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Understanding Why Employees Engage in Health Programs: Development of a
Workplace Health Climate Perception Tool

by

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Abstract

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There is growing interest in workplace health promotion programs and a recognition for the importance of including organizational level predictors (Zwetsloot & Leka, 2010). The concept of organizational climate is recognized as an important predictor of employee health and a reflection of the overarching environment, but its influence on the delivery and engagement in health promotion programs is not adequately understood. In response to this, the current study piloted a health climate scale consisting of 4 Factors and also tested the scale as part of a workplace health promotion performance framework. Results supported the 4 Factor health climate scale. As for the workplace health promotion performance framework, a significant partial mediation was found between health climate, health promotion program attitudes, health climate preferences and willingness to participate in health behaviours at work on predicted health program engagement.

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Introduction

Employee health and wellbeing has become a growing priority for North American organizations within the past few decades (Grawitch, Trares & Kohler, 2007). The workplace is viewed by federal, provincial and municipal bodies as an important platform that can be utilized to educate the general population about health (Wilson, Carr, & Fairbairn, 2001). The Ontario Ministry of Health introduced the concept of the workplace being a key channel for health promotion in the late 90's, and now even federal bodies like Health Canada have a workplace health promotion program framework (Wilson, Carr, & Fairbairn, 2001). Although workplace health initiatives are not mandated by law, these programs can be part of an overarching health and wellness strategy that provides resources and services for employees, in turn benefitting the employee as well as the organization. In Canada specifically, recent research has highlighted the positive impact that workplace health promotion programs can have on the organizational culture and levels of engagement, while also increasing individual physical activity in employees (Rouse, 2015). There is value in workplace health promotion programs, as there is a positive association between workplace health promotion programs and employee health behaviours. We know healthier individuals are more resilient in the face of stress, therefore it is beneficial to work with our existing personnel base and increase employee health.

Though workplace health promotion programs can be beneficial in many ways, there are several issues associated with the delivery and implementation process that have yet to be fully examined. Throughout workplace health promotion literature, there is a

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consistent focus on the effect or outcome of the program in question (Zwetsloot & Leka, 2010). As a result, there is a lack of understanding about the intervention process itself and the reasons for success or failure of a program. While focusing on a program's outcome is helpful to bench-mark progress or evaluate intervention effects, it ignores important components of the equation that contribute to a successful or unsuccessful program long-term. At a broad level, when considering organizational factors, the concept of health climate is not fully understood in practice. Although climate is recognized as an important predictor of employee health and a reflection of the overarching organizational culture, its influence on the uptake of and engagement in health promotion programs is not adequately understood. Particularly in health management research, many studies focus on task-level organizational factors contributing to health outcomes and neglect to account for broader, more pervasive system or environment level factors (Karasek, 1979; Siegrist, 1996). Even in the demand-control model by Karasek, (1979), where control is proposed to be reflective of working conditions, the onus of this factor still remains on the employee, as control is described as an individual's skill discretion paired with their decision authority. The majority of the task level factors become the onus of the employee, based on individual efforts, perceived control and physical or psychological demands.

When considering individual level factors, inclusion of employee health needs is often not incorporated in the development or delivery of health programs. Although the task of considering individual needs is difficult when implementing a group level health initiative, it is important to consider how to address this issue, because each individual

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has a reciprocal relationship with the organizational climate. In other words, while the climate influences the employee, the employee also influences the climate. Current workplace intervention literature lacks an integrative conceptualization of organizational factors like health climate and individual level factors, and how these relationships lead to workplace health program performance. There is a consistent focus on the effects of interventions and as a result, there is a lack of understanding around the antecedents necessary throughout the intervention process (Zwetsloot & Leka, 2010).

The present study has a dual focus of developing a psychometric scale to assess the concept of health climate while also integrating the scale into a workplace health promotion performance framework. The inclusion of the framework lends itself to testing the relationships between organizational and individual predictors of health promotion engagement in the workplace. The rationale for the development of a health climate scale stems from the fact that practitioners currently lack a method to assess how receptive the organizational climate is to the implementation of a workplace health promotion program. Climate is especially pertinent through an intervention process, as it is the perceived environmental context that sets the tone or mood of the entire organization. The concept of organizational health climate or health behaviour climate is still fairly new and relatively unexplored (Sonnetag, and Pundt, 2015). Understanding the climate would highlight the extent to which the organization is open and on board for a change in workplace health, as demonstrated by the attitudes, behaviours and interactions between all levels of the organization.

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Aside from scale development, to move workplace health promotion research further, gaining insight on the antecedents of the program engagement would be useful. Antecedents would include individual level factors such as health behaviours, values, attitudes and organizational level factors such as organizational support or climate (Christian et. al, 2009). These factors can either help to encourage and support a range of health outcomes, or ultimately nullify the potential for any health changes. This research will assist organizations in identifying and analyzing key antecedents of workplace readiness for health interventions by utilizing a safety framework in a novel way that encompasses many individual and organizational level factors.

Health promotion in the workplace

Health promotion in the workplace focuses on the prevention or reduction of employee health risks. The World Health Organization (WHO) defines health as, “the extent to which an individual or group is able, on the one hand, to realise aspirations and satisfy needs; and, on the other hand, to change or cope with the environment. Health is, therefore, seen as a resource for everyday life, not the object of living; it is a positive concept emphasizing social and personal resources, as well as physical capacities (WHO, 1984, p. 23)”. Therefore, health does not just apply to each individual, but the organization or group as a whole. While individuals have some control over their health, many forces outside our direct control will play into shaping our wellbeing. Group norms play a large role in our decisions and we are affected by our perceptions of the social support received for health behaviours in the workplace (McLeroy, Bibeau, Steckler, & Glanz, 1988). The workplace is an ideal setting to gain access to many individuals as the

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average person spends approximately a third of their day at work (Harter, Schmidt & Keyes, 2002). Consequently, it is not surprising that the environment in which we work is a main health determinant (Dahlgren and Whitehead, 2007).

Health promotion is an important part of the organization in today's modern working environment health (Wilson, Carr, & Fairbairn, 2001). Workplace health promotion includes activities and processes that promote physical, educational, social and environmental polices related to the employee's health (Wilson, Carr, & Fairbairn, 2001). Each organization is thought to have a "health promotive capacity", which is the potential of an organization's environment to promote or maintain a certain level of health over time (Stokols, 1992). Health promotion was not always considered an organizational responsibility as it traditionally was seen as a product of individual behaviour (Shain, & Kramer, 2004). Personal health practices were seen as the focus within health literature for many years and the volume of research on individual health behaviours speaks to that. Only recently within the past couple decades have environmental characteristics played a more central role in health promotion, and now it is well documented that organization has an influence over its employee's health (Stokols, 1992; Shain, & Kramer, 2004).

Worksite health promotion theory has advanced quite a bit over the years to incorporate comprehensive approaches with more options for flexibility, yet the theory and research behind the actual implementation process has lagged behind (Weiner, Lewis & Linnan, 2009). There is less of an emphasis on the implementation itself, whereas uptake of the program in relation to organizational outcomes is typically the focus. This is a notable trend, as in a research setting numerous health interventions show promising

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results, yet in reality, a health promotion initiative that works in one organization may not be as successful in another (Ketola, Sipila & Mäkelä, 2000; Makrides et al., 2008; Matano et al., 2007). While there is a great deal of research on factors that contribute to or impede health promotion programs, there is not a lot of progress on how these same factors predict implementation success or how they are related to one another (Weiner, Lewis & Linnan, 2009).

DeJoy and Wilson in 2003 developed a healthy workplace intervention framework that incorporates the organizational climate in order to help organizations broaden their capacity for creating a healthier work environment. The intervention framework takes an approach that emphasizes a participatory process where all employees are involved in identifying organizational issues and goals. Having employees participate in the planning process of an intervention increases understanding, communication and feelings of control (DeJoy & Wilson, 2003, DeJoy et al., 2010). While the participatory component is very important in an intervention process, the framework's outcomes again focused on establishing intervention effectiveness, and ignores the factors that can create an environment or climate that allows for open and interactive participation in the first place. Organizational climate can either emphasize or hinder participation and communication from all employees, as it sets the tone of the work environment.

While having employees participate in the planning process can increase engagement and help to sustain program outcomes, it is more difficult for organizations to understand how to develop an open and participatory environment. How the employee's perspectives and insights are represented in the planning process is ambiguous,

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particularly in terms of health programs. Each employee may have varying health needs and preferences; therefore, it is hard for organizations to take these individual differences account when rolling out a company-wide health promotion program.

Before these needs can be taken into account, the organization must foster an open, trusting and supportive organizational health climate so that employees feel comfortable sharing information about health needs or preferences. While it is a complex relationship, there are variables that can be assessed to further understand how the implementation of organizational health initiatives work. In order to begin understanding how an organization's environment can affect the health promotion process, more background must be given on the research framework.

Research framework and hypotheses

The health climate scale fits into a broader framework adapted from workplace safety research (Christian et al., 2009). Based on the variables relevant to workplace health promotion performance (which is discussed below), the safety framework was adapted as it offers a similar structuring of concepts. The concept of safety climate and its use in organizational initiatives has helped to provide context to many intervention situations, helping to create a more effective delivery of safety programs. While it is a distinct construct, safety climate also has a relationship to health climate as they both correlate with organizational health investments (Mearns, Hope, Ford, Tetrick, 2010). Health and safety climate both reflect the priority of employee well-being and prevention of illness and injury. Both also influence workplace norms, values and attitudes. As the use of safety climate has strengthened many workplace interventions, a workplace safety

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framework will be adapted and tested in support of the development of the health climate perception survey.

Christian et. al.'s workplace safety model (2009) includes similar safety outcomes and connects many relationships that are of interest in the current health context. Below in Figure 1 is the original model by (Christian et al., 2009). The framework had been improved upon from previous versions and based on a meta-analysis. The specific model chosen incorporates many integrative distal and proximal factors to capture the complexity of organizational behaviour (Christian et al., 2009). This framework will assist in explaining the relationship between organizational climate as well as related workplace conditions, individual characteristics, and the outcome of health promotion performance.

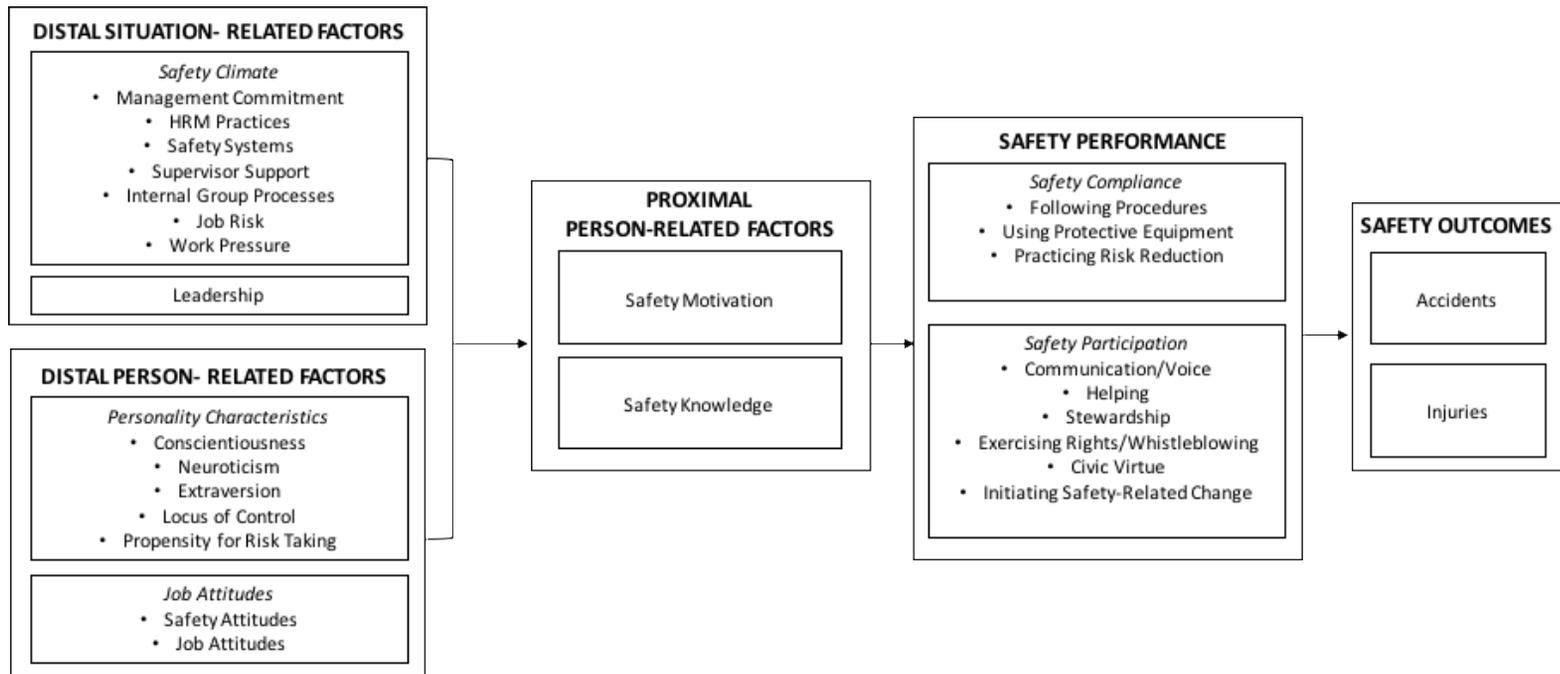
Christian and colleague's (2009) meta-analysis of workplace safety posits that safety performance behaviours and safety outcomes (i.e., injuries or incidents) are influenced by a combination of situation and person factors. Safety antecedents are considered to be either proximal or distal in relative distance from the outcome. In order to measure these areas, the model defines a number of person or situation related antecedents. Knowledge and motivation are considered the closest, most influential factors to safety performance, whereas our individual personality differences or the climate of the organizational only indirectly affect safety performance. For example, person-related proximal factors utilized in the meta-analysis include personality characteristics like conscientiousness and locus of control or job and safety attitudes.

