delivering rubbish to a collection station, the author observed a commercial rubbish collection truck reversing towards an unloading point. The truck was operated by a crew of three, and one of these employees had exited the truck and moved behind to guide the reversing operation. Part way through this operation the employee guiding the reversing vehicle ran towards the truck and attempted to jump onto the back plate of the moving vehicle. At this point he slipped and was run over by the vehicle. The court investigation, after hearing evidence from all parties, concluded that the fatality occurred because the team had developed an unloading process which included two acts aimed at helping (guiding the reversing vehicle, and jumping on the tail board to release the unloading locks and thus speeding up the unload), but which ultimately created the circumstances which lead to the accident." (Burt & Williams, 2012, pp.3)

Consistent with the Industrial/Organizational psychology literature, the behaviours carried out in the event described above may be considered as organizational citizenship behaviours (Burt & Williams, 2012). Organizational citizenship behaviour (OCB) has been defined as "behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and in the aggregate promotes the efficient and effective functioning of the organization" (Organ, 1988, pp. 4). It is clear from the description of the fatal accident that the behaviours (guiding the reversing vehicle, and releasing the unloading locks while the vehicle is in motion) are discretionary (i.e. extra-role). However, it appears that the objective of the actions were to speed up the unloading process, thereby promoting the efficient and effective

functioning of the organization. Clearly the case suggests there are situations where engaging in OCBs may have a negative safety outcome, possibly resulting in a workplace accident.

The current study is the second in a sequence, based on hypotheses developed from Burt and Williams' (2012) study. To establish a theoretical foundation for the present study, an outline of the Burt and Williams (2012) study will be conducted, along with a review of the OCB and workplace safety literatures. This review will cover: the history, antecedents and consequences of OCB; the negative outcomes of OCB; research investigating OCBs and safety; and, previous research on workplace safety.

Overview of the Burt and Williams (2012) Study

The aforementioned fatal accident questions whether engaging in OCBs can lead to a reduction in safety in the workplace. Although an employee may engage in an activity to increase the productivity of the workplace, in doing so, organizational safety could be compromised. The main objective of Burt & Williams' (2012) study was to find evidence of situations in which helping behaviours may lead to a reduction in safety, and to hypothesize mechanisms that may form the foundations for these situations.

Burt & Williams' (2012) study had two objectives: to find evidence that helping attempts may have led to a safety risk; and (based on the prediction that helping had resulted in a safety risk) examine four mechanisms through which this would occur. As this study focussed on safety and helping behaviours, two prerequisite conditions for participation were necessary. Firstly, participants were required to have an element of safety risk associated with their job. This was to ensure that helping behaviours had a possibility of reducing workplace safety. Secondly, participants were required to work in a team of at least two members. This was to ensure the possibility of helping behaviours being engaged in (which would be less likely to occur for employees who work independently).

In order to find evidence that helping attempts had led to a safety risk, respondents were asked three questions: *Doing what I thought would be helpful for another employee turned out to be a safety risk for me*; *Doing what I thought would be helpful for another employee turned out to be a safety risk for them*; and, *Doing what I thought would be helpful for another employee turned out to be a safety risk for another member of the organization* (Burt & Williams, 2012). Responses were made on a five point Likert type scale from 1 (Hardly ever) to 5 (Nearly all the time).

The four mechanisms proposed by Burt and Williams (2012) to form the foundations for the safety risk from helping were referred to as: the forgetting hypothesis, the unknown hypothesis, the unexpected hypothesis, and the time pressure hypothesis. These are shown in Figure 1, along with the relationship showing how they may cause an increased safety risk.

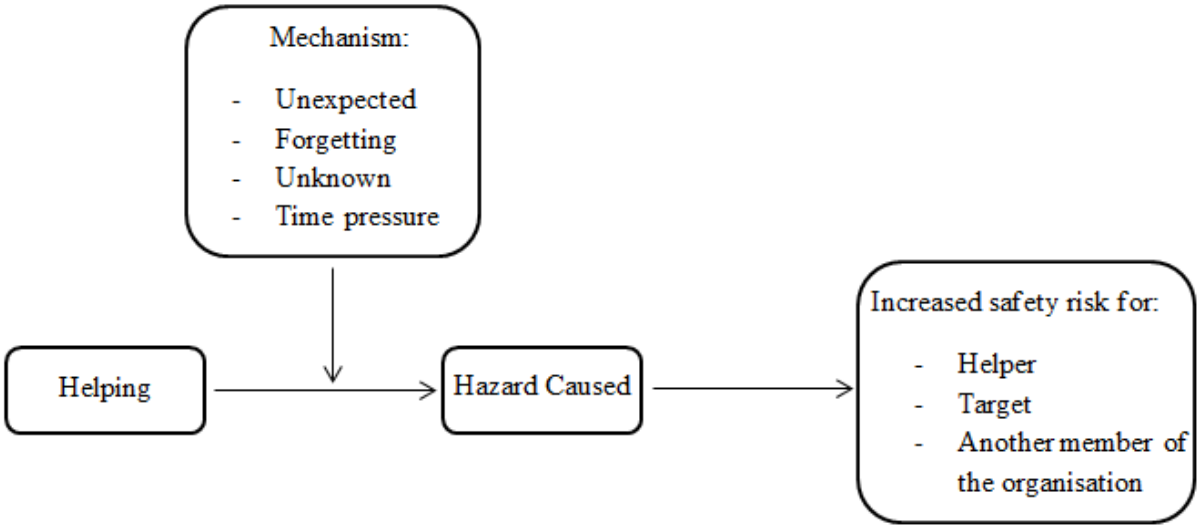

Figure 1. Relationship proposed in the initial study by Burt and Williams (2012); showing the mechanisms through which helping behaviours can lead to an increase in safety risk for the helper, target, or another member of the organization.

The forgetting hypothesis. Upon returning to their work after helping a co-worker, it is possible that the helping employee will forget some aspect of their work. This may unintentionally produce a hazard, or directly cause an accident to occur. Three different types of forgetting which could result from an employee leaving their job to help a co-worker were

examined: they forget what they had just done prior to leaving; they forget at what point they were at in their work; and, they forget something which they had planned to do.

The unknown hypothesis. As OCBs are discretionary behaviours, this gives them an element of unexpectedness. As a result of this unexpected nature, it is likely that employees may (at least initially) be unaware that help is being given. It is also possible that behaviours intended to help a co-worker may create a hazard for the target employee which they are not immediately aware of.

The unexpected hypothesis. Engaging in a helping behaviour is likely to move the helping employee away from their job and into the target employee's domain. The helper's intrusion into the target's job may create circumstances where something unexpected happens in the target's job. Furthermore, the departure of the helper from their own job could lead to something unexpected happening in their absence, which would not have occur had they been focussed on their own work.

The time pressure hypothesis. Clearly there is a time factor involved in helping other employees, in that time is taken away from the helper's primary job. This may cause time pressures to occur for the helper, regarding the completion of their own work. Such time pressures may result in the employee having to rush to complete their work, which may inadvertently create a safety risk.

The data for the Burt and Williams (2012) study were collected using an anonymous, confidential questionnaire. Two hundred and twenty-two participants were recruited on a voluntary basis from two processing factories and a road maintenance/construction company. Researchers visited one of the factories during a lunch break, and 49 staff volunteered and completed a questionnaire. The two other organizations were each posted 100 questionnaires (with returned postage envelopes attached) which were distributed to volunteers by staff from the organizations human resources department. A code on the questionnaire identified the

organization; one organization produced a response rate of 73 percent, and the other 100 percent.

The sample was comprised of 30 females with an average age of 35.3 years, and 184 males, with an average age of 43.0 years. On average participants had worked in their current job for 93.1 months (SD = 110.0), and in the industry for 163.6 months (SD = 139.0). One participant did not answer the job and industry tenure questions. The average number of co-workers indicated by the participant's was 39.8. As employees may work with different co-workers throughout their time in a job (i.e. change teams), the participants were asked the number of co-workers as opposed to team size. Each questionnaire contained scales measuring OCBs; propensity to bend the rules; tendency to commit minor trips and slips; safety climate; job risk; and whether helping behaviours may result in negative safety outcomes (a measure specifically designed for the study).

On the whole, the results from the initial research showed evidence of helping behaviours resulting in an increased safety risk. The mean, standard deviation, and percentage of participants who rated the item above one, for each item are as follows: Doing what I thought would be helpful for another employee turned out to be a safety risk for me (m = 2.2, SD = .88, % of participants rating above 1 = 21.6); Doing what I thought would be helpful for another employee turned out to be a safety risk for them (m = 1.1, SD = .55, % of participants rating above 1 = 14.4); and, Doing what I thought would be helpful for another employee turned out to be a safety risk for another member of the organization (m = 1.1, SD = .55, % of participants rating above 1 = 12.2). Although these results are low, they clearly indicate that helping can be risky and may be a mechanism that could lead to the occurrence of workplace accidents (Burt & Williams, 2012).

Furthermore, there was strong evidence to support the four hypothesised mechanisms through which helping behaviours may lead to an increased safety risk. Safety risk was

positively correlated (at the 0.01 significance level) with each of the four mechanisms, giving correlation coefficients of .36, .38, .67, and .22 for forgetting, unexpected, unknown, and time pressure, respectively.

While the results from Burt and Williams' (2012) study generally supported the model shown in Figure 1, there were a few aspects of the results that suggested further hypothesis. Firstly, there was a discrepancy between two items that assess the participant's perception of a change in safety risk as a result of helping. It would be expected that the items asking *Doing what I thought would be helpful for another employee turned out to be a safety risk for them* and *Another employee has attempted to help with my job and increased the safety risk of my job* would yield a similar response. This expectation is plausible as both items are querying a similar situation, but from the opposite point-of-view. The first of which is querying the helper's position, whereas the second queries from the target employee's point-of-view. The fact that there was a substantial difference in responses (14.4% of respondents scored above 1 for the first question, compared to 31.1% for the second question) leads to the question of why this discrepancy is occurring. Secondly, the results showed unusually high scores relating to instances in which helping behaviours were not communicated to the target employee. A large number of the participants (52%) responded to the question *Another employee has done something to help with my job which I was not immediately aware of* with a score above 1 on the 5-point Likert-type scale from 1 (Hardly ever) to 5 (Nearly all the time). This indicates that over half of the participants have been the target of helping behaviours that they were not immediately aware of. Such a situation may create circumstances where something unexpected happens in the targets job, which could result in an increased safety risk. In the current study, hypotheses were proposed to investigate these two OCB oriented situations, to determine why they may be occurring. Before discussing these hypotheses in detail, a brief review of research on OCBs is given.

