Influencing organizational decision-makers – What influence tactics are OHS professionals using?

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ABSTRACT

Ability to influence within organizations has been identified as a key capability for occupational health and safety (OHS) professionals. By utilising aspects of intra-organizational influence theory, this study explores the specific behaviors that OHS professionals use to influence organizational decision-makers. Survey data was collected from OHS professionals (n = 385) on proactive influence tactics used and the perceived outcomes of influencing attempts. The results show that certain individual factors (i.e. gender, age, OHS experience) and organizational factors (i.e. level of safety maturity and organisation size) impact on tactics used and influencing effectiveness. The use of influence tactics explains a significant amount of variation in OHS professionals' effectiveness in influencing organizational decision-makers, and certain tactics (rational persuasion and inspirational appeal) were positively associated with influencing effectiveness, while others (legitimating and exchange) had a negative association. This study extends existing research in the upward influencing context by exploring how OHS professionals exert influence at a granular level and proposes implications for professional practice.

1. Introduction

Since Swuste and Arnoldy's (2003) suggestion in this journal that personal effectiveness and the ability to influence is as critical to safety as formal management systems, there has been increasing recognition that the ability to influence organizational decision-making is a key capability for occupational health and safety (OHS) professionals (INSHPO, 2017; Provan et al, 2017). Influence by definition, is any action or behaviours that cause a change in the attitude or behavior of another person or group (Yukl, 2013). Influence behavior in the workplace can be distinguished according to the direction of influence i.e. upward, lateral, or downward (Lee et al, 2017).

Upward influencing, defined as "*attempts to influence someone higher in the formal hierarchy or authority in the organization*" (Porter et al, 1983, p.409), is of particular interest to the OHS profession. This is because OHS professionals are often embedded as middle level managers, advisors or consultants in organizational systems. Since the mid-1990's, the role of the OHS professional has been evolving from that of the traditional OHS specialist who shouldered the responsibility for OHS to that of a change agent, who influences others to enact change in both organizational and management practices (Blewett and Shaw,

1996). Although it is acknowledged that decisions that impact on health and safety occur within all levels of an organisation (Bofinger et al, 2015), the key decisions relating to objectives, strategies, operational procedures and the allocation of resources are largely made by managers within organizations. From an OHS perspective, these key management decisions include making informed choices; prioritising actions; and distinguishing among alternative courses of action to minimise risk and optimise worker health, safety, and well-being. Since these critical decisions may ultimately affect health and safety outcomes, it is essential that OHS professionals are able to influence in an upward direction.

However, it is often reported that OHS professionals struggle to be strategically influential (Wagner, 2010; Pryor and Sawyer, 2010; Borys et al, 2006; Brun and Loiselle, 2002). Many authors believe that the struggle to be influential stems from a lack of positional power and formal authority (Wybo and Van Wassenhove, 2015; Pryor and Ruschena, 2012; Brun and Loiselle, 2002). Nonetheless, positional power and influence should be seen as distinct and separate phenomena (Yukl, 2013). Power is not only derived from a formal position in an organisation, but also from personal power (French and Raven, 1959). Personal power is built through relationships, and derived from

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possessing knowledge, skills or expertise in a particular area (Yukl and Falbe, 1991). Gattiker and Carter (2010) found that positional power had a weak to non-significant effect on gaining commitment for environmental projects. OHS professionals who lack positional power within organisations need to rely on their own personal power and interpersonal skills to influence often without formal, organizationally endorsed authority. A study investigating the value proposition for the OHS profession, found that the OHS professional's ability "*to add value is negatively affected when the professional lacks power and the abilty to influence senior decision-makers*" (Borys, 2014, p.5).

Whilst there are some theoretical explanations and guidance on what an effective OHS professional should do to be strategically influential (Hale and Guldenmund, 2006; Reiman and Pietikäinen, 2014; Provan et al, 2017), the influence practices of OHS professionals remain poorly understood. In particular, there has been relatively limited attention given to the specific types of behavior that OHS professionals use to exert influence, particularly in an upward direction. An inductive case study exploring how OHS professionals within a single organization in France influenced change found that when OHS professionals meet resistance they resort to an argument based on the risk of legal percussions (Daudigeos, 2013). The two broad strategies used by OHS professionals in a small qualitative study in New Zealand (n = 10) were a knowledge strategy which involves arguments based on rational information, and a regulation strategy based on the threat of punishment for non-compliance (Olsen, 2012).

Our study extends and complements the limited existing research by utilising well validated intra-organizational influence theory to explore how OHS professionals exert influence in an upward direction in organizations. This research is important as it comes at critical juncture; when there is wide recognition of the criticality of OHS professionals' ability to influence organizational decision-makers, yet there is a dearth of knowledge and practical guidance about how contemporary OHS professionals influence and the perceived effectiveness of those influence behaviors.

In investigating this new and novel intersection of influence theory and OHS practice, we propose that a number of unique individual and organizational factors will influence the tactics chosen by OHS professionals and their perceived effectiveness. We also propose that in addition to influence tactics having an overall impact on effectiveness, certain influence tactics will be positively related to perceived effectiveness while others will be negatively related. These proposed relationships between individual and organizational factors, tactic usage by OHS professionals and their perceived effectiveness to influence in an upward direction are depicted in Fig. 1.

2. Theory and hypothesis development

2.1. Theory of intra-organizational influence

The success of an attempt by one person (the "agent") to influence another person (the "target") to change their attitudes or behaviour depends to a great extent on the specific types of behavior used to exert influence, known as influence tactics (Kipnis et al, 1980; Yukl et al, 2005; Yukl et al 2008). Since the mid 1970's, researchers have proposed and validated numerous taxonomies of influence tactics that individuals use to proactively influence others in the workplace to obtain a desired outcome (Kipnis et al, 1980; Schriesheim et al, 1990; Yukl and Falbe, 1990; Yukl et al, 2008). However, in order to facilitate comparisons with extant research, this study will focus on the taxonomy of influence tactics identified by Yukl et al. (2008), since it is the most widely used by researchers in the study of influence in a work setting. Further, significant empirical evidence has established these tactics as valid constructs (Lee et al, 2017).

A series of studies conducted over a decade identified eleven distinct proactive influencing tactics that are used to influence individuals within organizations (Yukl, et al, 1992; Yukl et al, 2005; Yukl et al, 2008). These eleven tactics are listed and described in Table 1.