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Distal, situation-related factors included safety climate, management commitment and leadership. As there are person and situation related antecedents also influencing organizational health behaviours, factors can be identified and assessed in a similar fashion. Therefore, this model will be utilized as a theoretical framework for the development and validation of a health climate perception measure.

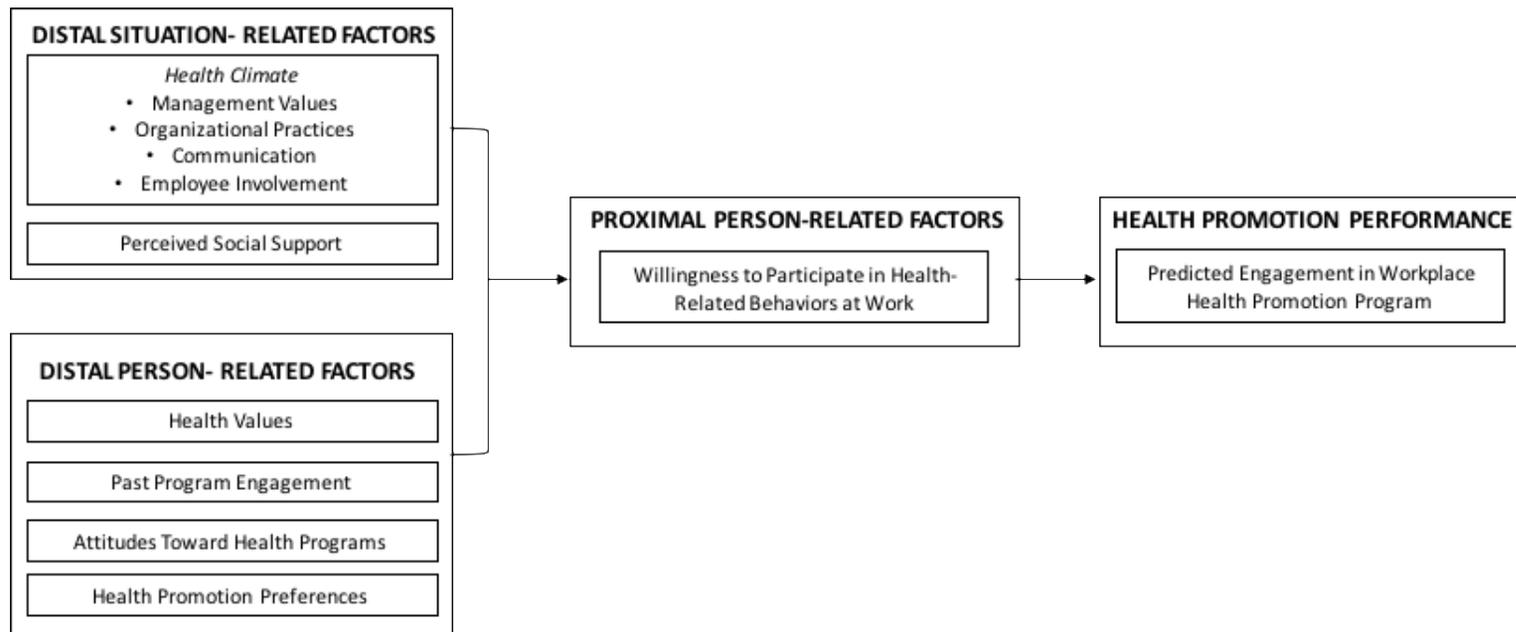
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Figure 1. Adapted from Christian et. al (2009)'s Workplace Safety Framework



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Figure 2. Proposed Workplace Health Model Adapted from Christian et. al (2009)



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Shown above in Figure 2, the workplace health performance framework is directly influenced by proximal person-related factors, while being indirectly influenced by a combination of distal situation and person-related factors, similar to the meta-analysis safety framework. Therefore, health performance antecedents can be either proximal or distal in nature. The distal situation-related and person-related factors contribute to proximal person-related factors, which ultimately predicts health promotion performance. The inclusion of the safety framework helps to distinguish the roles between situation and person factors in relation to health program performance. As the research focus is from a primary prevention perspective, engagement in a workplace health promotion program was utilized as the health performance measure.

Distal situation-related factors

Climate. One variable that heavily influences performance is the organizational climate (Cooper, & Cartwright, 1994). Climate is a meaningful predictor of safety performance behaviours (Christian et., al. 2009), therefore it may be relevant in a health performance setting as well. Organizational climate is considered to be a complex social environment that can have a significant impact on individual health and wellbeing (Torp, Grimsmo, Hagen, Duran, & Gudbergsson, 2013). Organizational climate is a term utilized to explain psychological phenomena in organizations (Ostroff, Kinicki & Tamkins, 2003) and can be considered the social context or atmosphere. It is thought to be the recurring attitudes, feelings and patterns of behaviour that illustrate life in the organization (Isaksen, & Ekvall, 2007). Organizational climate has been directly linked to employee health

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(Einarsen, Hoel, Zapf & Cooper, 2003) and the uptake of a health promotion activities through workplace intervention (Cooper & Cartwright, 1994). The reason that climate may play a role in the success or failure of a health initiative is that it reflects the perceived organizational norms, beliefs and values regarding employee health (Chatman & Cha, 2003). Climate is considered to be a snapshot of organizational culture or a perceptual indicator of organizational culture and this can be indicative of how supportive an employee thinks their organization is towards their individual physical health outcomes.

Climate consists of how we feel about work, based on our experiences or interactions with other individuals or organizational functions. The concept of climate offers a context for employee attitudes and behaviour, providing insight on how individuals experience and make sense of organizations (Schneider, 2000). In other words, climate is a reflection of experiences and perceptions about what employees see happening within an organization day-to-day. Climate is manifested through a variety of properties found within the workplace and are either directly or indirectly perceived by it's organizational members (Ivancevich, Konopaske, and Matteson, 2007). These properties can include organizational variables such as procedures, systems, events, policies and practices (Jones and James, 1979). The climate then evolves from organizational members interacting with these variables.

Climate constantly changes over time based on new experiences. Although the progression can be slow, new methods have been developed to further understand this concept in order to help improve the organizational environment. A majority of the

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climate research was historically conducted in organizational or educational settings. Organizational or “corporate” climate has been studied for decades, with the earliest research on shared climate perceptions dating back the 1930’s and 50’s (Barnard, 1938; Lewin, 1951). Although the relationship between organizational interaction and shared climate perceptions has been discussed for decades, only in the 80’s did it become a widespread research topic. An important study conducted by Litwin and Stringer in 1968 developed one of the first climate questionnaires. It was theorized that an organization’s reality is understood only as they are perceived by the organization’s members. Thus, by summing an organization’s perspectives, we can understand the organizational reality or “climate”.

According to Litwin and Stringer (1968), climate influences employee’s beliefs about the consequences for various actions in the workplace. An employee’s beliefs are directly tied to their attitudes and behaviours. Therefore, not only does climate have an explanatory connection with organizational functioning, it is known to have a significant impact on the employee. Workplace attitudes and behaviours are associated with outcomes such as overall job satisfaction, productivity and commitment to the organization (Litwin and Stringer, 1968). Thus, having an impact on the climate can affect the entire organization through social interactions amongst employees and the decision making process. Climate can be regarded as an important factor in organizational settings, as it can provide insight into how features of a workplace environment affect the attitudes, performance and dynamics of the workforce.

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Researchers now argue that the study of health in the workplace should be expanded to include the organizational context or climate (Cox, Leather, and Cox, 1990).

Occupational health and safety research in general has recently been moving away from lagging indicators such as incident rates and injury frequencies or severity by focusing on leading indicators like perceptions and beliefs, and climate is considered to be a leading indicator. Leading indicators provide the advantage of being able to monitor workplace environment conditions in a preventative manner as opposed to relying on previously recorded trends. By tapping into the concept of climate in a practical way, the current climate can provide feedback about the work environment (Cox, Leather, and Cox, 1990).

Climate can be a particularly helpful concept for organizations interested in producing organizational change. Climate can be utilized as a means of assessing the mood of the organization before implementation and also intervention effectiveness after implementation. Without consideration of the organizational environment, the uptake of the intervention or engagement levels could be affected by these contextual circumstances. As our perceptions are constantly changing based on new experiences, the climate is continually evolving. This indicates that climate is malleable and can be improved upon. Since behaviours are a function of the person and the environment (Lewin, 1951), further knowledge about how the workplace climate affects employee behaviour can be beneficial to not only the organization, but the employees themselves. While individuals develop their perceptions of climate in different ways, perceptions of climate can be shared by groups of organizational members at one time. This is useful because organizations can gain feedback on this information to establish the current

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climate to base further improvements or actions. Climate can be assessed and improved upon to build a more cohesive and positive workplace environment. Organizational climate is an important variable when considering what types of systems need to be put in place and how they will function.

As climate is complex, it can be broken down into specific types, for example, health climate. Recently, health climate has been defined as “employee perceptions of active support from coworkers, supervisors and upper management for the physical and psychological well-being of employees (Zweber, Henning, & Magley, 2015, p. 1)”. This definition encompasses more than just the climate around a health initiative, it embodies the general receptivity towards health in an organization. In other words, health climate is reflection of how receptive and engaged colleagues and managers are in relation to individual health behaviours and needs. While a health initiative may be well intended, if the organizational climate does not authentically reinforce the efforts of the intervention, employees will most likely not engage in the health initiative as the climate indicates that they are not supported in doing so (Makrides et al, 2008). In other words, it is not enough to simply have a health promotion initiative in place without considering the organizational context. If the organization is not receptive to potential changes that go along with the uptake and engagement of health behaviours, any health intervention put in place will be hard pressed to succeed in the face of a disengaged health climate. The effectiveness of health initiatives will depend on the extent to which the climate supports the implementation of those systems and how well this is perceived.

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While the topics of organizational climate and employee health have been extensively researched, very little has been done to study the two together (Cox, Leather, and Cox, 1990). Health climate is unique in comparison to other organizational climate facets, as it is not overtly related to organizational outcomes and not as easily monitored in comparison to other facets. Therefore, it is harder for organizations to understand their role or influence in relation to employee wellbeing. Having a perceptual baseline of health climate before initiating an intervention would be a useful indicator of potential employee engagement.

This thesis focused on understanding and assessing health climate in relation to workplace health promotion programs. The organizational context is increasingly recognized as an imperative part of health management in the workplace (Zwetsloot & Leka, 2010). Managers can apply the concept of climate to better understand employee perspectives and how this affects the overall implementation of a program, in terms of employee engagement. If we understand how our organizational climate impacts individual employee's engagement levels in an intervention, we can make proactive and meaningful decisions moving forward.

Perceptions of social support. Perception of social support is the extent to which an employee believes their organization, supervisors and co-workers are genuinely interested in their well-being and are part of a larger social support network (Väänänen et al., 2004). The extent to which an employee feels valued and supported is also related to performance behaviours (Christian et., al. 2009). Though similar to perceptions of having a positive health climate, perception of support is more so a singular, specific social

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aspect of health climate, whereas the climate encompasses the entire organizational environment. Social support is a major resource for health related outcomes and this can be felt through management and colleague's mutual support and contribution to individual physical health. Social support can be broken down into emotional, appraisal, informational and instrumental components (House, 1981; Barling, MacEwen, Pratt, 1988). Emotional support can be seen as offering concern, empathy or acceptance of one's health related behaviours. Having emotional support can help an individual feel like they are valued and support in their health endeavors. Instrumental support is providing adequate resources, funding or even management spending time involved in health behaviours with employees. This can include access to personal trainers or coaches, or even having pamphlets readily available around the office. Appraisal support concerns providing feedback or evaluation. Lastly, informational support is access to advice or information.