Organizational Citizenship Behaviour: History, Antecedents, and Consequences

Inspired by the work of Katz (1964) regarding innovative and spontaneous behaviours, Organ (1988) originally coined the term *organizational citizenship behaviour*. He defined OCB as "behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and in the aggregate promotes the efficient and effective functioning of the organization" (Organ, 1988, pp. 4). Criticism has arisen regarding Organ's (1988) definition of OCB, especially in the wake of the changing nature of work whereby jobs are less defined. As a result of greater ambiguity surrounding what jobs entail, the definition of 'discretionary' becomes a lot more subjective. Consequently, what is defined as OCB is different across employees, and between employees and managers (Morrison, 1994; Lam, Hui, & Law, 1999). Furthermore, issues surrounding whether OCBs are formally rewarded has brought about criticism. Studies (e.g. MacKenzie, Podsakoff, & Fetter, 1991; Podsakoff & MacKenzie, 1994) have shown that OCBs may be just as likely as in-role performance to elicit monetary rewards, through their effects on supervisory ratings (Organ, 1997). As suggested by Organ (1997), a job is now whatever is required by the individual's workplace, contingent on the necessary training being provided; as opposed to tasks outlined in a strict job description. As such, this makes Organ's (1988) definition of OCB null and void, as anything required from the employee in order to contribute is part of the job. Additionally, Bridges (1994) suggests a job to no longer be the best way of organizing work, but a social artefact in which task performance takes place. In order to overcome such definitional issues, Organ (1997) redefined OCB as "performance that supports the social and psychological environment in which task performance takes place" (pp. 95).

As noted by Podsakoff, MacKenzie, Paine, and Bachrach (2000) in their extensive meta-analysis of OCB literature, since research regarding OCBs began there have been many other terms constructed that are very similar to the original definition by Organ (1988). Such constructs include extra-role behaviour (Van Dyne, Cummings & Parks, 1995), prosocial

organizational behaviour (Brief & Motowildo, 1986), organizational spontaneity (George & Brief, 1992; George & Jones, 1997), contextual performance (Borman & Motowildo, 1993), and civic organizational behaviour (Graham, 1991). Upon comparison of the definitions of these constructs, it can be seen that they share some fundamental aspects with OCBs, but also some important differences (e.g. the original definition of OCB states that such behaviours are not formally rewarded, whereas this is not required for contextual performance). Throughout their meta-analysis, Podsakoff et al. (2000) noted almost 30 potentially different forms of citizenship behaviour. In order to show that there is a large degree of conceptual overlap between the definitions, they broke them down into seven common dimensions. This included: helping behaviour, sportsmanship, organizational loyalty, organizational compliance, individual initiative, civic virtue, and self-development. The fatal accident outlined above contains aspects of both helping behaviour (guiding the reversing vehicle, and speeding up the unload by jumping on the back plate), and individual initiative (the unloading process was specifically developed by the crew of three). Additionally, the process was designed to improve task performance (by reducing the time required to unload the truck) thereby improving the social and psychological environment in which task performance takes place. As such, the helping behaviours are consistent with Organ's (1997) revised definition of OCB.

The majority of the literature on OCBs to date is directed in two main areas: the antecedents of OCBs, and the relationship between OCBs and performance (i.e., the consequences of OCB). Given that the focus of this study is the proposition that OCBs can sometimes have safety consequences, it is important to understand the factors that may prompt an employee to engage in OCBs.

Antecedents of OCB. Job satisfaction, perceptions of organizational fairness (e.g. procedural justice), organizational commitment, perceptions of leader supportiveness, and task variables (i.e. task routinisation and intrinsically satisfying tasks) are all shown to be significant

antecedents of OCBs (e.g. Podsakoff et al. 2000). It is important to have an understanding of the antecedents to OCBs, because if they can be related to accidents, it is important to know what may cause them to develop.

Throughout the literature a positive relationship between job satisfaction and OCB is evident (e.g. Bateman & Organ, 1983; Organ & Ryan, 1995). The principle of social exchange theory is often used as a mechanism to explain this relationship, with Bateman and Organ (1983) suggesting that only highly satisfied employees will give their efforts and engage in behaviours that are beneficial to the organization (Chiu & Chen, 2005). Additionally, Organ and Ryan (1995) found that cognitive work attitudes (such as job satisfaction) can better predict OCBs than an individual's disposition (Chiu & Chen, 2005); suggesting social exchange may play a dominant role. Within the domain of higher risk occupations, Organ and Lingl (1995) found support for a positive relationship between job satisfaction and OCB, for a sample of workers manufacturing industrial machinery and large consumer appliances.

Studies have supported a positive relationship between perceptions of organizational fairness (e.g. perceptions of procedural justice) and engagement in OCBs when utilising samples from higher-risk occupations (such as hospital staff, and labour and manufacturing employees; e.g. Organ & Konovsky, 1989; Moorman, 1991). Thereby providing evidence (within higher risk occupations) to support Organ's (1988) proposition that an employee's decision to act as an organizational citizen may be a function of the amount with which they perceive fair treatment to occur on the organization's behalf (Messer and White, 2006).

Organ and Konovsky (1989) found for a sample of supervisor and subordinate employees in a hospital setting that involvement in OCB was positively related to subjective appraisals of job outcomes and perceptions of fairness. Furthermore, Moorman (1991) sampled a group of labour and manufacture workers in the United States, reporting support for a positive relationship between procedural justice and OCB.

It is commonly suggested throughout the literature that organizational commitment leads to OCBs (e.g. Organ & Ryan, 1995; O'Reilly & Chatman, 1986; LePine, Erez, & Johnson, 2002; Lambert, Hogan, & Griffin, 2008). Employees who experience positive exchanges with their organization are suggested to reciprocate this by showing higher levels of commitment, which may motivate them to contribute to the positive functioning of the organization in a variety of ways, including engaging in OCBs (Cohen, 2003; Cohen & Keren, 2008; O'Reilly & Chatman, 1986; as cited by Liu & Cohen, 2010). There is evidence of this relationship occurring within higher-risk organizations, such as a study by Carson and Carson (1998) utilising a sample of nurses in America.

Throughout their meta-analysis, Podsakoff et al., (2000) found leader-member exchange (LMX) to be positively related to overall OCB. LMX theory suggests leaders use different types of relationships or exchanges when dealing with each subordinate. Such relationships range from those characterised by mutual trust, respect, and reciprocal influence (i.e. high LMX), to those based strictly on employment contracts (i.e. low LMX; Liden & Maslyn, 1998). Within the domain of higher risk occupations, evidence exists for this LMX relationship throughout manufacturing and hospital settings (e.g. Hui, Law, & Chen, 1999; Settoon, Bennett, & Liden, 1996; Wayne & Green, 1993). These findings suggest leadership factors can be a significant antecedent to engagement in OCBs; with evidence to suggest this occurs within high-risk occupations.

With regard to task variables, Todd and Kent (2006) found support for a positive relationship between helping behaviours and both task significance and intrinsically satisfying tasks, within a manufacturing setting. Additionally, the wider literature concerning task variables and OCB supports a positive relationship between both task feedback and intrinsically satisfying tasks with OCB; and a negative relationship between task routinization and OCB (e.g. Podsakoff & MacKenzie, 1995; Podsakoff, MacKenzie, & Bommer, 1996; Podsakoff, Niehoff, MacKenzie, & Williams, 1993; as cited by Podsakoff et al., 2000).

As shown by the multitude of studies utilising higher-risk occupations throughout their investigations regarding the antecedents of OCBs; citizenship behaviours appear to be occurring frequently within riskier jobs. It therefore makes sense to examine whether OCBs can sometimes have negative safety consequences. It is however, important to note, that while many of the studies cited above examined work involving a degree of safety risk, none of the studies noted a specific concern that OCBs might be enhancing job risk.

Consequences of OCB. OCBs have been associated with organizational effectiveness (Podsakoff & Mackenzie, 1994; Walz & Niehoff, 1996), employee job satisfaction (Organ & Konovsky, 1989; McNeely & Meglino, 1994) and productivity (Gyekye & Salminen, 2005). Furthermore, employees who engage in OCBs promote a better quality of service to customers (Bell & Menguc, 2002), show less turnover and absenteeism (Podsakoff, Whiting, Podsakoff, & Blume, 2009), and increase the ability of organizations to attract and retain effective employees (Podsakoff et al., 2000). The majority of research regarding the consequences of OCBs has focussed on their positive outcomes, with little attention given to the negative consequences that such behaviours can elicit (e.g. an increase in safety risk). As such, this study focusses on the negative safety outcomes that OCB behaviours can cause, thereby adding to the limited amount of literature in this domain.

Possible Negative Outcomes from OCBs

In response to a call from researchers for studies investigating potential consequences of OCBs at the individual level (e.g. Podsakoff et al., 2000); Bolino and Turnley (2005) assessed the impact of a specific type of OCB (individual initiative) on role overload, job stress, and work-family conflict. This was done through the use of questionnaire data, collected from alumni of a medium-sized university in the Midwestern United States. Two surveys were sent to each of 622 alumni members, one for themselves to complete and one for their spouse or significant other, along with two postage-paid return envelopes. Both questionnaires were

different, with spousal or significant other questionnaires used to assess work-family conflict as well as individual initiative. Complete matching datasets were returned from 98 couples (giving 196 participants). Eighty-five percent of the participants worked, with at least one working respondent in each couple.

The study revealed a positive relationship between the individual initiative component of OCB and all three study variables. Using hierarchical regression, individual initiative was positively associated with job stress, role overload, and work-family conflict; bringing to light some of the personal costs associated with engaging in citizenship behaviours. Furthermore, Christian, Bradley, Wallace, and Burke's (2009) meta-analysis identified pressure from workload as a variable in workplace safety.