Yukl and his colleagues suggested that each influence tactic can be used for more than one purpose, and can differ in its effectiveness depending on several aspects of the situation in which it is used (Yukl and Tracey, 1992; Yukl et al, 2008). There are three distinct outcomes of an influence attempt: commitment; compliance; or resistance (Yukl, 2013). Whilst compliance may be all that is necessary for a simple straightforward request, researchers believe commitment is needed for the successful implementation of specific workplace safety initiatives (DeJoy et al, 2010; Mearns and Reader, 2008).

In workplaces, individuals choose to use specific proactive influence behaviors to obtain a desired influencing outcome. Empirical studies indicate that rational persuasion, consultation, and inspirational appeal are the most frequently employed tactics; while exchange and pressure are the least frequently used (Table 2). With the exception of Gattiker and Carter (2010), these existing studies each explored mixed groups of professionals, rather than applying intra-organizational influence theory to a narrowly defined discipline and issue (Table 2). Our current study applies this theory specifically to OHS professionals and explores perceptions of their ability to influence organizational decision-makers.
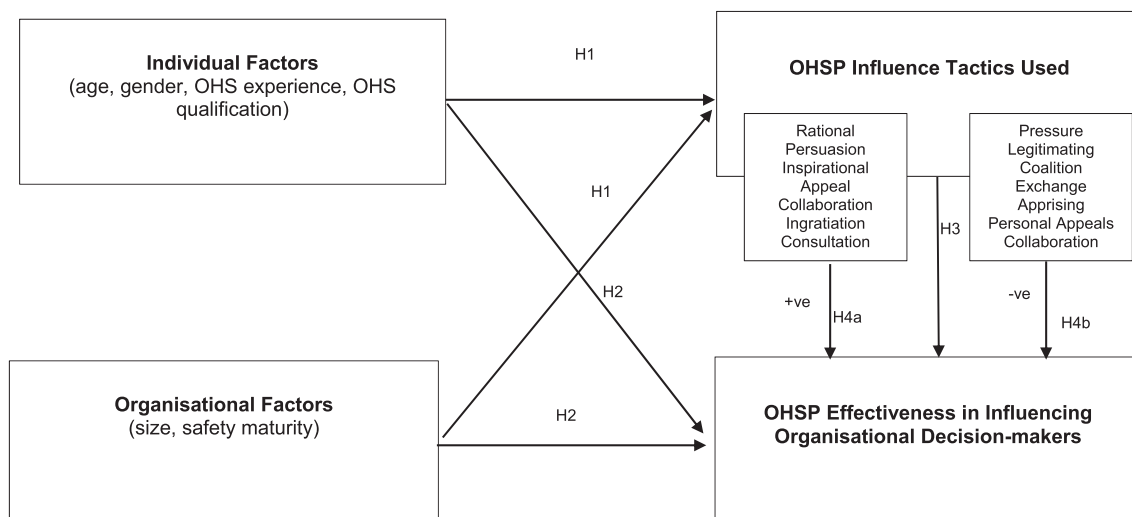

Fig. 1. An upward influence-outcome model for OHS professionals.

Table 1
Summary of influence tactics.
Source: Adapted from Yukl, 2013.

Rational Persuasion	The agent presents logical arguments, explanations and factual evidence to show the benefit of a request or proposal
Exchange	The agent uses an implicit or explicit offer of a reward if the target supports the request or proposed change
Inspirational appeals	The agent uses emotional appeals and links the request to the target's values, hopes or ideals
Legitimating	The agent establishes the legitimacy of a request by calling on a higher authority or organisational policy and rules
Apprising	The agent explains how supporting the request or proposed change will personally benefit the target or help their career
Pressure	The agent uses threats or assertive behaviour such as repeated demands or frequent checking
Collaboration	The agent offers to provide the target with assistance or the necessary resources required
Ingratiation	The agent uses complements, flattery or praise before or during an influence attempt
Consultation	The agent asks for input or suggestions from the target for improvements in proposed changes or interventions
Personal appeals	The agent draws on the target's loyalty or friendship by requesting a favour
Coalition	The agent involves the use or support of others acting together to influence the target

2.2. Influence tactic usage from an OHS perspective

The OHS professional influences organizational decision-makers to enact change in both organizational and management practices to improve health and safety outcomes (Blewett and Shaw, 1996). However, OHS professionals' role and practices are both organizationally and socially complex (Provan et al, 2017) often lacking in positional power within organizations (Brun and Loiselle, 2002; Pryor 2014). This suggests that OHS professionals may face additional challenges associated with the influence process when compared to other groups within organizations. Therefore, the question arises as to whether the nature of OHS practice impacts the specific type of influence tactics that OHS professionals use?

While not explicitly applying theory of intra-organizational effectiveness, existing OHS knowledge, theory, and literature leads us to suggest that certain tactics may be of more relevance to OHS professional practice than other professional domains. Specifically we propose that rational persuasion, legitimating, consultation and inspirational appeals are examples of tactics that are of particular interest to OHS professional practice (i.e. the tactic might be overused, or be used with greater frequency and/or particularly effective or ineffective in influencing organizational decision-makers).

Rational persuasion is comparable to the 'knowledge strategy' described by Hasle and Sørensen (2011), where the OHS professional provides the decision-maker with expert advice on exposure, consequences and mitigation options. Existing studies have found the knowledge approach to be a dominant strategy in OHS communication practices (Hasle and Sørensen, 2011; Olsen, 2012). Second, the use of legitimating, when there is a call to higher authorities or rules, is of particular interest in an OHS context, since health and safety laws dictate numerous rule-based requirements in the workplace. A recent review of the factors shaping the role of a safety professional suggests

that an increase in *"goal based regulation and company officer liability management have driven growth in safety compliance activity that dominates the tasks of safety professionals"* (Provan et al, 2017, p. 110). Third, consultation is also embedded in OHS regulatory frameworks to encourage participation in health and safety decision-making (Johnstone, 2011). Consultation has been shown to improve productivity and reduce health and safety risks (Straker et al, 2004; Rivilis et al, 2008) leading to a greater commitment to the changes being implemented (Brown, 2005; Burgess-Limerick, 2018). Last, inspirational appeals is a tactic that is of interest in the OHS context since it involves behaviors aimed at inspiring enthusiasm for change; and appealing to the values and ideals of others e.g. persuading the person it is the right thing to do. Given that inspirational appeals can positively impact on both perceptions of safety climate and employee safety participation (Clarke and Ward, 2006); and ethical arguments are often used in health and safety (Westerholm, 2007; Wachter, 2011), it would be expected that this tactic is frequently used by OHS professionals.