Employer support is also related to organizational initiative outcomes and influences the extent/rate of employee participation, such that low levels of support negatively impact employee engagement (Caesens, Stinglhamber, & Luybaert, 2014). Low employee participation rates are a commonly reported factor as to why health initiatives fail (Matano et al., 2007). What the employee prioritizes and how the employee behaves is largely influenced by feelings of perceived social support from colleagues and managers. Employers who are viewed flexible and supportive have more employees engaging in workplace interventions and achieve higher participation rates. There is a positive relationship between employee perceptions of social support and level of

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engagement in the workplace initiatives. This is because perceived support is a strong predictor of employee behaviour, therefore should be considered in every workplace intervention. The more support an employee feels from their managers and co-workers, the more positive affect that will be associated with the intervention and generated through the entire process. This in turn maintains the employee's levels of engagement and desire to maintain active in the program.

Past research involving climate and workplace outcomes typically focus on managerial support. This is because managers have a great influence on employee affect and behaviour. If they perceive their management to be unreceptive to the health changes, they will most likely perceive the organization to be unreceptive as well (Makrides et al., 2008). On the surface, it may seem like at a broad level the organization is supportive of the initiative, but employees are only able to see a select portion of the organization, which is typically their daily supervisors and coworkers. Increasing social support from colleagues is also a common method from a primary prevention perspective in attempts to proactively reduce stressful situations (Slaunwhite, Smith, Fleming, Strang & Lockhart, 2008; Hargrove, Quick, Nelson, & Quick, 2011). Support from colleagues is especially important for health initiatives as a number of programs involve group challenges or activities and co-workers heavily influence norms within the workplace. Therefore, this study will not only focus on perceptions of managerial or organizational support but also co-worker support. Having a network of social support within the workplace is important in order to implement and sustain successful organizational health programs long-term.

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Distal person-related factors

Person-related factors also need to be considered when implementing any type of workplace program (Kwakman, 2003). A barrier to success when implementing an organizational health initiative is neglecting to account for individual differences. Even if an organization does decide to go above and beyond by supplying further health resources for its employees, the task of considering individual needs is difficult when implementing a group level health initiative. A previous meta-analysis found that one of the distinguishing factors between successful and unsuccessful interventions was the consideration of individual employee needs in the development of the program (Cancelliere, Cassidy, Ammendolia, & Côté, 2011). The same interventions in the meta-analysis also utilized screening tools to help understand employee needs by eliciting information about personal health and other health related information. It is important to consider how to address the inclusion of person-related factors, because each individual has a reciprocal relationship with the climate. Therefore, if individual employees do not see a health initiative as relevant to them, they are less likely to engage in the program and this will be reflected in their perceptions of climate.

While the climate items in the present study were developed in consideration of previous research, the proposed factor structure of the climate was conceptualized in a different manner. Although all organizational levels will be included (management, supervisors and co-workers), factors of climate will be broken down by the organization's structural elements (policies, programs, resources), management values (concern for employee wellbeing), employee involvement (in development and implementation of

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health related decisions) and communication between all levels of employment. The intent of the present scale was also different than previous health climate scales such as a MOHCA (Zweber, Henning & Magley, 2015). Scales like the MOHCA are interested in outcomes such as engagement in work tasks and job satisfaction, the present scale is concerned with predicting engagement in health initiatives at work. Therefore, it is health climate specifically related to the success of health promotion programs.

Health Values. One reason individuals may choose to not engage in certain types of health initiatives is if it does not align with their health values (Christensen, Martin, & Smyth, 2004). Our health values are indicative of what type of health behaviours we would engage in. For example, an organization could implement a health program centered around group fitness activities, but if the majority of employees prioritize their time to exercise in solitude, uptake may suffer because of the discrepancy between employee values and program options. When health initiatives are flexible enough to provide a multitude of different types of activity, this can encourage employees to engage in the program. It is important for the organization to consider employee values for the sake of the program but also for the health of the employee. Research indicates that when individuals can tailor their health programs to their personal values, it is more likely they will maintain the habit for a longer period of time (Christensen, Martin, & Smyth, 2004). Also, if an employee does not engage in healthy activities outside of the workplace, it is improbable they will begin their health journey within an organizational atmosphere unless the initiative can be tailored or flexible to their individual needs.

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Health Promotion Preferences. Another person-related factor that could influence workplace health promotion performance is preference in workplace or intervention orientation. This can be seen as a person-related factors but also a reflection of a workplace situation. As posited by the attraction-selection-attrition model (Schneider, 1987) and discussed by Christian and colleagues (2009), individuals are differentially attracted to and retained in various work environments based on personal differences. For example, a health oriented individual may be more likely to seek out a workplace environment that is also health oriented. Therefore, having an understanding of individual health orientation preferences in the workplace can provide further insight into health promotion performance.

Attitudes. Similar to the measures from Christian et. al. (2009), attitudes relevant to proximal person-related factors and performance were measured. While safety and job attitudes were measured in the meta-analysis, attitudes towards health programs in the workplace will be assessed. Attitudes are related to behaviour (Cheyne, Tomás, & Oliver, 2013), and the variable of willingness to participate in health behaviours at work and also predicted workplace promotion engagement is of interest, therefore it is seen as a relevant perspective to include.

Past Engagement. Previous engagement in workplace health initiatives was also thought to be an important factor in predicting future engagement. While this variable was not included in the original safety framework, it is found that previous engagement in health checkups predicted potential future engagement (Lechner, Vries, & Offermans, 1997), therefore it will be tested within this framework as well.

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Proximal person-related factors

Willingness to Participate in Health Behaviours at Work. Workplace health behaviours are actions that are considered to be health related in some way, but not necessarily because of a health promotion program. Health behaviours are considered to be a proximal person related factor of predicted health promotion engagement. While Christian et. al (2009) utilize safety knowledge and motivation, willingness to participate health behaviours at work was selected for the current study, as health behaviours would be informed by knowledge and motivation.

Workplace health performance

Organizational Health Promotion Program Engagement. Predicted organizational health promotion program engagement is the outcome of interest in the current study. Predicted program engagement represents workplace health promotion performance, based on the Christian et. al meta-analysis (2009). Engagement is the outcome within the current study, as the ultimate goal of implementing a health promotion program is getting employees to engage in the program long-term. From previous research, it has been identified that one of the most critical factors for effective organizational change is employee participation or involvement (Cree, 2000). While in many cases it may be assumed that employees would like to participate in planned organizational changes, this is not necessarily an accurate reflection of the employee. The assumption of willingness on behalf of the employee may give rise to the large discrepancies sometimes found between successful and unsuccessful organizational health promotion programs. Although the same health promotion program can be in applied in numerous

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organizations with similar structures, this does not mean that it will be successful in all cases. A key piece to this puzzle is understanding the individual employee population of each organization and further, understanding their acceptance associated with participation. It would be useful to know what conditions help to facilitate participation in the health promotion process. Therefore, the objective of the study is to understand how person and situation-related factors contribute to employee engagement in workplace health promotion initiatives.

Organizational engagement is defined as a positive attitude held by the employee toward the organization and its values (Robinson, Perryman and Hayday, 2004). It is argued that an engaged employee is cognisant of the work environment, and works with other employees to improve organizational performance (Robinson, Perryman and Hayday, 2004). Engagement is physical, emotional and mental. If an employee becomes disengaged at work, they not only become withdrawn cognitively, but also mentally and physically. There is strong empirical evidence that an individual's personal and organizational resources are related to their level of engagement (Xanthopoulou, Bakker, Demerouti, and Schaufeli, 2009). Not only are resources related to engagement, the types of resources are also related to each other. Therefore, organizational resources also affect the employee's perceptions of personal resources, and vice versa. This reciprocal relationship raises the issue of who the onus of engagement belongs to. Previously, employee engagement had been studied in isolation of the organizational environment with a focus on engagement antecedents or outcomes. Broader contextual factors that impact engagement are often neglected (Jenkins & Delbridge, 2013). Bakker et al. (2007)

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argue that there is a greater need for evaluation of the organizational climate in relation to engagement. As engagement is directly related to an employee's inclination to participate in the workplace, looking to see how engagement is affected within organizational initiatives is a pertinent way to further examine the climate. In this specific case, health climate is the focus in relation to health promotion programs.

The practical need for a new health climate scale

While health climate is still relatively novel in its application to the topic of employee health, it has been previously conceptualized in a scale. The issue with previous health climate scales is they were either too lengthy for a workplace context (Ribisl and Reischl, 1993), focused on different variables of interest, (Sonnentag, & Pundt, 2015) grouped health climate together with other types of climate (Basen-Engquist et al., 1998; Bjerkan, 2010; Wilson et al., 2004) or had a secondary, stress management perspective (Zweber, Henning, & Magley, 2015).

When looking at existing health climate scales, it becomes clear that the concept of climate can be conceptualized in different ways. Most recently, Zweber, Henning and Magley (2015) developed the 9-item 'Multi-faceted Organizational Health Climate assessment (MOHCA)' that corresponds with 3 different organizational levels: the workgroup, supervisor and organization. Health climate is examined primarily from a social exchange theory perspective, meaning that if an employee perceives the organization to support their wellbeing, 'the employee is more likely to behave in ways that benefit his or her organization' (p2). While this is a useful starting point, it is difficult to reduce an abstract concept like health climate down to a rational cost-benefit exchange,

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as it disregards other imperative factors. Humans do not always behave in a rational manner and the relationships formed between organizational members do not always move in a linear pattern based on a cost-benefit interaction. If health climate was a simple reciprocal exchange, we should see many more successful organizational health initiatives. Many organizations do have basic policies and structures in place in relation to employee health but this does not necessarily equate to employees engaging in these systems or enhancing organizational outcomes. For example, employees can be supplied with the appropriate personal protective equipment (PPE) but if the equipment is uncomfortable or restricting, or it slows down the work (particularly in organizations where productivity is clearly prioritized over safety), employees are much less likely to wear the PPE even if they are required to. It is similar for health climate, employees may have access to many resources but if it is not suited to meet their individual health needs, they are much less likely to engage with the resources.

Related to the use of social exchange theory, certain items on the MOHCA convey a secondary prevention perspective, in reaction to a health event instead of in anticipation. For example, “If my health were to decline, my coworkers would take steps to support my recovery”. The proposed scale intends to convey a primary prevention perspective. The focus on organizational outcomes also conveys the message that the bottom line is the financial dollar of the organization, rather than individual health and wellbeing should be a societal concern as well as responsibility where the workplace is simply one of the best environments to help the general population.

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It is argued that co-worker interaction is a major component of climate development, as these are the most proximal relationships we hold in the workplace. While co-worker interactions do play a large role in how climate emerges, what we have learnt from the field of safety climate is that perceptions of our managers is one of the most influential predictors of climate (Yule, Flin and Murdy, 2007, Zohar, 1980). While our co-worker's interactions help shape climate and culture through sharing stories and conveying organizational norms, management dictates from the top down what those norms actually are. Although the relationships with our managers may be more distal, management values and attitudes are still conveyed through our supervisors and organizational systems or policies therefore they have a more pervasive influence on our perceptions of workplace climate. As Zohar argues in terms of safety climate, management commitment is a prerequisite of a successful initiative. The best way to demonstrate commitment is to show personal engagement, therefore, the proposed scale intended to include items not only pertaining to management commitment, but management engagement in health behaviours as well.

Lastly, to discuss the structure of the MOHCA scale itself, the workgroup facet has only two items when typically a factor should have three items at least in order to be interpretable and reliable (Hinkin, Tracey & Enz, 1997). It could be argued that this is acceptable provided the items had clear factor loadings and the overall model had good fit, but the root mean square error of approximation is also above .10, and is .15 in a second sample for a confirmatory factor analysis, indicating a poor fit (Hu and Bentler, 1999) and one of the two workgroup items had a factor loading of only .39. Therefore,

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from a theoretical and empirical standpoint, the measurement of health climate as we currently define it could be improved upon.

Taking a primary prevention approach to health climate scale development

Before continuing to the current study, the perspective in which the scale was developed must be explained. When developing the health climate scale, the intent was to express a primary prevention perspective. Primary prevention aims to eliminate or reduce health hazards by increasing one's health resources and is associated with more long term benefits in comparison to a secondary or tertiary perspective (Saleh, Alameddine, Hill, Darney, & Morgan, 2010). An organization's health climate can be influenced by its understanding of what a health initiative would look like (Scott, Mannion, Davies, & Marshall, 2003). Certain organizations engage in health initiatives that generally focus on the reduction of workplace stressors and other associated risk factors. This can be considered a primary prevention where the focus is on stressor reduction as a preventative measure (Cooper & Cartwright, 1997). Furthermore, the preventative perspective aims to increase one's health resources. Secondary and tertiary level interventions focus more so on stress management or employee assistance programs. Previous research indicates that primary prevention is a "front-end" approach that helps to eliminate the stressor itself as opposed to the related outcomes of the stressor (Cooper & Cartwright, 1994). Primary prevention initiatives are associated with more long-term benefits, compared to secondary and tertiary benefits. This is because primary prevention is proactive in approach and seeks to reduce/eliminate stressors, compared to reacting to existing stressors. Long-term benefits resulting from primary prevention initiatives include increased worker

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productivity and decreased health care costs (Saleh, Alameddine, Hill, Darney, & Morgan, 2010). Antonovsky (1996) argues that the reduction model is a “bias of the downstream focus” (p 12). He describes risk reduction as only reacting to a swimmer once they begin to drown, instead of figuring out the cause of the swimmer falling into the water in the first place.