In addition to the OCB literature disproportionately focussing on the positive aspects that such behaviours can cause, the idea of OCBs negatively impacting the individuals performing them has largely been ignored (with the exception of a limited number of studies, such as Bolino & Turnley, 2005). Employers are increasingly expecting their employees to engage in high levels of contextual performance (Bolino & Turnley, 2005). Therefore, such neglect regarding the negative impact that OCBs may elicit is concerning. As employers are increasingly expecting employees to engage in such behaviours, it is highly important to study the possible negative impact OCBs may have on employees. One such example of this is when employees perform OCBs that lead to a decrease in workplace safety.

OCB and Safety

To date, the literature regarding the role of OCBs in workplace safety has been scarce. However, it has been found that those workers who actively engage in OCBs are more compliant with safety management policies, and subsequently have a lower accident involvement rate compared to their non-OCB performing colleagues (Gyekye & Salminen, 2005). In their study, Gyekye and Salminen (2005) compared workers active in citizenship

behaviours to their colleagues who were passive in such behaviours; with regards to job satisfaction, safety compliance, and accident involvement rates. The sample comprised 320 Ghanaian industrial workers of which 65% were male. Seventy-five percent of the sample were subordinate workers, while the remaining 25% were supervisors. Data measuring OCBs, safety climate, safety behaviours and job satisfaction was gathered through the use of questionnaires. Accident frequency was obtained by asking participants how many times they had been involved in accidents (classified as serious by the safety inspection authority) in the previous 12 months. The results of this study showed that employees who actively engage in OCBs were more compliant with safety management policies, and had a lower accident involvement rate, compared to their OCB passive counterparts.

The findings from this study seem promising; suggesting those employees actively engaging in OCBs suffered from less safety related negative consequences. However, Van Dyne, Graham, and Dienesch's (1994) OCB scale used in the study does not assess helping behaviours, such as when an employee assists a fellow co-worker with some aspect of their job. Alternatively, this scale focusses on three categories of OCB: obedience, loyalty, and participation; at an organizational as opposed to individual level. Utilising an organizational level framework does not allow one to assess situations in which OCBs can directly result in negative safety outcomes for an individual; instead it correlates OCB with safety outcomes through a much wider lens. Such a level of analysis allows for the suggestions (such as those made by Gyekye & Salminen, 2005) regarding the relationship between OCB active versus inactive employees, but does not allow for an analysis of safety outcomes that result from the performance of OCBs.

As the current literature regarding OCBs and safety is in its infancy, there are many different aspects for researchers to explore. An important aspect worth consideration regards the direct role that OCBs (such as helping a co-worker) may play in workplace safety. An

understanding of this relationship would increase knowledge regarding the antecedents of workplace safety issues. This may allow accidents to be proactively avoided, limiting the resulting economic and societal consequences.

Previous Research on Workplace Safety and Accidents

The cost of workplace accidents may include, but are not limited to: wages for lost-time, repair or replacement of damaged material or equipment, training replacement workers, overtime, clerical supervision and accident investigation (Neville, 1998), as well as rehabilitation costs. Many studies have examined the economic cost of workplace injuries, with Miller and Galbraith (1995) calculating that injuries cost an average of $US2.5m per fatality, $US46000 per compensable injury, $US1600 per non-compensable injury, and $US650 per injury without work loss. With regards to New Zealand, in 2011 there were 6087 serious accidents (reported to the Department of Labour, as required by the Health and Safety in Employment Act 1992) and 41 fatalities while at work (Department of Labour, 2011). Additionally, Head and Harcourt (1997) estimated the total indirect costs of workplace accidents in New Zealand in 1995 as approximately $NZ313m, and total direct costs as approximately $NZ912m. Clearly the cost of workplace accidents can be colossal, therefore any information providing further insight into the antecedents of workplace health and safety issues could have huge social and economic benefits.

The majority of occupational safety research throughout the psychological literature tends to focus on two main areas, including: safety climate (e.g., Clarke, 2010) and safety performance (e.g., Griffin & Neal, 2000).

Safety climate. Safety climate is defined as "individual perceptions of policies, procedures and practices relating to safety in the workplace" (Neal & Griffin, 2006, pp. 946). As such, these perceptions represent the beliefs of the employees, regarding the priority by the

organization, given to safety issues in comparison to other organizational concerns (Clarke, 2010).

The understanding that organizational and social factors influence safety outcomes has led to extensive research on safety climate (Vinodkumar & Bhasi, 2010). The main themes throughout the safety climate literature relate to: safety management systems; individual involvement; work environment; and management attitudes and actions (Clarke, 2000). Embedded throughout the literature is a commonly recurring psychological mechanism that is proposed to explain the relationship between perceived safety climate and workplace accidents, the safety climate → behaviour → accidents model. According to this model an employee's perceptions of safety climate affects their behaviour, which then affects their accident involvement (e.g. Neal & Griffin, 2006; Neal, Griffin, & Hart, 2000; Pousette, Larsson, & Torner, 2008; as cited by, Clarke, 2010).

Numerous studies have found a negative relationship between safety climate and adverse safety outcomes (e.g. Oliver, Cheyne, Tomas, & Cox, 2002; Zohar, 2000; Hofmann & Stetzer, 1996). Thus, there is a substantial literature to support the relationship whereby employees who perceive safety as a low priority within organizational policies and practices tend to have a higher involvement in adverse safety outcomes, such as accidents and unsafe acts (e.g. Gyekye & Salminen, 2005). In many instances, engaging in helping behaviours may violate organizational rules or practices aimed at increasing safety. Safety climate is positively related to safety knowledge and safety motivation, which in turn is positively related to safety performance (Clarke, 2010); therefore, situations in which there is a low safety climate may result in the employee's unawareness of safety-related rules and practices. Moreover, failure to follow safety-related protocol may occur due to low safety motivation.

As the present study investigated how helping behaviours may lead to a reduction in workplace safety, it is important to understand the relationship between safety climate and safety

outcomes. Additionally, understanding the role that safety climate can play on safety knowledge and safety motivation is important as it may affect employee engagement in helping behaviours.

Safety performance. Safety performance is a term often used to describe two different concepts, either as an organizational metric for safety outcomes, or a measure of safety related behaviours performed by individual employees (Christian, Bradley, Wallace, & Burke, 2009). Distinguishing these two conceptions from each other is important in order to aide theory development, as they are likely to have different antecedents (Christian et al., 2009). In the case of safety performance referring to safety-related behaviours, such behaviours can be assessed using the frequency with which employees engage in them. Conversely, safety outcomes are tangible events such as accidents. Safety-related behaviours are therefore distinguishable from safety outcomes in terms of their antecedents (Burke, Sarpy, Tesluk, & Smith-Crowe, 2002). As this study focussed on how helping behaviours can affect safety, the behaviour-related definition of safety performance (which is further defined below) is focussed on.

The behaviour-related definition for safety performance is often split up into two facets: safety compliance and safety participation. Griffin and Neal (2000) define safety compliance as "core safety activities that need to be carried out by individuals to maintain workplace safety" (pp. 349); while safety participation is defined as "behaviours such as participating in voluntary safety activities or attending safety meetings" (pp. 349). Behaviour-related safety performance has been found to negatively correlate with accidents and injuries (Christian et al., 2009). Furthermore, Clarke (2006) showed that safety climate predicts safety performance behaviours, especially safety participation. Due to the different antecedents of both safety participation and safety compliance, they often have different relationships with various facets of workplace safety. For example, safety climate tends to be more highly related to safety participation than safety compliance. This is most likely a result of safety compliance, by definition, being mandatory. Therefore, safety climate should not have as much impact towards compulsory

behaviours (Christian et al., 2009). Moreover, safety compliance has been found to be negatively related to near misses (Goldenhar, Williams, & Swanson, 2003).

In many situations, helping behaviours may violate organizational rules and protocols aimed at increasing workplace safety. Therefore, such helping behaviours may be considered to occur on a continuum corresponding to the risk associated with the helping. At one extreme there may be helping behaviours that do not violate safety participation procedures; this would be considered as low-risk helping. At the other extreme, there could be helping behaviours that violate safety compliance procedures; these would be considered as high-risk helping behaviours. Having an understanding of the relationship between safety performance and helping behaviours allows for educated suggestions as to how helping behaviours may lead to a reduction or increase in workplace safety.

The Present Study

Personality traits and safety. As stated previously, the current study examines hypotheses developed from the results of the Burt & Williams (2012) study. Two hypotheses were postulated. Firstly, employees high on agreeableness will communicate the negative outcomes of helping behaviours back to the helper less than those employees low on agreeableness. Secondly, employees high on the trait of humility will inform their intended target of the helping behaviours directed towards them less than those employees low on humility. As these hypotheses are based on personality factors it is important to review the current research regarding personality and safety.

Most of the research surrounding personality traits and their effects on workplace safety has investigated three of the Big Five traits, focussing on neuroticism, conscientiousness, and extraversion. Very few studies have considered openness to experience and agreeableness. Mathews & MacLeod (1985) suggested neurotic employees may be attuned to signs of danger in the workplace, given their attentiveness to negative stimuli. Conversely, Christian et al. (2009)

suggest safety performance of neurotic employees may be impaired given neuroticism's negative relationship with intrinsic motivation (Furnham, Petrides, Jackson, & Cotter, 2002) and the desire to take control of one's environment (Judge, 1993). However, neuroticism has been found to have a negligible correlation with accidents.

Wallace and Vodanovich (2003) found conscientiousness to be negatively related to unsafe behaviours and accidents amongst a sample of production workers and military personnel (mechanics/machinists working on aircraft). They considered this relationship to occur as highly conscientious employees tend to engage in behaviours that are reflective of on-task processes (e.g. careful, dutiful), which would result in less engagement in unsafe work behaviours. Additionally, Christian et al. (2009) found conscientiousness to be positively associated with safety motivation.

Extraversion has been found to be unrelated to accidents (e.g. Clarke & Robertson, 2005) despite the sensation-seeking aspect of highly extroverted individuals potentially leading them to engage in risky behaviour. This is possibly explained by extroversion being closely affiliated with positive affect (Iverson & Erwin, 1997), which is associated with high self-efficacy and contextual behaviours (Christian et al., 2009).

It is evident that the current literature regarding personality traits and safety is scarce and presents inconsistent findings. The results from Burt and Williams' (2012) study suggest there is a discrepancy regarding the perception of safety risk increase (associated with helping behaviours) between the target and helper. One possibility is that 'agreeableness' might predict individuals propensity to communicate adverse safety consequences of helping.