2.3. The role of individual and organizational factors on influence tactic choice and effectiveness outcomes

Prior intra-organizational influence research has identified that tactics which workplace actors choose to use are affected by various individual and organizational factors (Lee et al, 2017; Higgins et al, 2003). These factors may relate to the situation; the characteristics of the agent; the characteristics of the target; the relationship between the agent and the target; and various organizational factors. Since the current study explores how OHS professionals influence in organizations from the perspective of the OHS professional, certain individual and organizational factors are a primary focus. To our knowledge, this present study is the first within the OHS field to explore the relationship between tactic usage and the role of certain OHS professional individual

Table 2
Mean frequency of tactic use reported in existing studies.

Influence tactic*	Ave. existing studies (n = 2057)	[1]Chemical, manufact and finance (n = 1195)	[2]MBA grads (n = 189)	[3]Manufact (n = 83)	[4]Variety of industries (n = 216)	[5]Transport and health (n = 51)	[6]Retail (n = 82)	[7]Environ (n = 241)
Rational Persuasion	3.7	3.7	4.1	3.0	3.4	4	3.5	3.9
Exchange	1.6	1.4	1.5	–	1.9	1.6	1.7	–
Inspirational Appeal	3.1	2.8	3.0	2.9	3.4	4.1	2.6	2.9
Legitimating	2.5	2.3	1.9	–	2.4	–	2.4	3.5
Apprising	1.8	–	–	–	–	–	1.8	–
Pressure	1.8	1.9	1.5	2.6	1.7	1.6	1.4	–
Collaboration	2.9	–	–	–	–	–	2.9	–
Ingratiation	2.7	2.3	3.0	–	2.7	3.1	2.3	3.1
Consultation	3.3	3.3	3.4	3.2	3.4	3.2	3.2	3.2
Personal Appeal	1.9	2.0	1.9	–	2.1	–	1.6	–
Coalition	2.1	1.9	1.7	2.5	1.7	2.7	1.8	2.6

Notes: Authors [1]Yukl and Tracey, 1992, [2]Cable and Judge (2003), [3]Clarke and Ward, 2006, [4]Barbuto et al, 2007, [5]Jensen, 2007, [6]Yukl et al 2008, [7]Gattiker and Carter, 2010.
*Based on a 5-point scale.

factors and organizational factors.

In the existing influencing literature there are very few studies of gender, age, experience, and educational level as predictors of the use of influence tactics. Gender has been studied in its relationship to tactic usage, but it is unclear whether there is a difference in the choice of upward influence tactics used by men and women (Rai, 2009; O'Neil, 2004; Barbuto et al, 2007). There is a view that the use of some "hard" influence tactics e.g. pressure and legitimating are considered socially acceptable when used by men, while considered unacceptable when used by women (Tepper et al, 1993). Fewer studies have explored age, experience or education as they relate to the use of influence tactics. Age may play a role in tactic choice with findings that influencing styles differ across life stage groups (Deluga and Perry, 1991; Ralston et al, 2005). Whether experience or education play a role in the choice of tactics is unclear, for example Barbuto et al. (2007) found no association between tactic usage and different levels of education.

Organizational factors may play a role in the choice of tactics e.g. nature, size, and structure of the organization (Schilit and Locke, 1982; Lee et al, 2017). From an OHS perspective, the relationship between influence and the maturity of an organization's approach to managing OHS is of particular interest (INSHPO, 2017). Hudson (2001) identified five stages in organizational OHS maturity: pathological; reactive; calculative; proactive; and generative. While there are no current studies that relate differences in OHS maturity to influence tactic choice, there is a view that OHS professionals working at the pathological and reactive level maybe limited to fulfilling and enforcing legal requirements (INSHPO, 2017), which in turn could result in the use of a different profile of influencing tactics. Based on this reasoning we expect to find that:

H1. Individual factors (gender, age, OHS experience, and OHS education) and organizational factors (safety maturity and organization size) are associated with increased use of certain influencing tactics.

We also considered whether these individual and organizational factors would impact on perceptions of how effective OHS professionals are in influencing organizational decision-makers. The influencing literature, although not conclusive, suggests that individual factors such as gender (Tepper et al, 1993; Castro et al, 2003; Barbuto et al, 2007) and age (Deluga and Perry, 1991; Ralston et al, 2005) may affect influencing outcomes. Further, a study of OHS professionals found that age and experience were linked to strategic influence, however the level of education was not (Pryor, 2010). In terms of organizational factors, organizational size has been associated with influencing outcomes (Schilit and Locke, 1982; Lee et al, 2017); while safety maturity could be an important factor given that opportunities to support and influence the OHS management system in organizations at higher levels of maturity may be greater (INSHPO, 2017). Based on this reasoning we expect to find that:

H2. Individual factors (gender, age, OHS experience and OHS education) and organizational factors (safety maturity and organization size) are associated with differences in OHS professionals' perceptions of how effective they are in influencing organizational decision-makers.

2.4. Influence tactics and OHS professionals' perceived effectiveness

The key tenet of intra-organizational influence theory is that the influence behavior of an agent can affect the attitudes and behavior of the target and can impact on the influence outcome (Lee et al, 2017; Yukl, 2013; Gattiker and Carter, 2010). The limited research in the OHS context suggests that OHS professionals are choosing to use, and to avoid using certain influence behaviours to obtain desired objectives (Daudigeos, 2013; Olsen, 2012), but does not consider whether proactive influencing behaviour in general makes a difference to

influencing effectiveness. Therefore, our next hypothesis examines whether the eleven proactive tactics considered together as a group can explain a significant amount of variation in OHS professionals' effectiveness to influence in an upward direction.

H3. When controlling for individual and organizational factors, tactic usage by OHS professionals explains a significant amount of variation in OHS professionals' perceptions of effectiveness to influence organizational decision-makers.