Antonovsky (1996) argues that successful implementation of proactive initiatives would have a major impact on organizations, as it would decrease absenteeism and boost work efficiency. Kelloway and Day (2005) support this notion also by emphasizing the need to take a holistic approach to cultivating a healthy organizational climate. Health promotion initiatives consider well-being as a continuum of health or sickness where one’s health can always be improved upon, whereas the risk reduction perspective is more so a dichotomy of whether one is sick or healthy (Antonovsky, 1996). In other words, instead of looking at the presence or absence of workplace stressors, one could look at the extent to which the organizational culture supports an overall healthy workplace. Although it may seem intuitive that organizations choosing to implement a health initiative would have a culture that supports health, previous research mentioned earlier (e.g., Ketola, Sipila & Mäkelä, 2000; Makrides et al., 2008; Matano et al., 2007) found results indicating this is not necessarily the case. On the surface, it may seem like at a broad level the organization is supportive of the initiative, but employees are only able to see a select portion of the organization, which is typically their daily supervisors or managers. If they perceive their management to be unreceptive to the health changes, they will most likely perceive the organization to be unreceptive as well (Makrides et al., 2008). As past

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literature indicates that well-being goes beyond the reduction of ill health, the proposed research intends to measure the extent to which the overall organizational culture is receptive to engaging in health promoting activities.

Current study

This study is adapting the framework from the Christian et. al (2009) meta-analysis to explore the factors that influence employee engagement in workplace health promotion programs. While more than four factors of safety climate were initially tested by Christian et. al, (2009), only four factors were found to have a moderate relationship with the proximal factor of safety performance. Christian et. al (2009) reported that climate factors related to management perceptions and organizational practices had a significant relationship with safety performance. Management perceptions are commonly measured as dimension of climate (Yule, Flin and Murdy, 2007; Zohar, 1980; Guldenmund, 2007), it is a predictor of safety climate thus will be tested in the context of health climate as well. Organizational practices are also commonly thought to influence workplace climate (Christian et. al, 2009) as those practices help to guide norms and reflect organizational priorities. Therefore, the first two factors operationalize the health climate scale are based on Christian et. al (2009)'s meta-analysis findings and are conceptualized as management values and organizational practices.

The last two factors hypothesized in the current study concern communication about health and employee involvement in health-related decisions. Health systems was thought to be encompassed by organizational practices and as work pressure was only weakly related to safety performance at best, it was not seen as an appropriate variable to

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represent health climate. The health climate scale assesses perceptions of organizational health climate, which is considered to be a situation related antecedent. Organizational health climate was hypothesized to be related to an employee's values in health promotion within the workplace, which in turn influences health behaviours and likelihood of engagement.

Therefore, Hypothesis One is:

H1: Based on Christian and colleague's (2009) findings, there will be four distinct, but related constructs representing the climate. The four factors of management values, communication, organizational practices and employee involvement will be related to one another but also represent distinct factors of workplace health climate. They will also be related to the proximal person-related factor of willingness to participate in health behaviours at work.

Secondly, it is hypothesized that distal-situation and person related factors are significantly related to proximal-person related factors, as tested by Christian and colleagues (2009). Therefore, Hypothesis Two (A) is:

H2(A): Distal-situation related factors of management values, communication, organizational practices and employee involvement and perceived social support (PSS) will be positively related to the proximal-person factor of willingness to participate in workplace health behaviours.

In the meta-analysis, personality characteristics such as conscientiousness and locus of control and job attitudes represented dispositional traits or distal-person related factors. While the meta-analysis chose safety related characteristics, in the present study, health

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values, attitudes and job attitudes to represent dispositional traits. Similar to the meta-analysis, these factors were chosen in a similar fashion to represent relevant traits in relation to behaviour. It is expected that health values, attitudes, past engagement will be significantly related to workplace health behaviours. Therefore, Hypothesis Two (B) is:

H2(B): Distal-person related factors of personal health values, health orientation preferences, past engagement, and health program attitudes will be positively related to the proximal-person factor of workplace health behaviours.

Consistent with the meta-analysis (2009), it is also hypothesized that the proximal-person related factor of workplace health behaviours would be significantly related to health promotion performance (i.e. willingness to engage). Christian et. al (2009) conceptualized proximal, person-related factors as safety knowledge and motivation. Proximal factors are thought to have a larger relationship with performance than distal factors. Willingness to participate in workplace health behaviours is considered to be a proximal, person-related antecedent in the present study. It is anticipated that workplace health behaviours will be indicative of willingness to participate in a health promotion program. Therefore, Hypothesis Three is:

H3: Workplace health behaviours will be significantly and positively related to health promotion performance.

Method

This study encompassed two phases, including scale development of a health climate scale and testing of a theoretical health climate framework. The health climate scale was

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derived with a primary prevention perspective in mind, focusing specifically on the promotion of wellbeing at work.

Scale development

To develop the proposed health climate scale, literature was carefully reviewed beforehand to understand what factors are prevalent within workplace health and climate. This process resulted in four theoretical health climate factors of management values, organizational health practices, employee involvement and communication. The factor of management values is reflective of the leadership element within the safety performance meta-analysis (Christian, et. al, 2009), and as discussed above in relation to Zohar's work, perceptions of management typically account for the largest amount of variance found in climate based on the existing scales. Therefore, the first hypothesized factor is management values. The factor of organizational health practices is also reflective of the safety performance meta-analysis (Christian, et. al, 2009), as human resource practices was found as a significant factor of safety climate. The third factor of employee involvement intends to reflect how involved employees are in developing and setting organizational health policies or practices. While this element is not based on the safety performance meta-analysis, employee involvement has a relationship with engagement, therefore, as health program engagement is the outcome variable of interest, it would be important to understand the current level of employee involvement in the organization as this is a reflection of the health climate. Lastly, communication is not encompassed into the safety meta-analysis, but many other safety climate scales do include a factor relating

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to communication (Cigularov, Chen, & Rosecrance, 2010) and it is seen as relevant in a health context as well.

Once an initial pool was developed consisting of 24 items, items were assessed by a number of individuals outside the field of psychology with little subject matter knowledge of organizational climate in order to test for face validity. Feedback was provided by the individuals on wording and how each item fit into the specified factors. From the categorization of items into their respective hypothesized factors, all 24 items appear to represent what they intend to represent.

Testing health climate framework

The next step was to then test the health climate scale within a sample of the general population. After the process of developing items was completed, the scale was reviewed and refined and the 24 items were added to the rest of the survey for distribution. Along with the proposed climate items, other scales were included: personal health values, perceived social support, attitudes towards health promotion programs, past engagement, and willingness to participate in health behaviours at work. Participants were invited to partake in a Time Two study within a few weeks of the initial survey and asked to repeat the survey from time one.

Participants

After receiving ethics approval from the Saint Mary's Research Ethics Board (REB), a total of 397 responses were collected for Time 1. Responses were from advertising online over Facebook, LinkedIn, Instagram, Twitter and Reddit. Adults over 18 years of age who hold a full time or part time job were eligible to participate. Participants who

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answered “not employed” within the survey were automatically removed from the results, as participants were required to have recent experiences of an organizational health climate. The majority of participants lived in either Nova Scotia, Ontario or Quebec, while others reported being from outside of Canada. All 397 individuals from Time 1 were invited to participate in Time 2 by providing an E-Mail which they could be contacted at. Approximately 150 participants responded to the survey at Time 2. The collection process took a total of two months for both time one and time two surveys. Participants were given 3-4 weeks in between Time 1 and Time 2 responses, therefore the second time point was far enough removed that participants may not remember all of their responses from Time 1.

Before any comparisons were made, the two time point samples were checked for any significant group differences based on reported demographics. Group differences were found for reported size of organization on Organizational Practices ($F(11) = 6.17$, $p < .001$), type of industry reported on Organizational Practices ($F(9) = 2.84$, $p < .01$) and Current Health Receptivity ($F(9) = 2.42$, $p < .05$) and for whether or not there was an OHS committee in the current organization on Organizational Practices ($F(3) = 26.50$, $p < .001$) and Current Health Receptivity ($F(3) = 3.10$, $p < .05$). While group differences were found, it is not feasible to split the samples as the numbers would be too small to reliably test the proposed model. If sample sizes were larger, the group differences between size of organization and industry would be of interest, as there are likely differences stemming from the strength of the health climate, WHP approaches, access to resources, etc. As the size of the organization or specific industry were not variables of interest within the

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exploratory framework, they were not relevant to the model being tested. Future research should be conducted testing the hypothesized framework where organizational size and industry type are considered to be covariates.

Measures

Participants responded to an electronic survey stored on Qualtrics that consisted of the following measures:

Demographics. Participants were asked to respond to a number of demographic questions. Please see below in Table 1 for a list of all the demographic frequencies and means, and Appendix A for all the demographic questions.

Distal situation-related factors

Organizational health climate. Participants were then asked to think of their current workplace and respond to 24 items related to health in the workplace (participants were provided with a broad definition of health in the workplace, see Appendix A for all items). The items were rated on a 7-point, Likert-type scale, ranging from “strongly disagree” (1) to “strongly agree” (7). See Table 8 for all means, standard deviations and alphas.

Perceived social support (PSS). Perceived social support was also considered a distal, situation-related factor therefore it was utilized to assess the factors of organizational, co-worker and leader support (see Appendix A for all items). Barling, MacEwen and Pratt’s Perceived Social Support (PSS) scale was utilized to represent this construct. The subscales of emotional and instrumental were utilized to represent PSS. These scales were chosen as they were thought to be the most relevant to health specific

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PSS. The scale will also be used in order to establish construct validity for the proposed organizational health climate scale. The subscales are 3 and 4 items respectively, and are on a 5-point, Likert-type scale ranging from "never" (1) to "always" (5) (Barling, MacEwen, Pratt, 1988).

Distal person-related factors

Health Values Measurement. Health values will be measured by an abbreviated version of Schwartz's (1992) Values scale, with the 19-item values scale by Brunso, Scholderer and Grunert, (2004). A health values scale was included to understand the influence of individual level values and how this affects one's workplace health related choices (Brunso, Scholderer and Grunert, 2004) (see Appendix A). The perceived importance or value of various health behaviours is frequently left unmeasured (Smith & Wallston, 1992), therefore the addition to the survey provided a unique perspective on the relationship between an employee's personal health values and how this influences engagement levels as well as participation in general. Participants were asked to rate a list of values from -1(opposed to your values) to 7(supremely important to your values) as to whether or not they thought the value was a guiding principle in their life. The items include general life values but also have health values throughout, so participants were not immediately aware of the scale's objectives. The other values that are encompassed within the scale are achievement, benevolence, conformity, universalism and stimulation.

Attitude towards health and wellness programs. Participants were asked to report their attitudes towards health initiative participation and reflect on their attitudes towards various categories of health and wellness (general wellness and financial sponsorship).

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The Attitude Towards Health and Wellness Programs scale utilized was developed by Andrus and Paul (1995) (see Appendix A). The likelihood of employee participation was found to be related to employees seeing the benefits of health programs (Andrus and Paul, 1995). Example items include “wellness programs increase positive attitudes for a healthier lifestyle” and “I would be more likely to work for a company that offered an employee wellness program”. The 24 items are measured on a 7-point, Likert-type scale (1 = strongly disagree, 7 = strongly agree).

Past Engagement. Participants were whether or not they have been involved in workplace health initiatives in the past (see Appendix A). This was rated on a one-item, 3-point, Likert-type scale (1= No, 2 = Not Sure, 3 = Yes).

Health Intervention Preferences. Vignettes were developed to convey different types of work environment with varying health climates (see Appendix A for full vignettes). As discussed earlier, the attraction-selection-attrition model (Schneider, 1987) argues that individuals are differentially attracted to and retained in various work environments based on personal differences. For example, a health oriented individual may be more likely to seek out a workplace environment that is also health oriented. Therefore, having an understanding of individual health orientation preferences in the workplace can provide further insight into health promotion performance. It also provides a less personal or obvious method of assessing individual’s judgements towards the delivery of health promotion within the workplace.