Throughout the social psychology literature agreeableness is suggested to play a significant role throughout interactions with others. Graziano, Jensen-Campbell, and Hair (1996) suggest that agreeable individuals may be more motivated to maintain positive relationships with others. Furthermore, King, George, and Hebl (2005) go on to suggest that "individuals who

are high in agreeableness may be more likely to be motivated to maintain relationships rather than preserve their own self-interest" (pp. 589). As helping behaviours constitute social interactions, it is possible that individuals are avoiding communication of negative safety consequences back to the helper, in order to maintain positive relationships with their work colleagues. Therefore, it was predicted that agreeableness scores would be negatively correlated with an employee's communication of negative safety outcomes of helping behaviours back to the helper. Accordingly,

> *Hypothesis 1: Employees high on agreeableness will communicate the negative outcomes of helping behaviours back to the helper less than those employees low on agreeableness.*

The results from Burt and Williams (2012) study also showed that over half (52%) of the participants had been the target of helping behaviours that they were not immediately aware of. Such situations have the potential to create circumstances where something unexpected happens in the target's job, which could result in an increased safety risk. It is thought that the high prevalence of employee's being unaware of helping behaviours directed towards them is also the result of a lack of communication. Furthermore, it was hypothesised that this break-down in communication may be a result of an 'unsung hero' situation occurring, in which the helper intends to engage in a substantive contribution to the target employee's job, for which they want to seek no recognition. In such a situation, the helper's personality trait of *humility* was predicted to form the foundation for such behaviours.

Throughout the psychological literature the research regarding humility is very scarce, making a literature-based hypothesis difficult to develop. The primary reason for this lack of theory development comes from limited congruence regarding a conceptual definition of humility (Tagney, 2005). Consequently, consistent theory development is hindered as a result. Such definitions of humility include: a realistic appraisal of one's positive and negative

characteristics in relation to others (Emmons, 1999); an individual who is interpersonally other-oriented as opposed to self-focussed, has an accurate view of self (not too high or too low), and who is marked by a lack of superiority (Davis et. al., 2011); a personal orientation founded on a willingness to see the self accurately and a propensity to put oneself in perspective (Morris, Brotheridge, & Urbanski, 2005); and, not considering oneself as more special than others, letting ones accomplishments speak for themselves, and not seeking the spotlight (Peterson, 2006). There are three common themes throughout the various definitions of humility presented above. These include: seeing oneself accurately (e.g. Emmons, 1999; Davis et al., 2011; Morris, Brotheridge, & Urbanski, 2005); not considering oneself as special or superior to others (e.g. Morris, Brotheridge, & Urbanski, 2005; Peterson, 2006; Davis et al., 2011); and, being focussed on others, thereby keeping the spotlight away from oneself (e.g. Davis et al., 2011; Peterson, 2006).

Regarding an employee failing to communicate their helping behaviours to the target co-worker, each of these common themes of humility could play a key role. Based on the helper's accurate view of self, they may not require the external reinforcement that is likely to be associated with praise from the target, had the target been informed of the helping behaviours directed towards them (however, due to the limited empirical literature regarding humility, this is somewhat of a common sense proposition). Furthermore, the act of helping a co-worker may be interpreted by other employees as a display of the helper's superiority. As individuals high in humility do not consider themselves as special or superior to others, they may not inform others of their helping actions in order to prevent their co-workers from seeing them as patronizing. Moreover, individuals high in humility like to remain out of the spotlight and are focussed on others rather than themselves. Therefore, such a lack of communication may be an attempt to keep out of the spotlight (i.e. acting as the 'unsung hero'). Additionally, disclosing ones good deeds (helping behaviours) may have unfavourable effects on group cohesion, whereas showing humility may enrich group harmony and facilitate group work (Fu et al., 2010). Therefore,

failure of the helper to communicate their helping behaviours may be a result of their focus on others (as opposed to themselves), with their intent being the greater good of the team as well as not wanting the target to feel inadequate.

Based on the above, it seems reasonable to predict that employee humility would be negatively correlated with their propensity to engage in helping behaviours towards a colleague, which they immediately tell them about. Accordingly,

Hypothesis 2: Employees high on the trait of humility will inform their intended target of the helping behaviours directed towards them less than those employees low in humility.

The primary aim of the current study was to investigate hypotheses 1 and 2. However, Burt and Williams (2012) used a scale to assess whether helping behaviours may lead to a reduction in workplace safety, utilising a Likert type scale ranging from 1 (Hardly ever) to 5 (Nearly all the time). The scale used in the present study was modified to include a 0 (Never) option. Therefore, an additional aim was to gather further evidence of such behaviours occurring when participants were given the option of stating that they never occur. As with the Burt and Williams (2012) study, the current study focused on both safety and helping behaviours. As such, participation in the study was subject to the same prerequisite criteria as the Burt and Williams (2012) study (i.e. each participant had an element of safety risk associated with their job, and worked in a team of at least two members).

Method

Sampling and Participants

The sample initially comprised of 81 participants from high-risk occupations. Two cases containing more than ten percent missing data were removed, reducing the overall sample size to 79. Subjects came from the following industries: construction (42%), road construction/maintenance (33%), engineering (9%), port (9%), healthcare (3%), and other (5%;

including an Army officer, a mechanic, an orchard worker, and an Urban Search and Rescue team member).

Fifty questionnaire packs were delivered to one organization and 26 completed questionnaires were returned, giving a response rate of 52%. Seven questionnaires were completed as a result of recruiting participants through the use of an advert placed in an organization's newsletter (see Appendix A). The remainder of the data was collected personally by the researcher administering questionnaires to participants during their lunch break at their workplace.

Overall, there were 10 females with an average age of 32.8, a range of 22 to 48 years, and a standard deviation of 8.1 years; and, 69 males with an average age of 30.9, a range of 16 to 65 years, and a standard deviation of 12.6 years. Across the sample, the average job tenure was 27.4 months, ranging from 0.1 to 193 months, with a standard deviation of 40.1 months. The average number of co-workers indicated by the participant's was 45.6, with a standard deviation of 103.6, and minimum and maximum values of 4 and 650 respectively.

Materials

The front page of the questionnaire provided information about confidentiality, anonymity, informed consent, and instructions for completing the survey (see Appendix B). The questionnaire (see Appendix C) contained 7 sections (described below). The ordering of the sections (with the exception of the *general question* section, which was always at the end) was counterbalanced to help control for common method variance (Kline, Sulsky, & Rever-Moriyama, 2000). The *general question* section asked questions regarding age, gender, team tenure, industry tenure, and the number of co-workers.

OCBNO measure assessing whether helping behaviours affect subsequent cognitions. The OCBNO measure contains items that describe OCB behaviours but ask about negative safety outcomes, therefore linking safety and OCBs. It consisted of two single-item

questions and four subscales (detailed below). One single-item question queried general helping behaviour (item: *Have done something to help another employee which they were not immediately expecting*), while the other queried the 'time-pressure' mechanism through which helping may lead to an increased safety risk (item: *Have had to rush to complete my tasks because of spending time helping another employee*). One of the subscales assessed whose safety risk increased following helping behaviours, while the three remaining subscales measured the other mechanisms through which helping may lead to an increased safety risk (i.e. the forgetting, unexpected, and unknown components). Participants responded to each item using a 6-point frequency scale, anchored with 0 (Never) to 5 (Nearly all the time).

The subscale assessing whose safety risk was increased (as a result of helping) contained four items. Example items from this scale include: *Doing what I thought would be helpful for another employee turned out to be a safety risk for me*; and, *Doing what I thought would be helpful for another employee turned out to be a safety risk for another member of the organization*. The coefficient alpha for this subscale was sufficient at 0.85.

The subscale assessing the 'forgetting' mechanism contained three items. These items were: *Have forgotten at what point I was at in my work when returning from helping another employee*; *Have forgotten something that I was planning to do after returning from helping another employee*; and, *Upon returning to my job after helping another employee I have forgotten what I had just done prior to leaving my job*. This subscale produced a sufficient coefficient alpha of 0.83.

The subscale assessing the 'unexpected' mechanism contained the following two items: *While helping another employee something unexpected happened in relation to my job*; and, *While helping another employee something unexpected happened in relation to their job*. The coefficient alpha for this subscale was sufficient at 0.81.

The subscale assessing the 'unknown' mechanism was also comprised of two items. These were: *Another employee has attempted to help me with my job and created a safety hazard which I did not immediately notice*; and, *Another employee has done something to help with my job which I was not immediately aware of*. This subscale produced a coefficient alpha of 0.67.

Measures assessing failure for the helping behaviour to immediately be communicated to the target. A single item was used to determine whether participants had ever engaged in a helping behaviour, without immediately informing their target. This item stated *I have done something to help another employee which I did not immediately tell them about*, and was responded to on a 6-point frequency scale from 0 (Never), to 5 (Nearly all the time). If participants responded to the above item with a score of 1 or greater, they then responded to six items querying why they did not immediately tell the target that they had helped them. These items were responded to using a 5-point Likert type scale, anchored with 1 (Strongly disagree) to 5 (Strongly agree). This measure included the following items: *There was no opportunity to tell them*; *It did not seem important to tell them*; *I did not want to call attention to the fact I had helped them*; *Telling them might have undermined their confidence in their ability to do the job*; *I did not want to get into trouble for leaving my job to help another employee*; and, *I did not have time to explain what I had done*. These items were used to investigate why participants did not immediately inform the target of their helping behaviour (in addition to testing the personality hypothesis), thereby increasing the understanding as to why such behaviours may occur.

Measures assessing failure for the target to inform the helper of the increased safety risk resulting from their helping behaviour. A single item was used to determine whether participants had ever been helped by another employee, in which case this helping behaviour resulted in an increased safety risk to their job, but they did not inform the helper of this adverse

safety issue. This item stated *Another employee has attempted to help with my job and increased the safety risk of my job – But I did not tell them about the risk increase*, and was responded to on a 6-point frequency scale from 0 (Never) to 5 (Nearly all the time). If participants responded to the above item with a score of 1 or greater, then they went on to respond to six items, questioning why they did not tell the helper of the subsequent safety risk increase following the helping behaviour. Responses were made using a 5-point Likert type scale, anchored with 1 (Strongly disagree) to 5 (Strongly agree). The response options were: *I did not want the helper to think I was ungrateful*; *I did not want to damage my relationship with the helper*; *I did not want to get the helper into trouble*; *I did not want to undermine the helpers confidence in doing this type of work*; *I did not have the opportunity to tell them*; and, *I did not have time to explain what went wrong*. The purpose of these items was to determine what possible reasons (in addition to the personality hypothesis) may explain why targets of help failed to inform their helper of the safety risk increase associated with the help (had such an increase occurred).