At the core of intra-organizational influence theory is that the success of an influence attempt largely depends on the specific type(s) of influence tactics used to exert influence (Kipnis et al, 1980; Yukl and Falbe, 1990; Yukl, 2013). Considerable empirical research has been conducted on examining the relative effectiveness of each of the tactics to influence in an upward direction. The tactics that are generally considered effective tactics tend to employ personal power and promote power sharing. For example, there is consistency in the literature that rational persuasion is an effective influencing tactic (Clarke and Ward, 2006; Epitropaki and Martin, 2012; Yukl, 2013). Inspirational appeal has been positively associated with gaining target commitment (Falbe and Yukl, 1992; Jensen, 2007; Gattiker and Carter, 2010; Lee et al, 2017). Inspirational appeal is most likely to be effective when the agent has an insight into the target's values, hopes and ideals. Although there are fewer prior studies on the use of collaboration, a meta-analytic review of research on influence tactics found a positive relationship between collaboration and both task-orientated and relationship-orientated outcomes (Lee et al, 2017). Ingratiation is viewed as a soft tactic and prior research has been mixed, but generally finds that ingratiation can have a positive effect on a target's perceptions of an agent's likeability, competence, interpersonal skills and influence outcomes (Falbe and Yukl, 1992; Higgins et al, 2003; Bolino et al, 2014). The use of consultation is viewed favourably within the literature (Falbe and Yukl, 1992; Higgins et al, 2003; Lee et al, 2017). Canvassing the target for input or ideas on the proposed change or request, leads to increased engagement, ownership and willingness to support or implement the change (Clarke and Ward, 2006; Furst and Cable, 2008).

In keeping with the influence literature, we hypothesise:

H4a. Rational persuasion, inspirational appeal, collaboration, ingratiation, and consultation tactics are positively related to OHS professionals' perceptions of effectiveness to influence organizational decision-makers.

The tactics that are considered the least effective in prior research are pressure, legitimating and coalition (Lee et al, 2017). There is strong agreement that the use of the pressure tactic is not likely to result in commitment and may undermine relationships (Falbe and Yukl, 1992; Yukl and Tracey, 1992; Sparrowe et al, 2006). Further, the use of a pressure tactic may signal to a target that the agent expects compliance regardless of the target's intrinsic motivation (Sparrowe et al, 2006). Similarly, despite arguably being used more by OHS professionals, there is little reason to expect that legitimating will result in intrinsically motivated commitment to requests or proposed changes, since it is a tactic based on potential sanctions for non-compliance (Falbe and Yukl, 1992; Furst and Cable, 2008). Along with pressure and legitimating, coalition is considered a hard or abrasive form of influence, since all three tactics violate the social norm of reciprocity (Epitropaki and Martin, 2012). For example, coalition can sometimes be perceived as an attempt to gang up on the target as it involves marshalling support from others for a proposal and using that support as a lever to influence the target (Yukl, 2013).

In contrast to these tactics, the exchange tactic does not violate the principle of reciprocity, since it offers some future payback in return for the target's present commitment (Cohen and Bradford, 2005; Epitropaki and Martin, 2012). In upward influence, exchange is not always viewed in a positive light, since subordinates have less control over rewards than managers (Yukl and Tracey, 1992; Epitropaki and Martin, 2012;

Lee et al, 2017). Exchange generally entails extrinsic motivation and target perceptions of whether the agent is able to fulfil the promise of future rewards or benefits. Similarly, the apprising tactic entails extrinsic motivation and the promise of tangible personal benefits to the target (Yukl et al, 2005). Apprising differs from exchange in that the benefits to the target are not something the agent provides, rather these benefits arise from the agent's request or proposal being carried out (Yukl, 2013). Since apprising requires a thorough understanding of the potential personal benefits associated with an activity or change, it is considered more likely to be used with subordinates or peers (Yukl et al, 2005). Personal appeals is also considered to be a tactic that is more effective with subordinates or peers (Yukl & Tracey, 1992; Falbe & Yukl, 1992), since using this tactic in an upward direction involves issues of equity and may be perceived as favouritism (Yukl, 2013).

In keeping with the influence literature, we hypothesise:

H4b. Pressure, legitimating, coalition, exchange, apprising, and personal appeals are negatively related to OHS professionals' perceptions of effectiveness to influence organizational decision-makers.

3. Method

3.1. Sample and procedures

This study used a cross-sectional survey to explore OHS Professionals' perceptions of their influence tactic usage and effectiveness to influence organizational decision-makers. The survey was administered using an on-line, self-administered questionnaire, comprising of a range of closed and open-ended questions.

After receiving institutional ethics approval, the researchers surveyed members of the Safety Institute of Australia; the Australian Institute of Occupational Hygienists; and the Human Factors and Ergonomics Society of Australia. This included people working in an OHS role, and who provide OHS advice as employees or consultants. The professional institutes sent emails (composed by the researchers) with the URL for the on-line survey to their membership. In addition, these individual members were requested to share the survey with other OHS professionals via email or LinkedIn.

Participants who indicated that they were not currrently working in an occupational health and safety role were removed from the sample (n = 3) leaving 385 responses which were then used for further analysis. Of the 385 survey respondents, approximately two-thirds of the respondents were male, 91% were 35 years or older, the majority worked within the private sector, and 45% were employed in high risk industries i.e. construction, manufacturing, mining and transport.

Table 3
Summary of demographic variables.

Variables		n	%
Gender	Male	258	67
	Female	127	33
Age	18–34 years	35	9
	35–44 years	67	17.5
	45–54 years	135	35
	55–64 years	122	32
	Over 65 years	25	6.5
OHS Qualifications	Vocational Education	101	27
	Undergraduate Degree or higher	255	68
	Other	19	5
Sector	Private	235	61
	Public	117	30.5
	Not for Profit or other	32	8.5
Main location of work	Australia	351	92
	Other	32	8

Table 3 provides a summary of the demographic data.

3.2. Measures

3.2.1. OHS professionals' influence tactics

The Influence Behaviour Questionnaire (IBQ) developed by Yukl et al (2008) was used in this study to identify OHS professionals' influence behaviour, as it is considered to be the most comprehensive and validated measure of proactive tactics to influence people in organizations (Lee et al, 2017). The IBQ consists of forty-four items that are used to analyse the frequency of use of the eleven proactive influencing tactics. The five-point response scale for the IBQ measures the frequency of use of the tactic, ranging from "I can't remember ever using this tactic" to "I use this tactic very often (almost every week)". OHS professionals were asked to choose a response based on how often they used each tactic during the past 12 months to influence organizational decision-makers. Organizational decision-makers were described as managers who are at higher levels in the organizational hierarchy and who are making decisions regarding OHS.

Following the procedure outlined by DeVellis (2012), internal consistency for the IBQ was measured using Cronbach's alpha coefficient. In the current study, a good internal consistency was found with alpha values exceeding 0.80, except for the pressure tactic (0.75). Whilst values above 0.80 are preferable, values above 0.70 are acceptable (DeVellis, 2012). In addition, average variance extracted (AVE) and composite reliability (CR) were calculated for all scales and found to be within an acceptable range (AVE range 0.50–0.76, CR range 0.67–0.81) (Fornell and Larker, 1981).