Four hypothetical workplace environment descriptions were developed with varying amounts of health climate factors, two representing a health-promoting climate and two

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with a non-health oriented climate. The different work environments were created based on Neil and Griffin's (2000) paper, where general factors of safety climate from the literature were identified. These factors are quite broad and therefore can be applied to a health climate context to include management values (including concern for employee health and well-being), organizational practices (including adequacy of health education, provision of health resources, quality of health related programs/policies), communication and employee involvement in workplace health and safety (Neil & Griffin, 2000).

Two of the vignettes conveyed a health-oriented climate. The difference between the two health climate was that one was more flexible and employee driven while the other environment conveyed a top-down approach to health practices. The last two vignettes were non-health oriented. One conveyed a disregard for employee health, while the other vignette had no mention of workplace health at all. Participants were asked to rate the different climates on a 5-point, Likert type scale, from "I would really not like working here" (1) to "I would really like working here" (5). The 2 health oriented vignettes and 2 non-health oriented vignettes were summed for a total score on health orientation versus non-health orientation.

Proximal person related factors

Willingness to Participate in Health Behaviours at Work. Workplace health behaviours are actions that are considered to be health related in some way, but not necessarily because of a health promotion program. They were measured by 7 items on a 7-point, Likert-type scale (1=strongly disagree, 7=strongly agree) by Andrus and Paul (1995). Example of items include "I would participate in annual physical exams", "I would

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participate in an aerobics class three times a week” and “I would participate in regular exercise classes that would meet 3 times a week for 45 minutes per session” (Andrus and Paul, 1995).

Outcome of predicted engagement. Finally, participants were asked “if your organization began a health promotion program in the near future, would you engage in it?” This item was ranked on a Likert-type scale, ranging from 1 (would not engage) to 5 (would engage).

Procedure

Once participants were recruited, they accessed the survey by following an anonymous link that lead them to the Qualtrics page where the survey was stored. Participants were assured that responding to the survey was completely voluntary and they could withdraw from the survey at any time before submission.

Results

Missing Data and Assumptions

All analyses were conducted in MPlus Version 7.4 (Muthén & Muthén, 1998-2013), which utilizes robust Maximum Likelihood estimates to handle any data missing completely at random, therefore the models were normally estimated. Testing was conducted to check normality of the data by looking at histograms of all the variables and checking the skewness and kurtosis. All values were close to zero and the data looked normally distributed, therefore the assumption of multivariate normality was satisfied. Multicollinearity was also tested, but no correlations were above .90 for any variables, therefore all variables can be kept in the analysis.

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Demographics

Participants were asked a series of demographic questions specifically related to their occupation before proceeding to the rest of the survey. See the Table 1 below for all demographic frequencies and means.

Table 1. *Demographic Characteristics (N= 397)*

Variable	Category	Frequency	Mean
Age	18-24	117	29.5
	25-35	173	43.6
	36-45	46	11.6
	46-55	40	10.1
	56-65	16	4.0
	65+	5	1.3
Sex/Gender	Male	141	35.5
	Female	254	64.0
	Transgender	1	.3
	Prefer Not to Disclose	1	.3
Ethnicity	Arab	4	1.0
	Asian/Pacific Islander	30	7.6
	Black	8	2.0
	Caucasian/White	321	80.9
	Hispanic	4	1.0
	Indigenous/Aboriginal	9	2.3
	Latino	1	.3
	Multi-racial	11	2.8
Prefer not to disclose	8	2.0	
Location	Alberta	13	3.3
	British Columbia	8	2.0
	Ontario	140	35.3
	Quebec	21	5.3
	Manitoba	0	0
	New Brunswick	1	.3
	Newfoundland & Labrador	1	.3
	North West Territories	0	0
	Nova Scotia	117	29.5
	Nunavut	0	0
	Prince Edward Island	14	3.5
	Saskatchewan	1	.3
	Yukon	0	0
	United States	32	8.1
Other	41	10.3	

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Variable	Category	Frequency	Mean
Level of Education	No formal schooling	0	0
	Less than High School	5	1.3
	High School or GED	53	13.4
	College	76	19.1
	Bachelors Degree	169	42.6
	Masters Degree	51	12.8
	Professional School Degree	29	7.3
	Doctoral Degree	7	1.8
Employment Status	Other	7	1.8
	Not employed	0	0
	Employed full-time	300	75.6
Organization Size	Employed part-time	97	24.4
	Small (<100 employees)	162	40.8
	Medium (100 – 500)	73	18.4
Type of Industry	Large (>500)	161	40.6
	Administration	21	5.3
	Construction/Trade	15	3.8
	Education	77	19.4
	Finance/Insurance	18	4.5
	Government	21	5.3
	Healthcare	59	14.9
	Service/Hospitality	53	13.4
	Retail	30	7.6
Other	103	25.9	
Length of Employment	Less than 3 months	50	12.6
	4-8 months	28	7.1
	9-12 months	36	9.1
	1-2 years	71	17.9
	Over 2 years	210	52.9
Average Hours Worked	0-5 hours	13	3.3
	6-10 hours	18	4.5
	11-19 hours	33	8.3
	20-29 hours	29	7.3
	30-39 hours	117	29.5
	40+ hours	187	47.1
OHS Committee	Yes	231	58.2
	No	89	22.4
	I don't know	76	19.1

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Exploratory Factor Analysis (EFA)

The preliminary 24 health climate items were analysed in MPlus Version 7.4 (Muthén & Muthén, 1998-2013). Initially, an EFA was conducted to assess the underlying factor structure and refine the item pool. In order to determine the most appropriate model for health climate, a one, two, three, four and five factor structure model was estimated. Maximum Likelihood (ML) was used to extract the factors with an oblique, geomin rotation. An oblique rotation was selected, as theoretically the health climate factors should be correlated. The next step was to investigate the best factorial solution. Four factors had Eigenvalues over 1, suggesting that there are four meaningful factors, as hypothesized. The fit indices of the one, two, three, four and five factor models are presented in Table 2. These are the fit indices of the models before any modifications to the data occurred.

Table 2. *Global Fit Indices for 1-4 Factor Models*

<i>Model</i>	χ^2	<i>df</i>	<i>CFI</i>	<i>RMSEA</i>	<i>SRMR</i>
1 Factor	2072.57***	72	.73	.14	.08
2 Factor	1307.31***	95	.84	.11	.06
3 Factor	844.53***	117	.91	.09	.04
4 Factor	591.35***	138	.94	.07	.03
5 Factor	463.83***	158	.956	.067	.023

Note: *p < .05, **p < .01, ***p < .001.

As shown in Table 2, the hypothesized four factor oblique model appears to have the best fit based on the fit indices and its underlying theoretical model. The four factor model had the highest comparative fit index (CFI) of .94, indicating an adequate model fit

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(Hu and Bentler, 1999; Vandenberg and Lance, 2000). The root mean square error of approximation (RMSEA) and standardized root mean-square residual (SRMR) are both under .08 in the four factor model, therefore indicating reasonable model fit (Hu and Bentler, 1999).

After determining the four factor model as the best fit, the scale items were then assessed. In order to be retained, items had to have a factor loading of .4 or higher (Kim & Mueller, 1978) and could not cross load onto multiple factors. For each item that did not meet the criteria, it was removed and a subsequent EFA was conducted. This process was repeated several times until all items met the retention criteria, it is summarized in Table 4 below. The excluded items are listed in Table 3. Items from Organizational Practices included “My organization allows employees to engage in health behaviours during the workday” as it cross loaded onto Organizational Practices as well as Communication. Items removed from Communication include “I feel comfortable communicating health concerns to my manager”, “I wouldn’t want to talk to my manager about my health” and “I can talk to my manager about accommodating my health needs”. The entire factor of Employee Involvement was removed, as none of the items loaded over .6, and most loaded under .50. A new factor was developed, based on the items that loaded together, titled Current Health Receptivity. Therefore, as hypothesized (see Hypothesis 1) four factors of health climate were related to one another but also represented distinct factors of workplace health climate. See below for the final items and corresponding factor loadings.

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Table 3. Items excluded based on EFA results.

<i>Original Factor</i>	<i>Item</i>
<i>Organizational Practices</i>	My organization allows employees to engage in health behaviours during the workday
<i>Communication</i>	I feel comfortable communicating health concerns to my manager I wouldn't want to talk to my manager about my health. I can talk to my manager about accommodating my health needs
<i>Employee Involvement</i>	Employees are encouraged to give input on the development of health policies. My organization wants me to be involved in health programs. Employees can participate on an occupational health committee. Employees have "voice" when it comes to health related issues. Employees have control over their own health behaviours.

Table 4. Goodness of fit statistics for health climate

<i>Model</i>	χ^2	<i>Df</i>	<i>CFI</i>	<i>RMSEA</i>	<i>SRMR</i>
<i>Hypothesized 4 Factor Model</i>	591.35**	138	.944	.081	.027
<i>Removal of ' I wouldn't want to talk to my manager about my health '</i>	532.10**	132	.944	.079	.027

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<i>Removal of 'My organization allows employees to engage in health behaviours'</i>	496.28**	126	.945	.079	.027
<i>Removal of 'I feel comfortable communicating health concerns to my manager'</i>	411.32**	120	.952	.078	.026
<i>Removal of 'I can talk to my manager about accommodating my health needs'</i>	383.00**	114	.953	.077	.026
<i>Removal of 'Employees are encouraged to give input on the development of health'</i>	305.93**	108	.961	.076	.024
<i>Removal of 'My organization wants me to be involved in health programs'</i>	271.77**	102	.962	.076	.023
<i>Removal of 'Employees can participate on an occupational health committee'</i>	199.51**	96	.972	.076	.018
<i>Removal of 'Employees have "voice" when it comes to health related issues'</i>	185.80**	90	.973	.075	.018
<i>Removal of 'Employees have control over their own health behaviours.'</i>	164.59**	84	.973	.075	.017

Table 5. Global Fit Indices for Finalized 4 Factor Model

<i>Model</i>	χ^2	<i>df</i>	<i>CFI</i>	<i>RMSEA</i>	<i>SRMR</i>
4 Factor	164.59***	84	.973	.075	.017

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Table 6. Factor loadings based on a common factor analysis with oblique rotation for 15 items from the Health Climate scale (N= 397)

<i>Item</i>	Management Values	Organizational Practices	Current Receptivity	Communication
My manager is concerned with my health and wellbeing.	.95			
My manager actively takes an interest in my health and wellbeing.	.91			
My manager values my health	.83			
My manager engages in health behaviours at work.	.72			
My manager provides me with opportunities to be healthy.	.64			
My manager is interested in leading an active lifestyle.	.42			
My organization provides me with education related to organizational health topics.		.96		
My organization provides health related resources.		.69		
Employee health and wellbeing are emphasized through organizational practices.		.56		
My organization would be receptive to a health change.			.69	
I have access to healthy dieting options in my organization.			.69	
If I wanted to go to the gym during my lunch break, I could.			.63	
My coworkers talk about their health concerns or activities.				.84
We openly talk about our general health in the workplace				.73

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<i>Item</i>	Management Values	Organizational Practices	Current Receptivity	Communication
I can talk to my coworkers about my interest in health activities.				.68

Note. Factor loadings <.2 are suppressed

Confirmatory Factor Analysis

The purpose of data collection at Time 2 was to retest the factor structure of the health climate scale developed from Time 1 data. Fit indices for all the initial models tested are listed above in Table 2. The 4 Factor model provided the best fit to the data in Time 1, than did a 1, 2 or 3 Factor model.

The scale was not modified in any way between Times 1 and 2, however through the EFA described above, the scale was subsequently reduced from 24 to 15 items. A confirmatory factor analysis (CFA) was conducted on a sample of participants from Time Two in MPlus Version 7.4 (Muthén & Muthén, 1998-2013). As shown in Table 6 above, the subscale of Management Values comprises six items, Organizational Practices has three items, Current Health Receptivity has three items and lastly, Communication is three items as well. 153 participants responded to the time two climate items, none had missing data points therefore a Little's MCAR test was not performed before conducting a CFA. The 4 Factor model was tested with Maximum Likelihood (ML) estimation and was based on the covariance matrix. Table 7 below summarizes the fit indices of the confirmatory factor analysis for the Four Factor health climate scale. Figure 3 on the next page highlights the standardized loadings of the final 4 Factor model from the CFA.