Humility subscale. The 9-item subscale from the Values In Action Scale developed by Peterson and Seligman (2004), was used to assess each participant's level of humility. Participants responded using a 5-point Likert scale, anchored with 1 (Strongly disagree) to 5 (Strongly agree). A higher score indicates participants who show more humility. Example items from this scale include: *Don't call attention to myself, Would never be described as arrogant*, and *Am humble about the good things that have happened to me*. Two items were reverse coded (*Like to stand out in a crowd*; and, *Like to talk about myself*). Peterson and Seligman (2004) report a satisfactory coefficient alpha of 0.70; however, the current study found a questionably low coefficient alpha of 0.57.

Scores for the two reverse coded items were transformed so their orientation matched the rest of the data. Following this, for each participant the scores for the items in the Humility subscale were summed then divided by the number of items in the subscale (utilising the

reoriented scores for the reverse coded items, in place of the original score). This provided a Humility Score for each participant.

Agreeableness subscale. The 10-item agreeableness subscale from the Six Factor Personality Questionnaire (Jackson, Paunonen, and Tremblay, 2000), was used to assess each participant's level of agreeableness. Using a 5-point Likert scale, anchored with 1 (Strongly disagree) to 5 (Strongly agree), participants indicate the extent to which they agree with phrases that describe various different facets of agreeableness. Example items from this scale include: *Am inclined to forgive others*, *Take things as they come*, and *Accept people as they are*. Four items were reverse coded (*Get back at others*; *Hold a grudge*; *Am annoyed by others' mistakes*; and, *Am easily offended*). A coefficient alpha for this subscale of .73 has been reported (International Personality Item Pool, 2011); however, this study produced a questionable coefficient alpha of 0.63.

The four reverse coded items were transformed into the correct orientation to match the remaining Agreeableness subscale items. For each participant, the items (replacing reverse coded scores with the reoriented values) were then summed and divided by ten (the number of items in the subscale); thereby giving an Agreeableness Score for each participant.

Job Safety scale. The 10-item Job Safety scale, developed by Hayes, Perander, Smecko, and Trask (1998) was used to assess occupational risk perceptions that the participants have about their job. Using a 5-point Likert scale, anchored with 1 (strongly disagree) and 5 (strongly agree), participants indicate the extent to which they agree with words or phrases that describe their job. A higher score indicates greater perceived risk in the job. Example items from this scale include: *Dangerous*, *Could get hurt easily*, and *Chance of death*. This subscale contained one reverse coded item (*Safe*). This scale produced a satisfactory coefficient alpha of 0.86.

The reverse coded item in this scale was transformed to match the orientation of the remaining scale item scores. Subsequently, for each participant the Job Safety scale items were

summed then divided by ten (the total number of items), giving each participant a Job Risk Score.

Procedure

Individuals responsible for health and safety management (i.e. the human resources manager or health and safety manager) in various organizations across the construction, engineering, road construction/maintenance, and port industries were contacted via phone or email. At which point a brief outline of the study was given. For those organizations expressing interest in participating, an in-depth description of the study was provided through the use of a scheduled meeting or detailed email.

Respondents were recruited for the study from participating organizations in one of two ways. Either a member of the organization's management team notified suitable employees; or, an advertisement was placed in the organization's newsletter. This advertisement (see Appendix A) contained details of the study, the prerequisite requirements of participants (i.e. they must work in teams of two members or greater, and have an element of safety risk associated with their job), the benefit of participating (each participant would receive a $10 petrol voucher) and contact details of the researcher.

Upon recruitment, questionnaires were administered to participants in one of three ways: personally by the researcher at a prearranged time during work hours; distributed by a member of the organization's management team; or, posted directly to the participant. In the instances where questionnaires were not personally administered by the researcher, 'questionnaire packs' were given to the participants. Each pack contained a copy of the questionnaire, a return postage-paid envelope, and a voucher form (see Appendix D). Completed questionnaires and voucher forms were posted directly back to the researcher.

In the situation where the researcher personally administered the questionnaires, upon completion the researcher collected the completed questionnaire while simultaneously

remunerating each participant with a $10 petrol voucher. Each participant signed for the petrol voucher on a separate sheet to account for each voucher for administrative purposes (as required by the University of Canterbury) whilst retaining anonymity. In the situations where questionnaire packs were used, completed questionnaires were accompanied with a voucher form (which upon arrival was separated from the questionnaire before inspection, to ensure anonymity). This allowed a voucher to be sent to the address provided, and also to account for vouchers for administrative purposes.

Results

Data Preparation

Data from each questionnaire were systematically entered into an SPSS Statistics 17.0 database. Two participant's with questionnaires containing more than ten percent missing data were removed, while the remaining missing data was substituted for the average score for the respective variable. This consisted of thirteen data-points (corresponding to 0.29% of the total data set).

Initial Analysis

The first concern was to ensure that all participants fulfilled the prerequisite requirements to partake in the study (i.e. they worked in a team of at least two people, and there was an element of safety risk associated with their job). Participants indicated the mean number of co-workers to be 45.6, with a standard deviation of 103.6, and minimum and maximum sizes of 4 and 650 respectively. Thereby indicating that all participants operated in work where helping other employees was at least possible.

For each participant a Job Risk Score was calculated, thereby allowed the job risk for the sample to be assessed. The mean Job Risk Score for the sample was 2.83, with a standard deviation of .68. The minimum and maximum values were 1.3 and 4.3, respectively. All values were within 2.5 standard deviation of the mean, suggesting there were no outlying scores.

Given the absence of outliers, and the mean Job Risk Score being in the upper half of the possible range (i.e. above 2.5), this shows that across the sample the participants have at least a moderate level of safety risk associated with their job; thereby meeting the criteria for the study.

Further Support for the Burt and Williams (2012) Study

The next concern was to assess whether helping behaviours may lead to situations of increased safety risk, when given the option of answering 0 (Never) on the OCBNO measure, thereby reinforcing the findings from the Burt and Williams (2012) study. Table 1 shows the mean and standard deviation of each item in the safety risk, forgetting, unexpected, unknown, and time pressure components of the OCBNO measure, as well as the percentage of participants responding above 1 (a frequency of *Sometimes* or greater). Table 2 shows the same statistics for the two single-item measures that were used to assess Hypothesis 1 and Hypothesis 2.

Table 1.

Means, standard deviations, and percentage of responses above 1 for OCBNO measure items

OCBNO Measure Items	Mean (SD)	Percentage Responding above 1
Safety Risk		
Doing what I thought would be helpful for another employee turned out to be a safety risk for me	1.1 (.99)	30.4
Doing what I thought would be helpful for another employee turned out to be a safety risk for them	.99 (1.1)	29.1
Doing what I thought would be helpful for another employee turned out to be a safety risk for another member of the organization	.79 (.88)	19.0
Another employee has attempted to help with my job and increased the safety risk of my job	1.3 (1.0)	36.7
Forgetting		
Have forgotten at what point I was at in my work when returning from helping another employee	1.6 (1.0)	57.0
Have forgotten something that I was planning to do after returning from helping another employee	1.7 (.94)	60.8
Upon returning to my job after helping another employee I have forgotten what I had just done prior to leaving my job	1.4 (.92)	48.1
Unexpected		
While helping another employee something unexpected happened in relation to my job	1.6 (.96)	55.7
While helping another employee something unexpected happened in relation to their job	1.5 (.83)	54.4
Have done something to help another employee which they were not expecting	2.4 (.89)	88.6
Unknown		
Another employee has attempted to help me with my job and created a safety hazard which I did not immediately notice	1.4 (.93)	49.4
Another employee has done something to help with my job which I was not immediately aware of	1.8 (.81)	67.4
Time Pressure		
Have had to rush to complete my tasks because of spending time helping another employee	1.9 (1.1)	70.9

Table 2.

Means, standard deviations, and percentage of responses above 1 for the single items used to assess Hypothesis 1 and Hypothesis 2

Item	Mean (SD)	Percentage responding above 1
I have done something to help another employee which I did not immediately tell them about	2.3 (1.2)	78.5
Another employee has attempted to help with my job and increased the safety risk of my job – But I did not tell them about the risk increase	1.3 (1.3)	34.2

While the means shown in Table 1 and Table 2 are low, the results clearly indicate that situations are arising in which helping behaviours may lead to an increase in safety risk. Table 1 shows that 88.6% of the participants responded to the item *Have done something to help another employee which they were not expecting* with a score of at least 2 (Sometimes). Therefore, 88.6% of participants had helped out another employee (which they are not expecting) on a somewhat regular basis. Thereby creating a situation where something unexpected could happen in the targets job. Additionally, the percentage of responses above 1 to the Safety Risk items of the OCBNO measure in Table 1, as well as the second item in Table 2 range from 19.0% to 36.7%. In other words, situations have occurred when helping behaviours have actually resulted in an increased safety risk to either the helper or target's job on a fairly regular basis, for almost one in five participants. Therefore the results provide evidence that helping behaviours may have negative safety consequences, when participants are provided with the option of responding with a frequency of 0 (Never) on the OCBNO measure. This provides further evidence to support the findings from Burt and Williams' (2012) study. It is also worth noting the percentage of responses above 1 for the items asking *Another employee has attempted to help with my job and increased the safety risk of my job* (36.7%); and *Doing what I thought would be helpful for another employee turned out to be a safety risk for them* (29.1%), show similar inconsistency to that found in the Burt and Williams (2012) study. Further implying the presence of a communication issue.