Discriminant validity for the IBQ was assessed by examining correlations among the scales, with a high correlation between two scales indicating a possible failure by respondents to discriminate among these tactics (Yukl et al, 2008). However, moderate inter-correlations are likely for influencing behaviors since they are often used together during an influence attempt (Falbe & Yukl, 1992; Lee et al, 2017). This may especially be the case as the response scale asks the participants to rate how often the tactic is used. Although there is no clear standard for assessing discriminant validity among behaviours that are used together at the same time, it is generally recommended that the inter-correlation scores do not exceed 0.50 (Briggs & Cheek, 1986). In this study, the majority of the correlation coefficients were below 0.50, with two coefficients marginally exceeding this level i.e. inspirational appeals and apprising; and ingratiation and apprising (Table 4). Although the research on using tactics in combination is limited, it is worth noting that these three tactics are often classified as soft influencing strategies (Lee et al, 2017). Further, combinations of soft tactics are usually considered more effective than the use of a singular soft tactic (Yukl, 2013). For example, targeting values, hopes and ideals (inspirational appeal) can involve an explanation of how supporting the request will personally benefit the person or their career (apprising). Further, we found an absence of multicollinearity with tolerance levels greater than 0.01 (Tabachnick and Fidell, 2013).

3.2.2. Other variables

Perceived effectiveness in influencing organizational decision-makers was measured using a five-point Likert scale (ranging from very effective to very ineffective). The individual demographic varibles measured were gender, age, OHS experience and OHS qualifications. For the level of safety maturity, a description of the five levels of safety maturity (i.e. pathological, reactive, calculative, proactive, generative) was used, with respondents choosing the level that best described their organization (Hudson, 2001).

4. Results

Means, standard deviations and inter-correlations of study variables are presented in Table 4.

Table 4
Means, standard deviations and inter-correlations between main study variables.

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Safety Maturity	–																	
2. Gender	0.04	–																
3. OHS Experience	0.16**	0.06	–															
4. Age	0.06	0.05	0.44**	–														
5. Organisation Size	-0.13*	0.09	-0.02	-0.01	–													
6. OHS Education	0.13*	-0.10	0.18**	-0.04	0.15**	–												
7. Rational Persuasion	0.05	-0.08	0.07	0.01	-0.12*	0.02	(0.84)											
8. Exchange	-0.11*	-0.08	-0.01	-0.05	-0.01	0.07	0.15**	(0.91)										
9. Inspirational Appeals	0.02	-0.04	0.02	-0.07	-0.01	0.03	0.49**	0.23**	(0.80)									
10. Legitimating	-0.16**	-0.10*	-0.05	-0.05	-0.07	-0.07	0.44**	0.29**	0.38**	(0.82)								
11. Apprising	-0.11	-0.02	-0.05	-0.03	-0.10	-0.04	0.27**	0.33**	0.51**	0.36**	(0.85)							
12. Pressure	-0.14**	0.11*	-0.13**	-0.13**	0.02	0.01	0.12*	0.34**	0.21**	0.40**	0.29**	(0.75)						
13. Collaboration	-0.20**	-0.08	-0.10	-0.10	-0.04	0.03	0.28**	0.26**	0.37**	0.34**	0.39**	0.17**	(0.86)					
14. Ingratiation	-0.20**	-0.08	-0.11*	-0.11*	-0.04	-0.02	0.25**	0.33**	0.38**	0.36**	0.53**	0.26**	0.49**	(0.89)				
15. Consultation	-0.03	-0.07	0.01	0.04	-0.01	-0.02	0.40**	0.19*	0.35**	0.24**	0.32**	0.11*	0.48**	0.49**	(0.84)			
16. Personal Appeal	-0.14**	0.09	-0.18**	-0.12**	0.03	0.04	-0.07	0.46**	0.09	0.22**	0.23**	0.35**	0.23**	0.34**	0.06	(0.86)		
17. Coalition	-0.14**	-0.04	-0.14**	-0.05	0.07	0.02	0.10	0.31**	0.27**	0.31**	0.32**	0.30**	0.20**	0.35**	0.21**	0.45**	(0.82)	
18. OHSP Effectiveness	0.28**	0.02	0.18**	0.16**	-0.16**	-0.01	0.27**	-0.14**	0.21**	-0.11*	0.04	-0.03	-0.03	0.05	0.15**	-0.08	-0.08	–
Mean	–	–	–	–	–	–	4.11	2.00	3.30	3.37	2.70	1.67	3.70	3.01	4.09	1.55	2.20	4.1
SD	–	–	–	–	–	–	0.71	0.94	0.84	0.87	0.97	0.65	0.87	1.01	0.75	0.73	0.84	0.72

*p < .05. **p < .01.
Alpha coefficients in parenthesis.

4.1. Hypothesis testing

Individual and organizational factors on influence tactics used by OHS professionals

In testing for H1, we computed means for each four-item influence tactic scale. Independent-samples t tests were used to compare the tactic usage scores across all dichotomous variables including the individual factors (gender, age, OHS experience, and OHS education) and organization size. In order to complete these analyses, the number of categories were reduced: age (younger: < 35 years; older: 35 years or older), OHS experience (less experience: 0–10 years; more experience: 10 years or more), OHS qualifications (practitioner-vocationally educated; professional-undergraduate degree or higher), and size of organisation (small: 0 to 500 employees; large: > 500 employees). The levels of safety maturity were collapsed into three groups (low-pathological and reactive; medium-calculative; high-proactive and generative) and one-way between-groups ANOVA with post-hoc tests was used to compare tactic usage between these groups. For all tests, statistical significance was set at 95% probability.

Results of the t-tests show significant differences in tactic usage for gender, age, and OHS experience. For gender, results show significant differences in tactic usage for two tactics. On average, females reported using the legitimating tactic more frequently (M = 3.5, SD = 0.77, n = 122) than males (M = 3.3, SD = 0.91, n = 250; t (2 8 0) = 2.13, p = .03). However, on average females reported using the pressure tactic less frequently (M = 1.6, SD = 0.55, n = 120) than their male counterparts (M = 1.7, SD = 0.68, n = 248; t (2 8 6) = −2.20, p = .03). In terms of age, there was a significant difference between the two groups on one tactic only. The use of collaboration differs between the younger group (M = 4.1, SD = 0.66, n = 35) and the older group (M = 3.7, SD = 0.89, n = 347; t (47) = 3.35, p = .01). The younger group, on average reported more frequent use of the collaboration tactic. OHS experience showed the most variation in tactic usage with the results of the t-tests revealing a significant difference for numerous tactics (Table 5). The less experienced group reported a more frequent use of the following tactics: pressure; collaboration; ingratiation; personal appeals; and coalition.