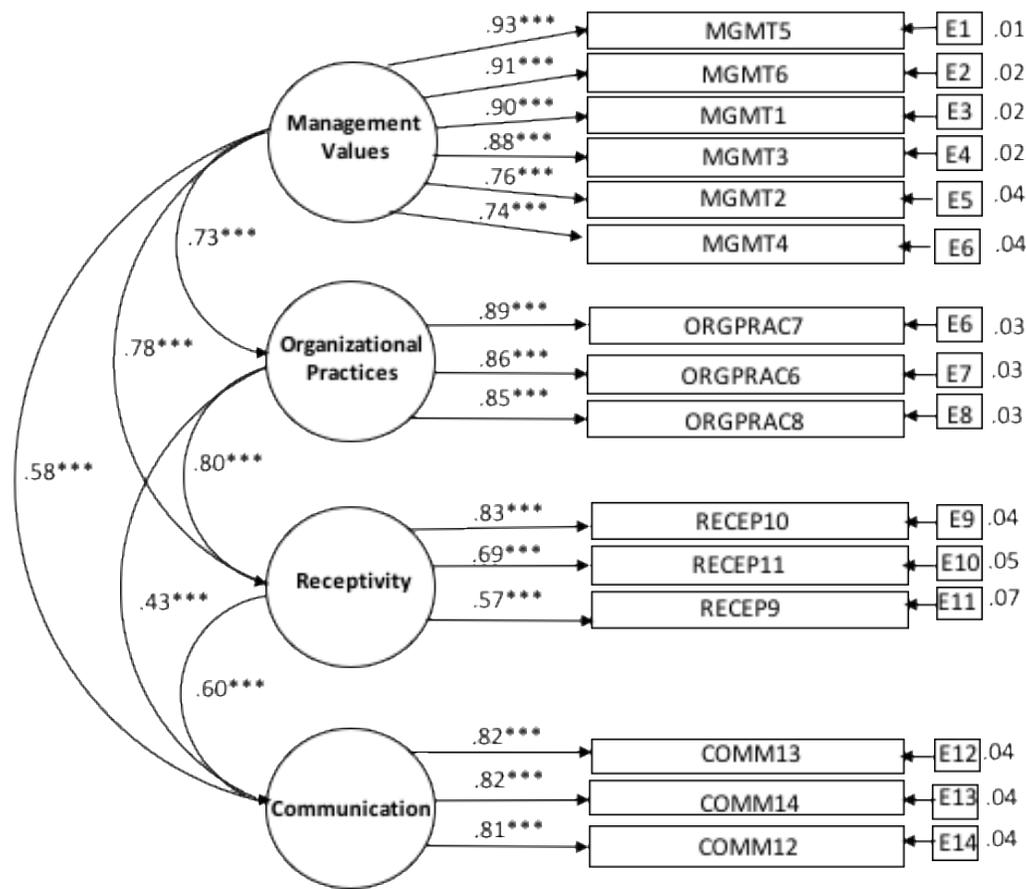
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Table 7. Global Fit Indices of Final 4 Factor Model

Model	χ^2	df	CFI	RMSEA	SRMR
4 Factor	189.27***	51	.941	.091	.051

Note: *p < .05, **p < .01, ***p < .001.

Figure 3. Standardized Loadings and Covariances for Final 4 Factor CFA Model



Note: *p < .05, **p < .01, ***p < .001.

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Table 8. Means, SDs & Cronbach's *a* (N= 397)

		<i>M</i>	<i>SD</i>	<i>a</i>
Health Climate	<i>Management Values</i>	5.06	1.79	.94
(1 = positive climate, 7 = negative climate)	<i>Organizational Practices</i>	4.90	1.51	.88
	<i>Receptivity</i>	4.52	2.33	.70
	<i>Communication</i>	5.56	1.10	.83
Health Attitudes	<i>General Wellness</i>	5.33	.98	.93
(1= strongly disagree, 7= strongly agree)	<i>Financial Sponsorship</i>	4.93	1.48	.78
Perceived Social Support	<i>Informational Support</i>	3.43	1.09	.82
(1 = never, 5 = always)	<i>Emotional Support</i>	2.47	.65	.68
Health Values	<i>3 items (Physical & Personal Health, Healthy Lifestyle)</i>	7.17	1.54	.97
(1=Opposed to my values, 9 = Strongly aligned with my values)				
Health Orientation	<i>Health Orientation</i>	8.07	1.47	
Preferences	<i>Non-Health Orientation</i>	6.16	1.87	
(1 = I wouldn't like working there, 10 = I would like working there)				
Predicted Workplace Engagement	<i>1-item</i>	4.10	.93	
(1 = I would not engage, 5 = I would engage)				
Past Engagement	<i>1-item</i>	1.81	.91	
(1 = No , 2= Not sure, 3 =Yes)				
Willingness to Participate in Health Behaviours in the Workplace	<i>Early Detection</i>	5.91	1.13	.92
(1= strongly disagree, 7= strongly agree)	<i>Aerobic Exercise</i>	5.06	1.19	.87

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Table 9. Correlations Between All Variables

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1) Predicted Engagement	1												
(2) Health Preference	.17**	1											
(3) Non-Health Preference	-.30**	.17**	1										
(4) Management Values	.15**	-.03	-.16**	1									
(5) Organizational Practices	.05	-.04	-.18**	.62**	1								
(6) Current Health Receptivity	.08	-.01	-.13**	.41**	.42**	1							
(7) Communication	.10	.06	-.09	.43**	.37**	.27**	1						
(8) Attitude	.37**	.13*	-.18**	-.04	.01	-.01	.04	1					
(9) Ave. Time Exercising	.12*	.03	-.05	-.05	-.05	-.06	.01	.18**	1				
(10) Past Engagement	.20**	.13*	-.20**	.25**	.33**	.20**	.20**	.13*	.03	1			
(11) Health Values	.29**	.16**	-.20**	.12*	.06	.06	.14**	.28**	.24**	.14**	1		
(12) Health Behaviours at Work	.41**	.22**	-.14**	.03	-.02	.08	.11*	.60**	.08	.13*	.29**	1	
(13) Perceived Social Support	.15*	-.07	-.16**	.41**	.52**	.35**	.50**	.14**	.01	.30*	.11*	.20*	1

Note: p <.05*, <.01**, <.001

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Assessing Workplace Health Promotion Performance Framework

Table 9 above displays the Pearson correlations for all variables that were tested in the model. As a first step, correlations between all variables were examined and these are presented in the table above. Although it was hypothesized that the distal factor of health climate would be related to the proximal factor of willingness to participate in health behaviours, only one of the four health climate factors were positively correlated with health behaviours (Communication ($r = .11, p < .05$)). Also, only Management Values was found to be related to predicted program engagement ($r = .15, p < .01$). While the distal factor of climate is not related to the proximal and performance factors of interest as hypothesized (see Hypothesis 2A), the facet of Communication still has a positive relationship with willingness to participate in health behaviours at work, and Management Values with predicted program engagement, therefore, they were investigated further. As hypothesized (also Hypothesis 2A) the distal factor of perceptions of social support was significantly related to the proximal-person related factor of willingness to participate in health behaviours at work and also with predicted program engagement.

As shown in the correlation table above, the distal person-related factors of health versus non-health climate orientation and health attitudes were found to be significantly related to participation in health behaviours at work and also predicted program engagement, as hypothesized (see Hypothesis 2B). Lastly, as hypothesized (see Hypothesis 3) The proximal factor of willingness to participate in health behaviours at work was found to be significantly related the workplace health promotion performance outcome of predicted engagement ($r = .41, p < .01$).

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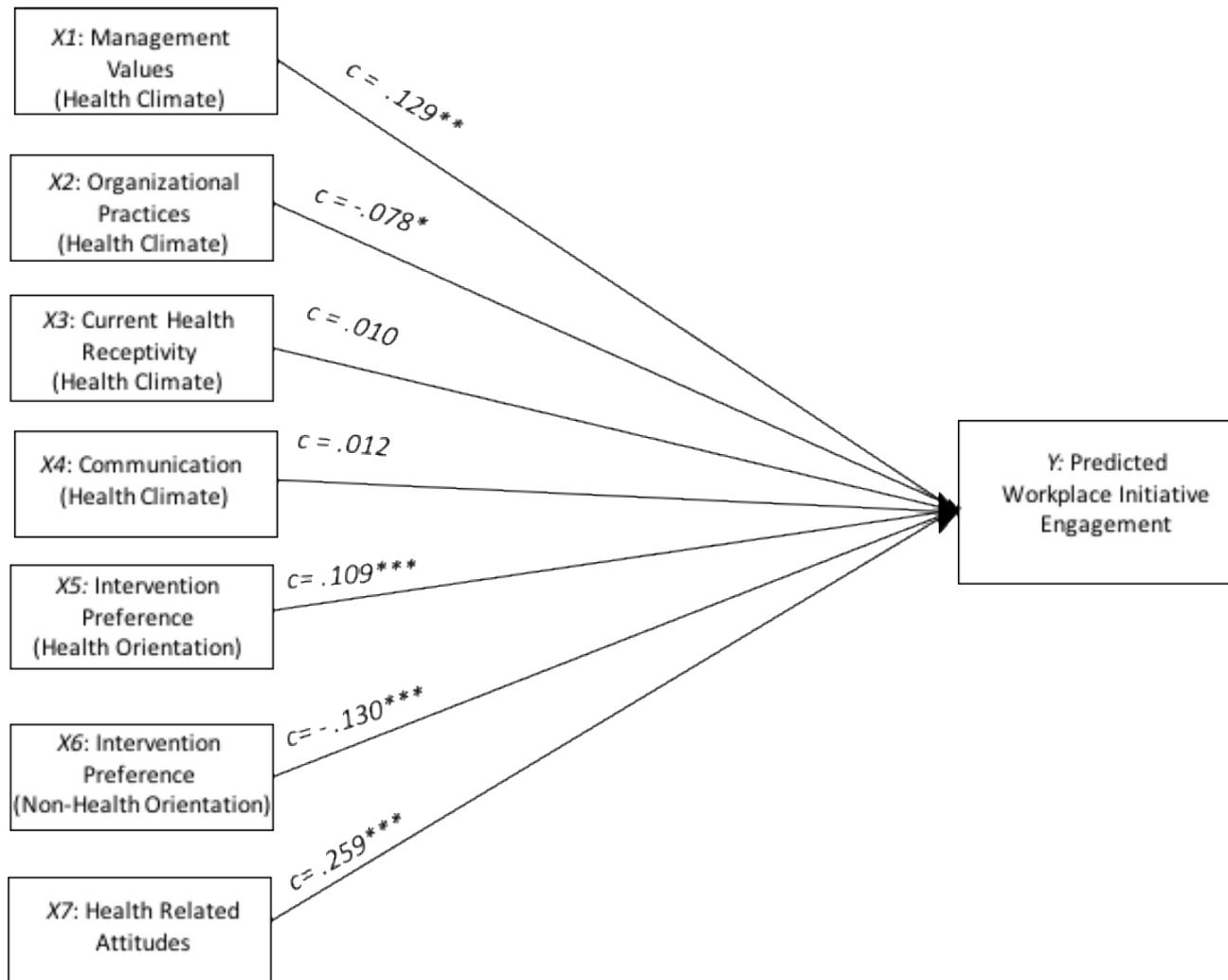


Figure 4. (A) Summary of Direct Effects on Y. Note: $p < .05^*$, $< .01^{**}$, $< .001^{***}$

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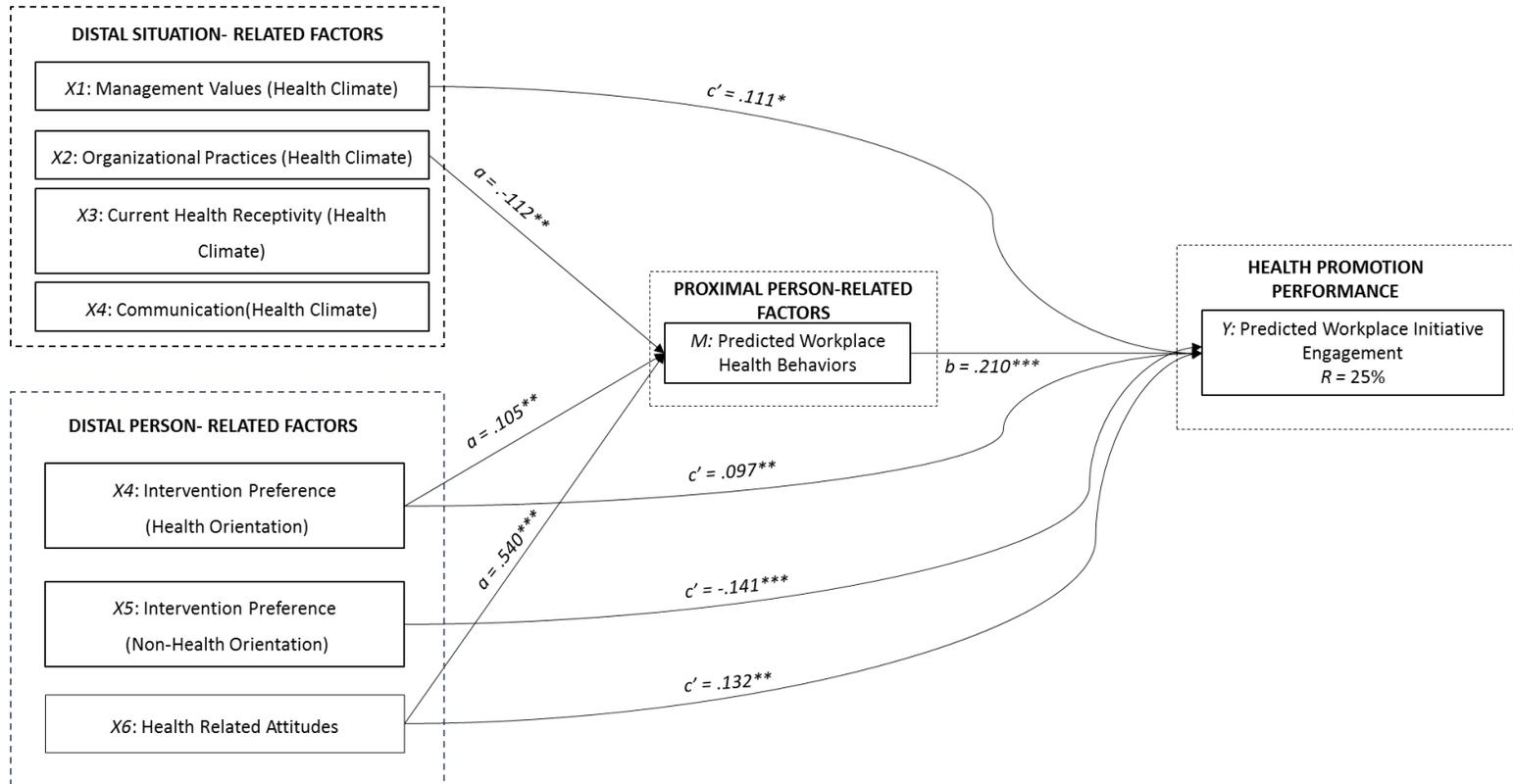