In addition to this, the correlations between the Job Risk Scores; and the Helping Safety Risk and Unknown components of the OCBNO measure were investigated. The Job Risk Scores and Helping Safety Risk scores were significantly positively correlated ($r = .35$, $p < .01$). The correlation between the Job Risk Scores and the Unknown component of the OCBNO measure were also significantly positively correlated ($r = .50$, $p < .01$). These results indicate that helping, and a lack of communication regarding the help, may be a significant source of safety risk. To provide additional support for this, the safety risk from helping scores were regressed onto the forgetting, unexpected, unknown, and time pressure components of the OCBNO measure. Table 3 presents the correlations between the five regression variables, while Table 4 presents the regression results.

Table 3

Correlation matrix between the five components of the OCBNO measure

	1	2	3	4
1 Forgetting				
2 Unexpected	.27*			
3 Unknown	.05	.22*		
4 Time Pressure	.32**	.40**	.30**	
5 Helping Safety Risk	.17	.29**	.75**	.29**

Note: N = 79. ** $p < .01$, * $p < .05$

Table 4

Predictors of Helping Safety Risk subscale scores

Dependent Variable (in Bold) & Independent Variables	R^2	Adj. R^2	F for ΔR^2	β
Helping Safety Risk				
Unknown				.72**
Forgetting				.10
Time Pressure				-.00
Unexpected				.10
	.58	.56	26.556**	

Note: N = 79. ** $p < 0.01$

Inspection of Table 3 shows that although many of the variables are significantly correlated with each other; these correlation coefficients are generally low, suggesting multicollinearity is not an issue for this regression. Such significant correlations are not surprising as many of the mechanisms through which helping can lead to a safety risk are expected to occur. Additionally, the high correlation coefficient between the Unknown and Helping safety risk components is also expected; as this is consistent with the communication-related findings from the Burt and Williams (2012) study. Meanwhile, Table 4 indicates the regression model to be significant, with the Unknown measure producing the only significant beta weight. These results suggest that a lack of communication about helping (i.e. the unknown component) may be a significant source of safety risk, and are consistent with the findings from Burt and Williams' (2012) study.

Analyses of Hypothesis One and Hypothesis Two

As per Hypothesis 1, it was postulated that employees high on agreeableness will communicate the negative outcomes of helping behaviours back to their helper less than those employees low on agreeableness. In order to test this hypothesis, Agreeableness scores were

correlated with the single item measure asking *Another employee has attempted to help with my job and increased the safety risk of my job – But I did not tell them of the risk increase* (hereafter referred to as *Not told of risk*). This correlation was small and failed to reach significance (r = .11, n.s) for the total sample of n=79. As such, Hypothesis 1 was not supported.

As proposed in Hypothesis 2, employees high in humility were predicted to inform their intended target of their helping behaviours directed towards them less than those employees low on humility. Therefore, a significant positive correlation would be expected between the single item measure asking *I have done something to help another employee which I did not immediately tell them about* (hereafter referred to as *Not immediately told of help*), and humility scores. This correlation was also small and failed to reach significance (r = .10, n.s), across the total sample of n=79. Consequently Hypothesis 2 was not supported.

Possible Underlying Reasons to the Break-down in Communication

In order to examine why a target employee may fail to inform their helper of the safety risk increase associated with the helping behaviour, the single item measure *Not told of risk* was followed by six items used to probe possible causes of this communication break-down. To determine which item/s explained why this situation may be occurring, Table 5 presents the mean and standard deviation for each probing item. As the *Not told of risk* probing items were only completed by participants responding to the single item measure with 1 (Hardly ever) or greater, information displayed in Table 5 only assesses n=51 participants.

Table 5

Mean responses to the Not Told of Risk probing items

Reason for not telling the helper of the safety risk associated with their helping	Mean (SD)
I did not want the helper to think I was ungrateful	3.0 (1.16)
I did not want to undermine the helper's confidence in doing this type of work	2.96 (1.05)
I did not want to get the helper into trouble	2.92 (1.03)
I did not have time to explain what went wrong	2.90 (1.10)
I did not have an opportunity to tell them	2.88 (1.07)
I did not want to damage my relationship with the helper	2.74 (.99)

As shown in Table 5, the reasons with the highest mean ratings for not telling the helper of the safety risk increase (as a result of the help), suggest the target may not want the helper to think they were ungrateful for the help; and, they wanted to protect the helpers confidence. These two reasons appear to relate to maintaining the integrity of the social interaction.

In order to examine why employees fail to communicate their helping behaviours to their target, a similar process was followed. The *Not immediately told of help* single item measure was followed by six items. These items were used to probe possible causes as to why employees fail to communicate their helping behaviours to their target. To determine which item/s explained why this situation may be occurring, Table 6 presents the mean and standard deviation for each *Not immediately told of help* probing item. As the probing items were only completed by participants responding to the *Not immediately told of help* measure with 1 (Hardly ever) or greater, information displayed in Table 6 only assesses n=74 participants.

Table 6

Mean responses to the Not Immediately Told of Help probing items

Reason for not telling target about helping effort	Mean (SD)
It did not seem important to tell them	3.29 (1.02)
There was no opportunity to tell them	3.19 (.96)
I did not have time to explain what I had done	3.11 (.92)
I did not want to call attention to the fact I had helped them	2.98 (1.08)
Telling them might have undermined their confidence in their ability to do the job	2.55 (1.04)
I did not want to get into trouble for leaving my job to help another employee	2.04 (.94)

As shown in Table 6, the reasons with the largest mean responses suggest issues with: understanding the importance of informing the target of the help; along with opportunity and time restraints are potentially behind the failure of communication regarding helping behaviours. As these items do not appear to relate to humility, it may help to explain why a non-significant result was found concerning Hypothesis 2.

Additional Interesting Findings

Industry tenure and risky helping. Correlations were calculated between industry tenure and the frequency ratings for the safety risk from helping questions from the OCBNO measure. These were as follows: Doing what I thought would be helpful for another employee turned out to be a safety risk for me ($r = -.18$, $p = .09$); Doing what I thought would be helpful for another employee turned out to be a safety risk for them ($r = -.23$, $p < .05$); and, Doing what I thought would be helpful for another employee turned out to be a safety risk for another member of the organisation ($r = -.21$, $p = .053$). It is evident that all the correlations are negative

and significant to at least the .10 level. As such, this provides further evidence that helping behaviours can lead to an increased safety risk, thereby supporting the findings from Burt and Williams' (2012) study. Additionally, it shows that less experienced employees report to have engaged in more helping that had resulted in an increased safety risk.

Discussion

Summary of Major Findings

Further support for the Burt and Williams (2012) study. This was provided with the use of the OCBNO measure allowing participants to respond with 0 (Never) as the lowest score to the items. A large proportion of participants (88.6%) indicated that they had helped out other employees (that the target was not expecting) on a somewhat regular basis (by scoring above 1 to the item *Have done something to help another employee which they were not expecting*). Moreover, items in the scale relating to safety risk showed that helping behaviours directly related to a safety risk increase (on a somewhat regular basis) for almost one fifth of the participants. This provides evidence to show that helping behaviours may have negative consequences.

Additionally, significant positive correlations between the Job Risk Scores and the Helping Safety Risk component of the OCBNO measure; and, the Job Risk Scores and the Unknown component of the OCBNO measure indicate that helping (and a lack of communication regarding the help) may be a significant source of safety risk. Moreover, when regressing the Helping Safety Risk component on to the Unknown, Forgetting, Time Pressure, and Unexpected components of the OCBNO measure a significant regression model was found, with the Unknown measure producing the only significant beta weight. This further suggests that a lack of communication about helping may be a significant source of safety risk; further supporting the findings from the Burt and Williams (2012) study.

Analyses of Hypothesis 1 and Hypothesis 2. A non-significant correlation was found between the *Not told of risk* single item measure and the Agreeableness Score. As such, Hypothesis 1 was not supported. Similarly, the relationship between the *Not immediately told of help* single item measure and the Humility Score also failed to reach significance. Therefore support for Hypothesis 2 was not gained.

Possible underlying reasons as to the break-down in communication. Examination of the mean responses to the *Not told of risk* probing items suggests that a failure for the target to communicate the safety risk increase (as a result of the help) may relate to maintaining the integrity of social interactions. This is suggested by the highest mean ratings pertaining to the items *I did not want the helper to think I was ungrateful*; and, *I did not want to undermine the helper's confidence in doing this type of work*.

In contrast, mean responses to the *Not immediately told of help* probing items, suggests issues with understanding the importance of informing the target of the help, along with opportunity and time restraints, are potentially behind the failure of communication regarding helping behaviours.

Industry tenure and risky helping. Negative correlations were found between the safety risk from helping questions of the OCBNO measure and industry tenure (significant to at least the .10 level). In addition to providing further evidence that helping may lead to an increased safety risk, these results indicate that less experienced employees reported to engage in more helping that had resulted in an increased safety risk.

Collectively, engaging in helping behaviours were shown to lead to a reduction in workplace safety in some situations. This shows that the outcomes of OCBs are not always beneficial for organizations; therefore highlighting the importance of studying the dark side to organizational citizenship behaviours. Bolino and Turnley (2005) noted that employers are increasingly expecting their employees to engage in contextual performance. However,

enlightening employers of the negative outcomes (to both the safety of the employees, and the financial bottom-line) that may result from such behaviour may cause employers to re-evaluate such expectations.

It is evident from the results that both personality-based hypotheses failed to gain support. As there is no apparent body of literature concerning the role that personality variables play on the OCB – Safety relationship, unchartered territory was being explored. Although additional research is required before these personality factors can be definitively excluded as potential causal elements; the results of this study suggest that humility and agreeableness factors are unlikely to be the cause of the communication break-down regarding helping behaviours.

However, there is a benefit to the lack of support for the personality-related hypotheses, especially from a practical sense. As personality traits are enduring and relatively stable over time (American Psychiatric Association, 1994, Diagnostic and statistical manual of mental disorders; Conley, 1985), they are notoriously difficult to manipulate. As such, developing interventions to address personality-based causes of communication failures would be extremely difficult. Failure to support the agreeableness- and humility-based hypotheses suggests that the situations (i.e. the lack of communication regarding helping behaviours) may not be founded on personality factors. This gives hope of a potential contextual cause to the situation (e.g., there may not be sufficient means to easily communicate helping behaviours; or, there may be an underlying organizational climate factor that does not encourage communication regarding helping behaviours). Should contextual factors be found as the underlying cause to the communication issues, developing interventions to mitigate the problem will be much more practicable. However, it should be noted that both the agreeableness and humility subscales presented low alpha coefficients for the present sample (.63 and .57, respectively). This suggests that the two scales may not be measuring their intended constructs, potentially causing issues in

the investigation of the two personality-based hypotheses. As such, it is recommended that additional research further investigates the two hypotheses.