There were statistically significant differences between the three safety maturity groups (low, medium and high) for legitimating, collaboration and ingratiation. For legitimating F(2,376) = 5.0, p = .02, post hoc tests indicated that the mean score for low maturity (M = 3.7, SD = 1.04) was significantly different from high maturity (M = 3.3, SD = 0.89), but medium maturity (M = 3.5, SD = 0.78) did not differ significantly from low or high. For collaboration F(2,380) = 8.25, p = .001, post hoc tests indicated that the mean score for low maturity (M = 4.2, SD = 0.72) differed significantly from both medium maturity (M = 3.8, SD = 0.78) and high maturity (M = 3.6, SD = 0.93). For ingratiation F(2,375) = 8.0, p = .001, post hoc tests indicated that the mean score for low maturity (M = 3.5, SD = 0.95) also differed significantly from both medium maturity (M = 3.2, SD = 0.97) and high maturity (M = 2.9, SD = 0.1.02). Therefore, H1 is partially supported since gender, age, OHS experience, and safety maturity were associated with the use of certain influencing tactics. No statistically significant differences were found for OHS education or the size of the organization.

Individual and organizational factors on OHS professionals' influence effectiveness

In testing for the remaining hypotheses hierarchical multiple regression was employed according to the procedure described in Cohen et al. (2003). Table 6 displays the results. Safety maturity, gender, experience, age, organisation size, and OHS education were entered as the first step, explaining 11% (R² = 0.11) of the variance in perceived OHS professionals' effectiveness to influence. Of these six variables, two variables made a statistical significant contribution: safety maturity (β = 0.23, p = < .001) and organisation size (β = −0.13, p < .05). Therefore H2 is partially supported with safety maturity and

Table 5

Results of *t*-test - Tactic usage by OHS experience.

	Group						95% CI for Mean Difference		
	Less experience			More experience					
	M	SD	n	M	SD	n		t	df
Rational Persuasion	4.09	0.70	103	4.14	0.72	277	−0.27, 0.06	−1.29	378
Exchange	2.02	0.89	104	2.00	0.89	275	−0.20, 0.23	0.16	377
Inspirational Appeal	3.27	0.80	100	3.31	0.86	277	−0.24, 0.15	−4.35	375
Legitimating	3.44	0.84	104	3.35	0.88	275	−0.10, 0.29	0.97	377
Apprising	2.77	0.99	102	2.67	0.96	276	−0.11, 0.33	0.96	376
Pressure	1.81	0.68	99	1.62	0.63	276	0.04, 0.34	2.51*	373
Collaboration	3.84	0.74	103	3.65	0.93	280	0.02, 0.38	2.14*	221
Ingratiation	3.24	0.93	103	2.99	1.04	275	0.02, 0.48	2.18*	376
Consultation	4.06	0.73	102	4.09	0.76	278	−0.19, 0.15	−2.76	378
Personal Appeal	1.76	0.92	103	1.47	0.63	276	0.10, 0.48	2.97**	140
Coalition	2.39	0.83	101	2.12	0.83	278	0.08, 0.46	2.83**	377

***p < .001. **p < .01. *p < .05.

Table 6

Hierarchical Multiple Regression results of relationship between individual factors, organizational factors and influence tactics on OHSP effectiveness–standardized coefficients (β).

Variables	Individual and Organizational Factors	Influence Tactics
Block 1		
Safety Maturity	0.23***	0.17***
Gender	0.02	0.04
OHS Experience	0.09	0.09
Age	0.09	0.08
Organisation Size	−0.13*	−0.12*
OHS Education	0.01	0.01
R^2	0.11***	
Adjusted R^2	0.10	
Block 2		
Rational Persuasion		0.28***
Exchange		−0.20***
Inspirational Appeal		0.19**
Legitimating		−0.27***
Apprising		−0.01
Pressure		0.07
Collaboration		−0.09
Ingratiation		0.09
Consultation		0.07
Personal Appeal		0.06
Coalition		−0.07
R^2		0.28***
Adjusted R^2		0.24
ΔR^2		0.17***

Dependent variable: Perceived OHSP effectiveness in influencing decision-makers.

*p < .05. **p < .01. ***p < .001.

organisation size associated with differences in perceived OHS professionals' effectiveness. Higher levels of organizational maturity were positively associated with OHS professionals' influence effectiveness. While working in larger organisations was negatively associated with OHS professionals' influence effectiveness. Gender, experience, age and OHS education were not statistically significantly related to perceived OHS professionals' effectiveness.

Influence tactics on OHS professionals' influence effectiveness

In step 2 which tests for H3, H4a, and H4b, the influence tactics variables were added to the regression model with all variables explaining 28% (R^2 = 0.28) of the variance in perceived OHS professionals' effectiveness, F (17,350) = 7.8, p < .001 (Table 6). The influence tactics explained an additional 17% in the variance after controlling for gender, experience, age, organisation size, safety maturity and OHS education - R^2 change = 0.17, F change (11, 350) = 7.12, p < .001. Since tactic usage by OHS professionals

explains a significant amount of variation in OHS professionals' perceptions of effectiveness, H3 is supported. Only four tactics made a statistically significant contribution, rational persuasion (β = 0.28, p = < .001), exchange (β = −0.20, p = < .001), inspirational appeal (β = 0.19, p = < .01), and legitimating (β = −0.27, p = < .001). H4a is partially supported as rational persuasion and inspirational appeal were found to be positively associated with OHS professionals' perceptions of effectiveness. Similarly, H4b is partially supported as legitimating and exchange were found to be negatively associated with OHS professionals' perceptions of effectiveness.

5. Discussion

By applying intra-organizational influencing theory, the present study attempted to understand how OHS professionals exert influence in an upward direction within organizations. We specifically examined the role that certain individual and organizational factors had on choice of influence tactics and perceptions of influencing effectiveness. We further addressed whether influence tactics in general are associated with influencing outcomes, and identified the specific influence tactics that are perceived more or less effective in influencing organizational decision-makers.