Figure 4. (B) Summary of Indirect and Direct Effects of Health Promotion Performance Model. Note: $p < .05^*$, $< .01^{**}$, $< .001^{***}$

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Mediation Model

To investigate whether willingness to participate in health behaviours at work mediates the relationship between distal factors and health promotion performance, a bootstrapped regression analysis was conducted using MPlus Version 7.4 (Muthén & Muthén, 1998-2013). The bootstrapping procedure ran 5000 sample iterations and found significant mediation for three of the distal factors and workplace health behaviours on predicted engagement (see Figure 4B above). Results indicated that Management Values ($b = .11$, $p < .05$, $CI_{95} = .00, .02$) positively predict health program engagement, yet Management Values was found to have no relationship with willingness to participate in health behaviours at work ($b = .06$, $p > .05$, $CI_{95} = -.07, -.04$). Therefore, while Management Values has a relationship with workplace health performance in terms of health promotion programs, findings suggest this factor of the health climate does not play a role in an employee's general willingness to participate in health behaviours at the workplace.

The health climate facet of Organizational Practices did have a significant but small negative relationship with predicted engagement ($b = -.07$, $p < .05$) (see Figure 4A) and was also found to be significantly, negatively related to the mediator of willingness to participate in health behaviours at work ($b = -.11$, $p < .01$, $CI_{95} = -.21, -.19$). When the mediator was included in the model, the direct effect of the Organizational Practices on predicted engagement becomes nonsignificant ($b = -.05$, $p > .05$, $CI_{95} = -.15, -.12$) but a significant indirect effect of Organizational Practices ($b = -.02$, $p < .05$, $CI_{95} = -.06, -.09$) on predicted engagement was found. Therefore, findings suggest that Organizational

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Practices on predicted workplace engagement is being completely mediated by willingness to participate in health behaviours at work (see Figure 4B on page above). As indicated in the correlation table above, Organizational Practices was not found to be correlated with either the outcome or the mediator, therefore this finding is likely a suppressor effect (Smith, Ager, & Williams, 1992).

The health climate facets of current health receptivity and communication were not significantly related to either the outcome of workplace promotion performance ($b = -.00$, $p > .05$, $CI_{95} = -.12, -.09$, $b = -.03$; $p > .05$, $CI_{95} = -.17, -.14$) or the mediator of willingness to participate in health behaviours at work ($b = .05$, $p > .05$, $CI_{95} = -.06, -.03$; $b = .07$, $p > .05$, $CI_{95} = -.04, -.01$).

Preference for a health oriented intervention ($b = .10$, $p < .01$, $CI_{95} = .01, .03$) positively predicted health program engagement and was significantly related to the mediator of willingness to participate in health behaviours at work ($b = .11$, $p < .01$, $CI_{95} = .02, .04$).

When the mediator of willingness to participate in health behaviours is included, the relationship between preference for a health oriented intervention and health program engagement is reduced, but not completely nullified. Therefore, the relationship between having a health-oriented preference in workplace interventions on predicted workplace health promotion engagement is partially mediated by willingness to participate in health behaviours at work.

Non-health intervention preferences were found to significantly, negatively predict ($b = -.14$, $p < .001$, $CI_{95} = -.22, -.20$) health program engagement, but it is not related to willingness to participate in health behaviours at work ($b = -.03$, $p > .05$, $CI_{95} = -.11, -.09$).

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Therefore, there is no mediation to account for between non-health intervention preferences and willingness to participate in health behaviours on predicted engagement.

Lastly, health program attitudes were found to positively predict health program engagement ($b = .13$, $p < .01$, $CI_{95} = -.15, -.12$), and was significantly related to the mediator of willingness to participate in health behaviours at work. ($b = .54$, $p < .001$, $CI_{95} = .40, .44$). When the mediator is included in the regression, the relationship between health program attitudes and predicted health program engagement is significantly reduced. As the predictor is not completely nullified, this indicates a partial mediation effect.

Discussion

The purpose of the current research was to develop a scale that represented the concept of organizational health climate and also test it within a workplace health promotion performance framework. A four factor scale was developed and tested through an exploratory factor analysis. The results demonstrate that the four factor model of health climate is supported within a sample of North American participants at two different time points. The four factors were labeled as: Management Health Values, Organizational Practices, Current Organizational Health Receptivity and Communication.

The choice of the four factor model was not completely clear-cut, as the literature demonstrates that there is a multitude of person and situation factors that could play into organizational climate (Christian et. al, 2009). The relationship between health and the workplace is not as well-defined in comparison to safety and the workplace, and this is reflected in many health scales. While the topic of safety in the workplace is

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commonplace, the topic of health is not, as it isn't immediately related to organizational outcomes. There is also still stigma attached to health related topics therefore, employees do not feel as comfortable discussing their health concerns. This is an important perspective to consider, specifically for those at a management level. As found within the current results, Management Values about health are perceived by employees and it does affect predicted program engagement. Therefore, managers have a unique platform that can be utilized to reduce this stigma by being transparent and open about personal health values.

Particularly within this research, the factor of Management Values was well defined and clear from the beginning, but the other factors of Organizational Practices, Current Health Receptivity and Communication were more ambiguous in terms of having a lot of concrete research to distinguish them as factors. There is also a lot of overlap between the factors, as perceptions of management values would influence perceptions of organizational practices. Organizational practices begin at a management level; therefore, they should be related. Current receptivity in the health climate and communication also would be heavily influenced by management values.

Results from the mediation model indicate that although the four factors of health climate are related, they do represent distinct factors because they all have different effects on the outcome of workplace health promotion engagement and the mediator of workplace health behaviours. While Management Values predicts health promotion performance and Organizational Practices predicts willingness to participate workplace health behaviours, Current Health Receptivity and Communication do not have any

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relationship with predicted initiative engagement. The idea that climate may not matter as much for behaviours that are seen as compulsory or mandatory is discussed within the meta-analysis (Christian et al., 2009) and is relevant here as well. Although the outcome of engagement is not conveyed as a mandatory activity on the questionnaire utilized in the current study, the outcome is posed as an offer of involvement or participation in a potential future program in the workplace. If an organization is putting the effort in of developing and implementing a new health initiative and asked to participate, employees could feel obligated to say they would engage. In comparison, the mediator of willingness to participate in health behaviours encompasses any type of pre-existing or new health activities, not exclusive to behaviours elicited from a top-down health initiative. The perception of compulsory or voluntary participation may attribute to the differing relationships found between the health climate factors, health behaviours and predicted program engagement.

Organizational Practices was found to negatively predict one's willingness to participate in health behaviours at work. This is an unexpected finding, as logically it would seem that as an organization's health practices increased, so would employee's willingness to participate in health behaviours at work. Organizational Practices and predicted workplace program engagement were found to be significantly mediated by willingness to participate in health behaviours at work. These findings are interesting, as Organizational Practices is not significantly correlated with willingness to participate in health behaviours. Therefore, the mediation is likely due to a suppressor effect. Further

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research will have to be done in order to understand the factor of Organizational Practices, as well as Current Health Receptivity and Communication.

Health climate does seem to differ from a facet like safety in terms of how influential personal factors are. As we see in safety research, our attitudes feed into our knowledge and behaviours (Christian et al., 2009), but these safety behaviours can be influenced by the climate or overarching safety culture. Based on findings from the current study, the personal factor of attitudes played a larger role than climate in predicting both willingness to participate in general health behaviours at work but as well as workplace program engagement. Only Management Values predicted the outcome of program engagement, and directly so, indicating this facet of climate is not mediated by our general intent to participate in health behaviours at work.

In addition to testing a new scale for measuring health climate, a framework from safety climate research was implemented to examine the relationship between individual and organizational factors on predicted engagement. This research was also an effort to address limitations within the workplace health promotion literature by placing more of an emphasis on understanding factors that influence the intervention process.

After testing and confirming the factor structure of the health climate scale, it was utilized as a construct within the workplace health engagement model. Findings from the current model builds upon previous research indicating that both person and situation factors are important in relation to workplace safety performance (Christian et. al., 2009). In this case, findings demonstrated that person and situation factors are also important in relation to workplace health performance. Consistent with the guiding safety climate

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framework (Christian et. al., 2009), proximally related factors like willingness to participate in health behaviours at work were more closely related to the outcome of engagement than the distally related variables.

The findings from the current study support the framework tested in the safety climate framework (Christian et. al., 2009), but in a novel, health climate context. Findings from the meta-analysis were limited, therefore the distal antecedent paths were only estimated (Christian et. al., 2009). Contributing to previous findings, the current study demonstrates significance within the paths between distal and proximal factors. While Christian and colleagues predicted that distal person and situation related variables would have an indirect effect on performance through the proximal factors (Christian et. al., 2009). Some of the distal variables tested in the current study do indirectly effect the outcome of predicted engagement, not all do. The factor of Organizational Practices and attitudes towards health programs were found to have an indirect effect on predicted program engagement. Management Values is positively related to program engagement, and as mentioned earlier accounted for majority of the variance in engagement, aside from attitudes. This is because managers have a great influence on employee behaviour (Makrides et al., 2008). If management is perceived to be unreceptive to the health changes, they will most likely perceive the organization to be unreceptive as well (Makrides et al., 2008).

Having a preference for a health oriented initiative and predicted program engagement was significantly mediated by willingness to participate in health behaviours at work. This finding suggests that we can encourage employees to engage health

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programs by actively encouraging participation in general health behaviours around the workplace, as this can positively influence their future engagement levels. It is interesting to note that while having a preference for a non-health orientation was negatively and directly related to predicted engagement, it had no significant relationship with willingness to participate in general health behaviours at work. While there is no relationship to general health behaviours at work, this finding demonstrates that as one's preference for a non-health orientation goes down, predicted program engagement can significantly increase, therefore organizations can work to increase positive attitudes about health oriented initiatives. More research must be conducted to understand what types of behaviours and practices would help employees to see the benefit of a health program.

In practice, attitudes towards health programs can be influenced and this in turn encourages general health behaviours at work, but also potential engagement in any future health promotion initiatives. Health is a particularly relevant topic in organizations throughout Canada, as almost a quarter of the workforce is of age 55 or over (Statistics Canada, 2011). The aging working population underscores the importance of monitoring and maintaining wellbeing of employees as they become older. The influence of situational variables on health behaviours and predicted health promotion engagement supports the argument that the workplace is an important setting where it is possible to have an impact on individual health. Understanding the employee's person-related factors like their health related attitudes can be helpful when developing a health initiative, but organization-related factors like climate should be taken into consideration. From the

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current study, findings indicate that climate plays a role in workplace preferences and potential engagement.

Limitations & Future Research

Multiple limitations should be considered while interpreting the results. The first limitation concern is the generalizability of the data. The sample was a small convenience sample that most likely is not representative of the general population. Further research with a larger and broader population should be conducted. Another limitation is the need for a longer time gap between Time 1 and Time 2 to simply reduce memory recall of the survey questions. There had been approximately two weeks between Time 1 and Time 2, therefore it may be possible that participants answered the survey in a similar manner because the previous time point had been fresh in their mind. Ideally there also would have been another time point where data was collected.

A third limitation is the use of a one-item scale for several variables, in particular the outcome of predicted engagement. Because of this, there was not much variance to account for in the outcome variable therefore it is difficult to elaborate on certain findings. In relation to the engagement outcome, there was no access to true behavioural engagement scores. Christian et. al (2009) did utilize objective behavioural measures such as incident and injury rates, whereas this study relied on predicted engagement scores. While participants may have responded in one way, this does not necessarily translate to their actions if a health initiative had truly arisen as an opportunity at the workplace.

A fourth limitation is the use of the attitudinal scale representing attitudes around health programs in the workplace by Andrus and Paul (1995). Arguably, not all of the

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items represent attitudes and some incorporate motives for participating (e.g. reduced health costs). Many items only focus on one portion of an attitude (affective, behavioral or cognitive), therefore they are not an all-encompassing reflection of an attitude. This scale selected it was very specific to workplace health promotion programs, which was the outcome of the current study therefore the items relating to attitudes were seen as relevant items to utilize in order to further understand employee opinion.

When researching the concept of health climate in the future, the 4-factor scale proposed within this research could be tested on an organization-specific population. The scale and framework could be implemented into a workplace initiative project in order to understand if predicted engagement is a reflection of actual behavioural engagement. Utilizing the scale on a single organization or department where there is more consistent pattern of climate may be useful in further understanding what elements contribute to the health climate.

From the scale development, it is evident that Management Values is the most proximal factor to engagement in terms of climate. Management Values is invariant across Time 1 and Time 2 data collection. To be further tested, the scale should be applied in an organization-specific context where there is one climate. The measurement of the three other factors could be improved and need to be further grounded in theory. Other factors could also be considered outside of the framework utilized within this study. There are other variables that are significant in the development of climate, but overshadowed by management related perceptions, particularly in the use of self-report scales. While the management may have the strongest influence over employee

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perceptions, it does not account for all of the variance found within climate and therefore, other ways of testing climate should be considered. Other individual and organizational variables should be taken into account as there could be alternative models that may better explain the relationship between health engagement in the workplace, climate and individual preferences. This research area of workplace health promotion performance is beneficial to explore further for potential managerial training in terms of increasing awareness and sharing knowledge about what contributes to employee health at an organizational level. As was found within the results, Management Values are directly related to predicted program engagement, therefore it would be imperative for management level employees to learn more about the performance model.

At an organizational level, future research could look at differences between senior management and other management influence on organizational climate. While employees could be dealing with a daily operational manager, they would not see senior managers as often, yet research indicates that they still have an impact on climate (Zweber, Henning & Magley, 2015). Therefore, further research could utilize the health climate scale by tailoring Management Value items to reflect perceptions of both operational and senior management levels. At a governmental level, health promotion activities may require regulatory enforcement in the future, therefore understanding what individual and organizational level variables influence health promotion outcomes could be important for regulation purposes. More research must be conducted on these variables.

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Conclusion

Although numerous organizations today have health promotion initiatives in place, not all programs are necessarily developed with individual needs or organizational health climate in mind. It is imperative to account for various individual and organizational factors that may influence the delivery, uptake and long-term success of a health promotion program before implementing anything. This research utilized Christian et. al.'s (2009) safety climate framework in a novel context by applying it to a workplace health model. As organizational variables were a part of the framework, a scale measuring health climate was developed and piloted.

The results of the study demonstrate the potential utility of the health climate scale in combination with the workplace health engagement framework. Support was found for a 4 factor health climate scale and had a direct relationship to predicted initiative engagement. Attitudes, personal climate preferences and average time spent working out were also found to be directly related to predicted engagement. Further testing and evaluation is needed in different population samples before the framework can be practically utilized in a workplace setting.

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WORKPLACE HEALTH ENGAGEMENT

Appendix A.

Time 1 Survey Items.

Demographics

Age:

Sex:

Gender:

Where do you live?

What is your highest level of education completed?

What is your employment status?

What size organization do you work for?

What type of industry do you work in?

What is your occupation?

How long have you been employed at your current place of work?

On average, how many hours do you work per week?

Does your company have a Health and Safety Committee?

Vignettes: Read the following organizational scenarios and pick your ideal

workplace.

- 1. (Employee Driven Health - Orientation)** Your workplace is a medium sized organization with several different locations across the nation. You have your own office and get along well with your co-workers. You have a good working relationship with your manager, and you feel as though your health and wellbeing is a priority. There is always training going on that employees can voluntarily partake in related to health topics. Your organization makes it a priority to provide its employees with multiple health related resources. Employees have the ability to be involved with developing the health policies in place and can sit on the occupational health committee. The organization is very open and transparent

WORKPLACE HEALTH ENGAGEMENT

about it's health related goals. There is flexibility in the work schedule so that you can have a work-life balance and fit in time for physical activity. The managers also participate in many of the health related events such as walking challenges, lunch time potlucks and using the on-site gym facility. There is a reward system in place for those who participate in the health programs put on. You receive a good pay, and are interested in the work so you plan to spend many years working here.

2. **(Top-Down Health Orientation)** Your workplace is a large organization located close to home. There are branches of the organization spread out across multiple continents. You receive a good pay, and are interested in the work so you plan to spend many years working here. You have an open concept office but also work from home two days a week. Your workplace used to have pop and candy machines but recently those have been removed and replaced with health food vending machines. Your organization does what it can to control employee health habits to make them healthier. Sometimes you eat in the on-site cafeteria that only offers healthy food alternatives. Your workplace has health policies in place that were created by it's leaders. Employees aren't required to partake in the development of workplace policies and it is not discussed as to why certain health policies are in place. There are mandatory health training sessions employees go to every month and requires annual check up. While you see your coworkers participate in health activities, you rarely see managers actively involved or engaging in conversations with employees about health in the workplace.
3. **(Non- Health Orientation)** Your workplace is part of a large chain of organizations with locations spread out all over the country. You have your own office and spend a lot of time in it, which is very large and has a lot of natural light. There is no on-site cafeteria or lunch room so you eat lunch in your office unless you are working from home. You are expected to work many hours because of your position and find time on your own to exercise. It is known amongst employees that you shouldn't leave work at lunch or come in late because of a health related priority like going to the gym. You never engage in health related conversations with your co-workers or managers, there are other more important priorities. There are some health policies in place required by legislation but aside from that you are unsure of other health supports available in your office. You receive a good pay, and are interested in the work so you plan to spend many years working here.
4. **(Neutral Orientation)** Your workplace is a large organization located close to home. There is only one location but the entire organization is spread out across a city block. You have your own office and work some days from home. You receive a good pay, and are interested in the work so you plan to spend many years working here. You have a working relationship with all your colleagues in the department as you work on projects together. You have several managers and don't see them very often as they work on a different floor. While you don't

WORKPLACE HEALTH ENGAGEMENT

interact with them all the time, you do see them occasionally in the halls or in the lunch room.

Original Health Climate Items

Management Values

1. My manager actively takes an interest in my health and wellbeing.
2. My manager engages in health behaviours at work.
3. My manager provides me with opportunities to be healthy.
4. My manager is interested in leading an active lifestyle.
5. My manager is concerned with my health and wellbeing.
6. My manager values my health.

Organizational Practices

1. My organization provides health related resources.
2. My organization provides me with education related to organizational health topics.
3. Employee health and wellbeing are emphasized through organizational practices.
4. My organization allows employees to engage in health behaviours during the workday.
5. If I wanted to go to the gym during my lunch break, I could.
6. My organization would be receptive to a health change.
7. I have access to healthy dieting options in my organization.

Communication

1. I can talk to my coworkers about my interest in health activities.
2. I feel comfortable communicating health concerns to my manager.
3. My coworkers talk about their health concerns or activities.
4. We openly talk about our general health in the workplace.
5. I wouldn't want to talk to my manager about my health.
6. I can talk to my manager about accommodating my health needs.

Employee involvement in workplace health

1. Employees are encouraged to give input on the development of health policies.
2. My organization wants me to be involved in health programs.
3. Employees can participate on an occupational health committee.
4. Employees have "voice" when it comes to health related issues.

Perceived social support

WORKPLACE HEALTH ENGAGEMENT

Informational Support

1. To what extent does your organization provide you with useful information?
2. To what extent does your organization provide you with appropriate direction?
3. To what extent do you get good ideas from your manager about how to confront your problems?

Emotional Support

1. How concerned are you coworkers about your health?
2. To what extent do you feel that you can confide in your coworkers about health related issues?
3. How sensitive are your coworkers to health issues?
4. How accepting are your coworkers of your feelings?

Past Engagement.

Have you engaged in health initiatives in the past?

WORKPLACE HEALTH ENGAGEMENT

Health Values Measurement

Please rate the following values on the degree to which they are a **guiding principle in your life** using the following 9-point scale.

- 1 = Opposed to your values
- 0 = Not important to your values
- 3 = Important to your values
- 7 = Of supreme importance to your values

Values	Rating
	-1 = Opposed to my values 0 = Not important 1 2 3 = Important 4 5 6 7 = Supreme importance
<hr/>	
Achievement (i.e., pursuit of personal success through demonstrating competence according to social standards),	
<hr/>	
1. Ambition (hardworking, aspiring) (Achievement)	
2. Capability (competent, effective, efficient) (Achievement)	
3. Success (achieving goals) (Achievement)	
Benevolence (i.e., concern for and enhancement of the welfare of others in one's life),	
4. Loyalty (faithful to my friends, group) (Benevolence)	
5. Honesty (genuine, sincere) (Benevolence)	
6. Helpfulness (working for the welfare of others) (Benevolence)	
Conformity (i.e., restraint of action impulses that are likely to upset others or violate social expectations and norms),	
7. Politeness (courtesy, good manners) (Conformity)	
8. Self-discipline (self-	

WORKPLACE HEALTH ENGAGEMENT

restraint, resistance to temptation) (*Conformity*)

9. Obedience (dutiful, meeting obligations) (*Conformity*)

Universalism (i.e., concern for and protection of the welfare of all people and nature)

10. Unity with nature (fitting into nature) (*Universalism*)

11. Broad-mindedness (tolerant of different ideas and beliefs) (*Universalism*)

12. Protection of the environment (preserving nature) (*Universalism*)

Health (a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity.)

101. Physical well being (feeling healthy by keeping active and eating well)

102. Personal health (maintaining physical, mental and social wellbeing)

103. Healthy lifestyle (regularly choosing to engage in exercise and other health related activities)

104. Vitality (state of being strong and active)

Stimulation (excitement, novelty, and challenge in Life)

13. An exciting life (stimulating experiences)

14. A varied life (filled with challenge, novelty and change)

15. Daring (seeking adventure, risk)

Attitudes towards health and wellness programs

Factor 1: General Wellness

An employee wellness program would increase my morale.

An employee wellness program would help attract and keep good employees.

An employee wellness program would increase my productivity.

I would be more likely to work for a company that offered an employee wellness program.

WORKPLACE HEALTH ENGAGEMENT

Wellness programs increase positive attitudes for a healthier lifestyle.
An employee wellness program would help relieve job stress.
An employee wellness program would decrease my personal health care costs.
An employee wellness program would increase my loyalty to the company.
An employee wellness program would decrease employee/management problems.
The company should have worksite exercise facilities available for use by its employees and their dependents.
There should be scheduled times for wellness program participation during the work day.
Employees should receive individual recognition for completion of a wellness program (verbal praise, certificate of recognition).
Compulsory testing should be used to protect healthy employees.
Paid bonuses based on time spent working out at an exercise facility would increase my participation.

Factor 2: Early Detection

I would participate in a weight training program three times a week.
I would participate in annual electro-cardiogram (heart) examinations.
I would participate in annual blood pressure testing.
I would participate in annual cancer detection exams.
I would participate in annual physical exams.
I would participate in annual basic eye exams.

Factor 3: Financial Sponsorship

The company should pay for a family membership at privately-owned local fitness facility.
The company should pay the entire cost for an employee wellness program.

Factor 4: Aerobic Exercise

I would participate in an aerobics class three times a week.
I would participate in regular exercise classes that would meet 3 times a week for 45 minutes per session.

OUTCOME - Engagement

If your organization began a health promotion program in the near future, would you engage in it? This item will be ranked on a Likert-type scale, ranging from 1 (would not engage) to 5 (would engage).

WORKPLACE HEALTH ENGAGEMENT

Appendix B.

Time 2 Survey Items

Demographics

Age:

Sex:

Gender:

Where do you live?

What is your highest level of education completed?

What is your employment status?

What size organization do you work for?

What type of industry do you work in?

What is your occupation?

How long have you been employed at your current place of work?

On average, how many hours do you work per week?

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WORKPLACE HEALTH ENGAGEMENT

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WORKPLACE HEALTH ENGAGEMENT

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WORKPLACE HEALTH ENGAGEMENT

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The company should pay the entire cost for an employee wellness program.

Factor 4: Aerobic Exercise

I would participate in an aerobics class three times a week.

I would participate in regular exercise classes that would meet 3 times a week for 45 minutes per session.

OUTCOME - Engagement

If this hypothetical organization began a health promotion program soon, I would engage in it.