In Burt and Williams' (2012) study, their results suggested that a lack of communication about helping may be a significant source of safety risk. The results of the present study reflect this suggestion also. When investigating why helper's may refrain from informing targets of help directed towards them; the results suggest this may occur through issues involving: understanding the importance of communicating helping attempts; and, opportunity and time restraints. It should be noted that these findings are only suggested by the results, and further investigation is required before distinct causes can be provided with confidence. However, these suggestions provide an educated insight into a direction for future research regarding this situation.

The lack of understanding regarding the importance of communicating helping behaviours may come from the employee's lack of knowledge (regarding the possible negative outcomes associated with helping behaviours). Should this be the case, the evidence that helping behaviours may result in negative safety outcomes; and, that a lack of communication about helping is suggested to be a significant source of safety risk, will be beneficial to practitioners. Informing high safety-risk employees of such information will increase their knowledge and understanding regarding the importance of communicating their helping behaviours. Such information could be considered to improve their safety knowledge. Employees could then be encouraged to communicate their helping behaviours to their targets (this would be considered as engaging in safety participation; a facet of safety performance). As outlined previously, safety knowledge is positively related to safety motivation, which in turn is positively related to safety performance (Clarke, 2010). Therefore, enlightening employees to this information may reduce negative outcomes associated with helping, through its effects on safety motivation and safety performance behaviours.

Furthermore, the suggestion of opportunity and time restraints potentially affecting helping related communication, leads one to question whether contextual factors may have an influence. Opportunity may be limited, and time restraints present, through lack of pathways to communicate helping behaviours. As such, organizations may benefit from establishing set pathways through which to communicate helping behaviours, in order to limit restraints on time and opportunity. However, further research is required to determine with certainty whether this is a cause of the communication issue. As such, this is merely a suggestion that further investigation into the possible roles of contextual variables may be beneficial.

Investigations were undertaken to assess why a target may refrain from informing their helper of the increased safety risk associated with the help. The results suggest this may occur through issues involving: the target attempting to protect the helper's confidence in performing that type of work; and, the target not wanting the helper to think they were ungrateful. These reasons appear to relate to protecting the integrity of the social interaction between the target and helper. Agreeable individuals are suggested to have higher motivation to maintain personal relationships rather than preserve their own self-interest (King, George, & Hebl, 2005). As such, these two reasons hint at the possibility of an underlying agreeableness factor for this lack of communication. Given this, along with the issues surrounding the construct validity of the agreeableness measure utilised in this study, further investigation of Hypothesis 1 may be beneficial.

Communication issues around helping can be linked to research findings on employee voicing. Voicing climate (i.e. shared beliefs about speaking up) is highly predictive of voicing behaviours (Morrison, Wheeler-Smith, & Kamdar, 2010). Furthermore, those who violate norms (e.g., speaking up in environments characterised by a low voicing climate) tend to receive sanctions for non-conformance (Cialdini & Trost, 1998; as cited by Whiting, Maynes, Podsakoff, & Podsakoff, 2012). An example of such sanctions may include bullying from other

co-workers, which could discourage voicing behaviours. Researchers have argued that group members often fail to share their opinions and concerns, and such an absence of voice can have serious negative implications for group performance (e.g. Argyris, 1991; Perlow & Williams, 2003; as cited by Morrison et. al., 2010). Such negative implications may include an increase in safety risk amongst the work group. Future research would benefit from further investigation into the role of voicing climates on the lack of communication of helping behaviours. Should such a cause be confirmed as an antecedent to the communication break-down (regarding helping behaviours), interventions could then be designed to target such issues for organizations facing these problems.

Limitations

Although this study contributes to the scare literature regarding the negative outcomes associated with helping behaviours, there are also some important limitations that require mentioning.

As with any cross-sectional self-reported data, the responses may be subject to social desirability bias. Given that the questionnaire regards health and safety orientated questions, many of the questions have a socially desirable direction in which to be answered. Although respondents were informed that all data will remain anonymous and confidential; some social desirability may still occur, especially in the instance where the questionnaires were administered by a member of their organization's management team. However, if anything this may have led to an underestimation of the risks associated with OCBs.

Another issue regards common-method variance, i.e. "variance that is attributed to the measurement method rather than to the constructs the measures represent" (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003, pp.879). Such an issue is particularly problematic when gathering questionnaire data based on a cross-sectional research design. Attempts were made to

limit the effects of such variance by counter-balancing the order of the pages throughout the questionnaire (Klein et al., 2000).

The data set consisted of 79 sets of data. In terms of questionnaire based responses, this is a fairly small sample size. Gathering data from more participants would have increased the statistical power of the results, allowing conclusions to be drawn with greater confidence. That said, the current sample size still allowed for effects to be shown in the data, including analysis of the hypotheses.

A large proportion of the respondents were from the building and road construction industries (75%). While the remaining respondents were from a variety of different industries, their limited numbers do not allow for great generalizability of the results. It is for this reason that care must be taken not to overly generalise the results, thereby drawing conclusions beyond the scope of the data. However, there was considerable consistency between the results of this study and those found by Burt and Williams (2012) which does argue for a degree of generalizability.

There is a paradox when using self-reported measures of humility, which may lead to errors in results regarding this construct. That is, people who are truly humble and have a high degree of humility may not admit to this, as doing so would be bragging about their humility, something that truly humble people would not do (Davis et al., 2011). Throughout the literature it has been hypothesised that more humble individuals will modestly rate their own humility when using self-reported measures (Davis, Worthington, & Hook, 2010, as cited by Davis et al., 2011). Consequently, people high in humility may deflate their reports of humility, while individuals who are moderate in their level of humility may inflate their self-report slightly. Furthermore, people low in humility may inflate their self-rating of humility a substantial amount (Davis et al., 2011). However, such effects do not appear to have been examined

empirically throughout the psychological literature, therefore such a limitation is merely a passive caution to consider when investigating humility.

The OCBNO measure used in the study was a measure of negative outcomes associated with helping behaviours, and not a strict measure of OCBs. As such, there is potential for some of the data to be assessing constructs that are not strictly OCBs, as there may be situations when helping behaviours are in fact in-role and not discretionary. An example of such a situation could be when a supervisor helps out a new employee (with or without their knowledge). Such behaviour may be stated in the supervisor's job description; therefore it is not considered an OCB. However, as helping behaviours constitute a large part of OCBs, the findings should still transfer over to situations involving purely OCB actions.

Finally, the instance where respondents were recruited using adverts in the organizational newsletter could have resulted in a slight voluntary response bias. That is, when participants are self-selected it may result in a sample that is over-represented by those who have strong feelings towards the topic (in this case those who are concerned about health and safety issues). As such it may have an adverse impact on the results gained as the sample is not truly representative. However, as the amount of self-selected respondents was minimal (8.9% of the total participants) the effects of any voluntary response bias should be negligible.

Directions for Future Research

The findings from this study suggest several avenues for future research. Firstly, further assessment of the hypotheses proposed in this study utilising a larger sample size would be beneficial. As the sample size consisted of only 79 participants, a larger sample would provide greater statistical power, enabling effects within the participant pool to become more apparent. As a result of the questionnaire design, the sample size when testing Hypothesis 1 decreased considerably (down to 51 participants), further exacerbating this issue. Furthermore, upon investigation as to why employees did not communicate the risk associated with the help back to

the helper, factors relating to the agreeableness construct were revealed. Therefore warranting further investigation of this hypothesis. As noted, the internal reliability of the agreeableness and humility measures for the present sample was questionable. As such, further investigation of the two personality-based hypotheses may benefit from alternative measures of agreeableness and humility.

Secondly, three quarters of the respondents were from the construction industries. This limits the generalizability of the findings in the current study. Future research would benefit from the use of a participant pool containing individuals from a large variety of different occupations. This would allow for greater generalizability of any findings, for use across a wide range of high risk industries.

Additionally, further research is required to investigate the suggestions as to why a lack of communication may occur regarding: the negative outcomes associated with helping (back to the helper); and, engagement in helping behaviours (directed towards the target). Studies that engage in a detailed investigation as to why these situations occur would be extremely useful. This would increase the understanding as to why the situation may occur and allow for suitable interventions to be developed that target the sources of the communication issues; thereby aiding organizations in their efforts to remedy them.

The results showed that less experienced employees had reported engaging in more helping that resulted in an increased safety risk. It may be the case that less experienced employees have a lower awareness of the sources of safety risk within their work domain, or they may be unaware of how to communicate their helping behaviours to the target employee. Additionally, they may lack the necessary skills to complete the helping work to a safe level, thereby endangering their co-workers. Additional research would increase the understanding of why this relationship may occur, thereby allowing highly focussed interventions to be employed by organizations experiencing such issues.

Future research within this domain would also benefit from assessing cross-cultural differences with regards to the negative outcomes that may result from helping behaviours. Although no personality-based hypotheses were supported in this study, it does not mean that they do not have any influence, especially in other cultures. Different cultures have different values regarding the role of traits such as humility, especially when comparing collectivist cultures to individualist ones. For example, in eastern cultures (such as the Chinese culture) humility and modesty are viewed as essential for maintaining interpersonal relationships. Therefore, self-effacing behaviours such as failing to accept credit for good deeds is a cultural norm (Lee, Cameron, Xu, Fu, & Board, 1997). Conversely, making known ones good deeds and encouraging self-enhancement are commonplace throughout many Western cultures (Heyman, Itakura, & Lee, 2011). As such, the hypotheses tested in this study may be suitable to explain their respective situations within other cultures. Examining possible causes of the negative outcomes associated with helping behaviours across different cultures could be beneficial to organizations who work throughout many different countries. Cross-cultural information regarding possible antecedents to the negative outcomes of helping behaviours, along with the effects that a lack of communication can have on occupational safety (as suggested in this study), could prove beneficial in determining potential causes of workplace accidents within an organization. Intervention initiatives could then be set up within the organization to mitigate any issues found. Research assessing the cross-cultural differences regarding the hypotheses in this study will then provide information upon which more specified interventions can be developed for the different cultural groups, improving the efficacy of such interventions. For example, an intervention may be to form avenues for communication regarding helping behaviours. Such avenues may be different across the Western-culture and Eastern-culture branches of an international organization, because of different communication behaviours being deemed appropriate; and the role that personality traits such as humility and agreeableness play within the different cultures.