We predicted that several individual variables (gender, OHS experience, age, OHS education) and organizational variables (safety maturity and organization size) would impact frequency of tactic use. Significant statistical differences were found between these variables and the use of influence tactics, with the exception of OHS education and organization size where no differences were found. Females reported a more frequent use of legitimating and a less frequent use of pressure than their male counterparts, however, both of these tactics are considered "hard' influencing tactics (i.e. tactics that often elicit behavioural compliance without changing the target's attitudes). Whilst the influencing literature suggests that some "hard" influencing tactics are considered more acceptable when used by men (Tepper et al, 1993), the liberal use of the legitimating tactic by female OHS professionals is an interesting finding that warrants further investigation. We also found that OHS experience plays an important role in the profile of influence tactics used by OHS professionals. Less experienced OHS professionals reported a greater use of pressure, collaboration, ingratiation, personal appeals and coalition. This finding may suggest that less experienced OHS professionals are having to work hard to influence and are resorting to using the full spectrum of influence tactics. Further, OHS professionals with over ten years' OHS experience are more likely to be in senior positions and involved in strategic activities (Pryor, 2010), or have established relationships with workplace stakeholders, which may provide more opportunities to be influential.

Despite the findings in the influence research that upward influencing styles differ across life stage groups (Deluga and Perry, 1991; Ralston et al, 2005), and correlations between age and experience, the current study found very little difference in the frequency of use of each of the influence tactics between younger (under 35 years) and older (35 years and over) OHS professionals. Younger OHS professionals reported more frequent use of the collaboration tactic, an unsurprising finding given that younger workers (particularly millennials) prefer collaboration, team-based work projects, and an unstructured flow of information at all levels (Myers and Sadaghiani, 2010).

Safety maturity was associated with statistically significant differences in behaviors used to exert influence in organizations. OHS professionals working in organizations with low levels of safety maturity (pathological and reactive levels) reported a more frequent use of ingratiation, collaboration and legitimating compared to those working at higher levels of safety maturity (generative and proactive levels). There is evidence from the intra-organizational influence research that in circumstances where there is lack of support and resource constrained environments, employees are more inclined to use a spectrum of influence tactics (Epitropaki and Martin, 2012). Maslyn et al. (1996) found that individuals begin influence attempts with softer or socially accepted tactics, escalating to the harder forms of influence when encountering resistance. Extending these findings to the OHS context, it is plausible that OHS professionals operating in organizations with lower levels of safety maturity may encounter less support and greater resistance from organizational decision-makers resulting in the use of a different profile of influence tactics. For example, the increased use of the legitimating tactic may reflect the current view that OHS professionals working in organizations with pathological and reactive levels of safety maturity may be limited to fulfilling and enforcing legal requirements (INSHPO, 2017).

We also explored the association between these individual and organizational factors and OHS professionals' perceptions of how effective they are in influencing organizational decision-makers. A key finding of our study is that the organizational factors (safety maturity and organization size) explained variance in perceived effectiveness to influence whereas individual factors (gender, OHS experience, age, OHS education) did not. Higher levels of organizational safety maturity (proactive and generative) were positively and significantly related to OHS professionals' perceived influencing effectiveness. This finding is consistent with the general view offered by the International Network of Safety and Health Practitioner Organisations (INSHPO) that OHS professionals in organizations at higher levels of maturity (generative and proactive) may have more opportunities to influence the development and implementation of OHS management strategies, than those working in organizations at the lower levels of the maturity scale (pathological and reactive) (INSHPO, 2017). In terms of organization size, working in larger organizations (> 500 employees) was negatively associated with perceived influencing effectiveness. A possible explanation is that those working in smaller organizations may have more favourable interpersonal relationships which has the potential to impact on the manager's decision-making and the influence of the OHS professional (Schilit and Locke, 1982).

While we found that organizational factors played a role in the perceptions of influencing effectiveness, we found that the influencing tactics used by OHS professionals had additional (and higher) explanatory power. The influence tactics (when considered together as a group) explained a significant amount of the variance in perceived effectiveness to influence. Having established the importance of influence behavior in general, we next explored which tactics were positively or negatively associated with OHS professionals' perceptions of effectiveness to influence organizational decision-making. Of the four tactics that appear to matter the most, rational persuasion and inspirational appeals have a positive association; while legitimating and exchange have a negative association.

It is perhaps not surprising that rational persuasion is positively associated with perceived influencing effectiveness, as it is considered a universally effective tactic to use in all directions of influence (Clarke and Ward, 2006; Epitropaki and Martin, 2012; Yukl, 2013). Table 4 indicates that rational persuasion is the most frequently used tactic by OHS professionals. Our results are similar to prior OHS studies which identified the knowledge approach to be a dominant strategy in influencing OHS decision-makers (Hasle and Sørensen, 2011; Olsen, 2012). Inspirational appeal was also positively associated with perceived influencing effectiveness. This aligns with the views of other authors who consider ethical or value-based arguments to be effective in justifying health and safety initiatives (Westerholm, 2007; Wachter, 2011). Nonetheless, in the current study OHS professionals report using this tactic less often than rational appeal, consultation, collaboration, and legitimating. The under-utilisation of this tactic has also been found in the environmental management field, where it was hypothesised that agents tend to avoid value-based appeals due to the fear that this type of behavior may stigmatise or marginalise them (Crane, 2000; Gattiker and Carter, 2010). Similarly, Wachter (2011) suggests that safety professionals who validate their decisions and courses of action on ethical grounds maybe "*organisationally ignored or dismissed for being non-team players, absurd, naive, elitist or out of touch*" p. 56. Further, inspirational appeals requires greater psychological effort compared to other tactics, such as rational persuasion (Epitropaki and Martin, 2012). To gain commitment from an organizational decision-maker using inspirational appeals, it is necessary for the OHS professional to have an insight into the other person's goals, values and ideals. The positive results from our study however, suggest that the psychological effort required to step into the other person's shoes may be worthwhile to gain support for health and safety initiatives.

We dedicate a significant part of our discussion to the use of the legitimating tactic by OHS professionals. Given that a primary role of OHS professionals is to enable their organizations to comply with OHS legislation and regulatory systems, the use of authority and referring to official rules, policies, legislation and standards is understandably an easy tactic for OHS professionals to use. In the current study, the OHS professionals' reported use of the legitimating tactic was higher than existing studies (Table 4), with the exception of the environmental professionals who also operate within government regulatory frameworks (Table 2). We also found legitimating to be strongly associated with perceived influencing effectiveness, but in the negative direction. This finding is consistent with prior research in non-OHS fields that suggests as a hard tactic with potential sanctions for non-compliance, legitimating is generally not effective and often leads to resistance and non-commitment (Furst and Cable, 2008; Gattiker and Carter, 2010; Lee et al, 2017). Legitimating is comparable to the 'regulation strategy' described by Hasle and Sørensen (2011), which is based on the threat of punishment if the organization or individual does not comply with the law. There has been strong arguments put forward in this journal that complying with rules, bureaucratic processes and procedures in certain circumstances can actually harm safety (Hale and Swuste, 1998; Dekker, 2014; Hale et al, 2015), an argument that may be supported by our findings.

Self-determination theory (SDT) may provide a useful theoretical framework for understanding the negative association between legitimating and OHS professionals' influencing effectiveness. This theory has previously been linked to safety in the existing literature (Burstyn et al, 2010; Dekker, 2018). SDT addresses how social environments influence motivational processes underlying compliance and other forms of individual and organizational behavior change (Deci and Ryan 1985). STD suggests that like most people, organizational decision-makers would have a fundamental psychological need for autonomy, relatedness, and competence (Deci and Ryan 1985). Where organizational decision-makers perceive that the use of legitimating undermines their need for autonomy, the existing research suggests that their interest, engagement, compliance and intrinsic motivation is undermined (Deci and Ryan, 2002; Burstyn et al, 2010). It follows from this that

although in certain circumstances legitimating may lead to compliance, OHS professionals should carefully consider each situation and reflect on whether another tactic might be more effective. The existing research indicates that the over-use of the legitimating tactic may lead to resistance, and impact negatively on interpersonal relationships in the workplace.

Last, exchange was also negatively associated with the perceived ability to influence organizational decision-makers. As previously discussed, the exchange tactic entails extrinsic motivation and necessitates the agent having control over rewards, therefore is more often used in a downward or lateral direction rather than an upward direction (Lee et al, 2017). The OHS professional who often lacks positional power and formal authority may have less control of rewards that are perceived as beneficial to organizational decision-makers. Nonetheless, OHS professionals reported using the exchange tactic more frequently than other groups in existing studies (Table 4). Scholars have found that exchange tactics are not often chosen for an initial influence attempt (Yukl and Tracey, 1992) and are usually adopted when the target is unwilling to support the request or proposal without additional benefits or enticements (Falbe & Yukl, 1992). Although speculative, the more liberal use of the exchange tactic may suggest that OHS professionals are offering explicit or implicit rewards or benefits when they meet resistance to their initial requests or proposals.

6. Potential limitations and future research

In reporting our findings, it is important to recognise that the current study is not without limitations. We use single source self-reported measures which are commonly identified as a potential source of common-method variance (CMV). We utilised several methodological controls recommended by Podsakoff et al (2003) to minimise the potential problem of CMV including; the use of different response formats for the measurement of the independent and dependent variables; separate positioning in the survey of the independent and dependent variables; and protecting respondents' anonymity. Further, we found an absence of multicollinearity with tolerance values greater than 0.01 (Tabachnick and Fidell, 2013) and correlations in the wide range of 0.01–0.53. Future research assessing influence tactics from the organizational decision-maker' perspective could offer additional insights.

Participants for this study were largely recruited through OHS professional societies, and may not be representative of the broader safety professional population in Australia. For example, 68% of respondents in this study had an OHS Bachelor degree or higher, compared to 27% in a recent survey of Australian workplace health and safety officers (Safesearch, 2017). In addition, recall bias may be a potential limitation in this study given that the participants were asked to choose responses based on how often they had used each tactic during the past 12 months. There is also the potential that respondents underreported the use of the hard tactics, which are considered less socially acceptable. Nonetheless, when compared to existing studies the OHSPs reported a similar usage of the pressure tactic and higher usage of both legitimating and coalition.

Although most of the validation research for the IBQ involved target subordinates and peers (i.e. downward and lateral influence), earlier research has identified that most if not all the influence tactics are relevant in the upward influencing context (Yukl et al, 2008). We focussed on tactics that are effective when influencing organizational decision-makers in an upward direction and it may be possible that these tactics are less effective for motivating workers and peers. Therefore, more research is needed to examine how OHS professionals exert influence in all directions. Finally, the proactive influence tactics and taxonomy used in this study was developed several decades ago. It maybe that in addition to these tactics, OHS professionals are utilising new influence tactics or behaviors and there is an opportunity for future research in this area.

7. Implications for practice

The findings from our study have practical implications as they enable OHS professionals to reflect on what tactics they are currently using to exert influence within organizations and their associated efficacy. In particular,

- Since there are a range of different tactics that can be used to influence decision-makers, OHS professionals should develop a self-awareness of their current influencing behaviors.
- Depending on the situation, the type of tactic used has the potential to make a difference to influence outcomes and some tactics tend to be more effective than others.
- In this study on upward influencing, rational persuasion and inspirational appeal were the most effective tactics, while legitimating and exchange were the least effective.
- Being sensitive to the maturity of their organization will enable OHS professionals to tailor their influence attempts and to employ skills to navigate between different influencing tactics and situations.

8. Conclusion

Despite the growing acknowledgement of the need for OHS professionals to be more strategically influential and to operate as change agents within organizations (INSHPO, 2017; Provan et al, 2017), there are very few studies in the OHS field on how contemporary OHS professionals exert influence, and their use of specific influencing behaviors. OHS professionals who lack positional power within organizations need to rely on their own personal power and interpersonal skills to influence without authority (Dekker & Nyce, 2014). Using influence behaviors with others is to exercise personal power. Applying intra-organizational influence theory to the OHS field, this study reported on the use and effectiveness of proactive influence tactics at a granular level. In addition, this study provides practical guidance on the use of influence tactics in an upward direction and the impact that certain factors relevant to the OHS professional may have on influencing attempts. Notably, we contribute to the literature by presenting the first analysis of the relationship between individual and organizational factors and the safety maturity level of an organization and the specific influencing behaviors of the OHS professional and influence outcomes.

Declaration of Competing Interest

The first, third and fourth authors are employed by The University of Queensland, School of Earth and Environmental Sciences.

The second author is employed by The University of Queensland, School of Psychology.

Appendix A. Supplementary material

Supplementary data to this article can be found online at https://doi.org/10.1016/j.ssci.2019.09.028.

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