Summary and Conclusions

The focus of this research was to provide further support for Burt and Williams (2012) finding that suggests situations may arise in which helping behaviours can lead to an increase in safety risk within higher risk occupations. In addition to this, explanations as to why: I) employees engage in helping behaviours but do not immediately tell their target; and, II) target employees did not inform their helper of the safety risk increase associated with their helping behaviour, were pursued.

The present study supported the findings made by Burt and Williams (2012), providing further evidence that situations occur in which helping behaviours may inadvertently lead to an increase in safety risk. Although both of the postulated personality-based hypotheses failed to gain support, an increased understanding into the negative outcomes of helping behaviours was gained.

The findings provide some insight as to why the lack of communication may occur in the two situations. Although these suggestions require additional research; they provide researchers with an educated starting point for further investigation.

Finally, this study has significantly added to the scare literature regarding the effects that OCBs may have on organizational safety. Further investigation into the suggested avenues for future research would increase the body of knowledge surrounding the negative outcomes associated with helping behaviours. This would allow for the development of effective organizational initiatives specifically designed to mitigate their effects. Doing so would likely decrease their negative social and economic consequences, and improve organizational functioning.

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Appendix A

Advertisement used in an organization's newsletter to recruit participants

PARTICIPANTS WANTED FOR OCCUPATIONAL SAFETY STUDY: 10 MINUTES OF YOUR TIME FOR A $10 PETROL VOUCHER.

As part of my Master of Science degree at the University of Canterbury, I am seeking participants to assist me with a study on Occupational Safety. Participation in the study involves completing an anonymous and confidential survey that will take about 10 minutes. The aim of the study is to investigate how helping behaviours may play a role in occupational safety. If you consider your job has an element of safety risk associated with it, and you are interested in participating, please email me your postal address. I will post out a survey, along with a return postage-paid envelope. Completed surveys are posted directly back to me, along with a separate return address voucher. Upon receiving your completed survey I will post you a $10 petrol voucher as a thank you. If you would like to participate, please email me at matthew.banks@pg.canterbury.ac.nz

Appendix B

Front Page of Occupational Safety Questionnaire

Occupational Safety

Instructions

This survey asks about your perceptions of safety behaviours carried out in your organization. This survey is entirely **anonymous** and **confidential**. Please **do not** write your name on it. We guarantee that no one outside our research group will have access to your personal views.

How to complete the survey

- Read each question carefully. Then answer giving your *first reaction.*
- Please ***answer all of the questions***.
- The usefulness of this survey depends upon the frankness and honesty with which you answer the questions.

Informed Consent

By completing this survey you are consenting to the publication of the results on the basis that no individual, team or organization is identified.

If you have any questions about this research please contact Matthew Banks Mdb78@uclive.ac.nz or Associate Professor Chris Burt Christopher.burt@canterbury.ac.nz

Appendix C

Questions in Occupational Safety Questionnaire

Helping Behaviours

These questions are about when you do things in the workplace to **help others**. Please respond by circling a number on the frequency scale beside each statement.

	Never	Hardly ever	Sometimes	Quite often	Frequently	Nearly all the time
Have forgotten at what point I was at in my work when returning from helping another employee	**0**	**1**	**2**	**3**	**4**	**5**
Have forgotten something that I was planning to do after returning from helping another employee	**0**	**1**	**2**	**3**	**4**	**5**
While helping another employee something unexpected happened in relation to **my** job	**0**	**1**	**2**	**3**	**4**	**5**
While helping another employee something unexpected happened in relation to **their** job	**0**	**1**	**2**	**3**	**4**	**5**
Upon returning to my job after helping another employee I have forgotten what I had just done prior to leaving my job	**0**	**1**	**2**	**3**	**4**	**5**
Doing what I thought would be helpful for another employee turned out to be a safety risk for **me**	**0**	**1**	**2**	**3**	**4**	**5**
Doing what I thought would be helpful for another employee turned out to be a safety risk for **them**	**0**	**1**	**2**	**3**	**4**	**5**
Doing what I thought would be helpful for another employee turned out to be a safety risk for **another member of the organization**	**0**	**1**	**2**	**3**	**4**	**5**
Have done something to help another employee which they were not expecting	**0**	**1**	**2**	**3**	**4**	**5**
Another employee has attempted to help me with my job and created a safety hazard which I did not immediately notice	**0**	**1**	**2**	**3**	**4**	**5**
Another employee has attempted to help with my job and increased the safety risk of my job	**0**	**1**	**2**	**3**	**4**	**5**
Another employee has done something to help with my job which I was not immediately aware of	**0**	**1**	**2**	**3**	**4**	**5**
Have had to rush to complete my tasks because of spending time helping another employee	**0**	**1**	**2**	**3**	**4**	**5**

Helping Communication

This question is about when you do things in the workplace to **help others**. Please respond by circling a number on the frequency scale.

	Never	Hardly ever	Sometimes	Quite often	Frequently	Nearly all the time
I have done something to help another employee **which I did not immediately tell them about**	**0**	**1**	**2**	**3**	**4**	**5**

If you rated the above item 1 or greater, please indicate ***why you did not immediately tell the employee you helped them*** by responding to the following items. Otherwise move to the next section.

	Strongly disagree	Disagree	Neither agree/ disagree	Agree	Strongly agree
There was no opportunity to tell them	**1**	**2**	**3**	**4**	**5**
It did not seem important to tell them	**1**	**2**	**3**	**4**	**5**
I did not want to call attention to the fact I had helped them	**1**	**2**	**3**	**4**	**5**
Telling them might have undermined their confidence in their ability to do the job	**1**	**2**	**3**	**4**	**5**
I did not want to get into trouble for leaving my job to help another employee	**1**	**2**	**3**	**4**	**5**
I did not have time to explain what I had done	**1**	**2**	**3**	**4**	**5**

Helping Communication

This question is about when other employees do things in the workplace to **help you**. Please respond by circling a number on the frequency scale.

	Never	Hardly ever	Sometimes	Quite often	Frequently	Nearly all the time
Another employee has attempted to help with my job and increased the safety risk of my job – **But I did not tell them about the risk increase**	**0**	**1**	**2**	**3**	**4**	**5**

If you rated the above item 1 or greater, please indicate ***why you did not tell the employee that their help had increased the safety risk of your job*** by responding to the following items. Otherwise move to the next section.

	Strongly disagree	Disagree	Neither agree/ disagree	Agree	Strongly agree
I did not want the helper to think I was ungrateful	**1**	**2**	**3**	**4**	**5**
I did not want to damage my relationship with the helper	**1**	**2**	**3**	**4**	**5**
I did not want to get the helper into trouble	**1**	**2**	**3**	**4**	**5**
I did not want to undermine the helpers confidence in doing this type of work	**1**	**2**	**3**	**4**	**5**
I did not have an opportunity to tell them	**1**	**2**	**3**	**4**	**5**
I did not have time to explain what went wrong	**1**	**2**	**3**	**4**	**5**

Thinking about yourself - Please indicate how much you agree with each of the following statements. Use the 5 point scale to the right of each statement (circle a number) to indicate the degree to which you disagree/agree that the statement describes you.

	Strongly disagree	Disagree	Neither agree/ disagree	Agree	Strongly agree
Am humble about the good things that have happened to me.	**1**	**2**	**3**	**4**	**5**
Believe that others are drawn to me because I am humble.	**1**	**2**	**3**	**4**	**5**
Like to stand out in a crowd.	**1**	**2**	**3**	**4**	**5**
Don't act as if I'm a special person.	**1**	**2**	**3**	**4**	**5**
Don't brag about my accomplishments.	**1**	**2**	**3**	**4**	**5**
Like to talk about myself.	**1**	**2**	**3**	**4**	**5**
Am proud that I am an ordinary person.	**1**	**2**	**3**	**4**	**5**
Don't call attention to myself.	**1**	**2**	**3**	**4**	**5**
Would never be described as arrogant.	**1**	**2**	**3**	**4**	**5**
Take things as they come.	**1**	**2**	**3**	**4**	**5**
Get back at others.	**1**	**2**	**3**	**4**	**5**
Try to forgive and forget.	**1**	**2**	**3**	**4**	**5**
Accept people as they are.	**1**	**2**	**3**	**4**	**5**
Hold a grudge.	**1**	**2**	**3**	**4**	**5**
Am inclined to forgive others.	**1**	**2**	**3**	**4**	**5**
Am not disturbed by events.	**1**	**2**	**3**	**4**	**5**
Am annoyed by others' mistakes.	**1**	**2**	**3**	**4**	**5**
Tolerate a lot from others.	**1**	**2**	**3**	**4**	**5**
Am easily offended.	**1**	**2**	**3**	**4**	**5**

Your Age _____

You are Male □ Female □

What is your job title _____

How long have you worked in your current job? _____ years _____ months

How long have you worked in this industry? _____ years _____ months

How many co-workers do you have?_____

Listed below are items about the amount of **risk your job has**. For each item please circle the number which indicates the extent to which you disagree or agree for your job.

	Strongly disagree	Disagree	Neither agree/ disagree	Agree	Strongly agree
Dangerous	**1**	**2**	**3**	**4**	**5**
Safe	**1**	**2**	**3**	**4**	**5**
Hazardous	**1**	**2**	**3**	**4**	**5**
Risky	**1**	**2**	**3**	**4**	**5**
Unhealthy	**1**	**2**	**3**	**4**	**5**
Could get hurt easily	**1**	**2**	**3**	**4**	**5**
Unsafe	**1**	**2**	**3**	**4**	**5**
Fear for health	**1**	**2**	**3**	**4**	**5**
Chance of death	**1**	**2**	**3**	**4**	**5**
Scary	**1**	**2**	**3**	**4**	**5**

Thank you for completing the survey

Appendix D

Voucher form used in each 'Questionnaire Pack'

Voucher Form

Please print your name and postal address so we can post you a $10 petrol voucher. Return this form with the completed survey.

Name:

Postal Address: