Organisational Climates and Individual Readiness for Change in the Norwegian Police Service

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Abstract

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The objective of the present study was to examine multiple organisational climates in relation to individual readiness for change. These relationships were studied based on previous findings from other scholars suggesting that readiness for change is important for change success, and that organisational climates are antecedents of readiness for change. Human relations climate, based on the Competing Values Framework, was included as a molar climate. Internal and external knowledge sharing climate were included as facet-specific climates. The relationships between these climates were addressed using bandwidth-fidelity theory. Hence, this thesis examines whether human relations climate has a direct effect on individual readiness for change, and whether this effect is mediated by internal or external knowledge sharing climate.

From these relationships, seven hypothesises were postulated, and thereafter studied by using Structural Equation Modelling. This study is part of an ongoing collaborative project between the Department of Psychology at the University of Oslo and the Norwegian Police University College. Four police districts have received self-report surveys since 2016, resulting 1417 complete answers available for this study. The findings supported a partially mediated model, where human relations climate had a direct positive effect on individual readiness for change, and an indirect effect through external knowledge sharing climate. This study contributes to the understanding of how multiple climates appear in an organisational context, and their effect on individuals readiness for change. In addition, the study contributes to research on knowledge sharing climate as a construct.

Keywords: Organisational climate, human relations climate, knowledge sharing climate, individual readiness for change

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Introduction

Organisational change has become important in order to follow the social and technological changes in society. What was seen as optimal characteristics of a productive and efficient organisation in the past, have changed alongside this development. For instance, during the industrial period, organisational strategies such as Taylorism were popular, favouring highly controlled and stable work settings (Gustavsen, 2011). However, what was characterised as stability before is now perceived as stagnation, as the organisation's ability to carry out continuous change and innovation is regarded as necessary in order to survive (Cameron & Quinn, 2011; Holt & Vardaman, 2013). In Norway, ensuring a work environment that keeps up with the social and technological changes in society is manifested in the Norwegian working law (Arbeidsmiljøloven, 2005). Therefore, the relevance of change applies to every Norwegian organisation, including the Norwegian police service.

According to Christensen et al. (2018), public organisations may experience changes in three ways: (1) through continuous evolution and adjustment, (2) as a result of deliberate actions by political-administrative leaders, and (3) in response to external shocks. One or more of these reasons may also be present simultaneously. The Norwegian police has been undergoing several reforms during the last 20 years, the latest sparked by the shock following the 2011 terrorist attacks. This reform was called Community Policing Reform (Nærpolitireformen; Holmberg, 2018). The reform was twofold, where one part was related to the structure of the police, and the other part was related to the quality of the police work (Christensen et al., 2018; NOU 2013: 9). During the structural reform, 27 police districts were reduced to 12. Further, the quality reform concerned the development of a knowledge-based and efficient police, capable of continuous learning, development and improvement. Research on factors that may contribute to change success has thus been of interest.

Despite the fact that change has become a necessity for organisations, many change initiatives do not result in their intended aims (Choi & Ruona, 2013; Rafferty et al., 2013). As a result, studies addressing factors that may increase the likelihood of successfully implementing changes have become popular. Several researchers have acknowledged readiness for change as important in the change process (Armenakis et al., 1993; Choi & Ruona, 2011; Holt et al., 2007; Rafferty et al., 2013). More specifically, individual readiness for change has been identified as important, following the vital role individuals play in a change process (Choi & Ruona, 2013; Vakola, 2014). Another increasingly popular research topic is the possible antecedents of readiness for change (Choi & Ruona, 2011; Jones et al., 2005).

Organisational climate research has received greater attention the last two decades, as the organisational context has been acknowledged to have an impact on readiness for change (Armenakis et al., 1993; Beus et al., 2020; Choi & Ruona, 2011). However, few have studied multiple climates, and possible mediating variables between climates and specific outcomes (Kuenzi, 2008; Oreg et al., 2011). These research gaps are highly relevant, as multiple climates exists in an organisation at the same time, both broad molar climates, and narrower facet-specific climates (Kuenzi, 2008). Understanding the relationship between them may further expand our understanding of how the organisational context may affect readiness for change.

Following this, the aim of the present study is to examine the relationship between multiple organisational climates and individual readiness for change. Human relations climate, as defined by Quinn and Rohrbaugh (1983) in their Competing values framework, has been identified as a key climate in the Norwegian police service. Human relations climate will therefore be included as a molar climate in this study. Another central feature of how the Norwegian police service work, is knowledge sharing, which is closely related to organisational learning (Dean et al., 2008; Glomseth et al., 2007; Luen & Al-Hawamdeh, 2001). In this study, knowledge sharing will be included as two facet-specific climates, internal and external knowledge sharing climate, characterised by information sharing, cooperation and trust (Oreg et al., 2011; Patterson et al., 2005). The study draws on bandwidth-fidelity theory to establish the relationship between these climates (Kuenzi, 2008).

Hence, this study examines the relationship between human relations climate, internal and external knowledge sharing climate, and individual readiness for change in the Norwegian police service. These relationships constitute seven hypotheses, which will be studied by using Structural Equation Modelling. In the following, a review of the theoretical foundations of each variable will be given, before the method and results are presented. Finally the theoretical and practical contributions will be discussed, in addition to possible limitations of the study and suggestions for future research.

Organisational change

The study of change is a major research topic in organisational literature (Bouckenooghe, 2010). A key contributing theory in the research field of organisational change as a process, and to the change literature in general, is Kurt Lewin's model of three steps to change (Armenakis & Bedeian, 1999; Burnes, 2004). The model includes three steps named unfreeze, move and refreeze. The rationale behind the theory is that in order to accomplish change one first needs to unfreeze the current situation. Secondly one must move towards the desired behaviours, and finally one must refreeze these new behaviours and stabilise the group (Burnes, 2004). This theory is especially relevant for planned changes where one has predetermined goals and a clear start and finishing point, as opposed to emergent changes where change is seen as ever present in order for the organisation to adapt to the changing environmental circumstances (Arnold et al., 2016).

In particular, the unfreezing phase has been acknowledged as important for organisational change, as an ineffective implementation of this phase may be a reason to why change initiatives fail (Choi & Ruona, 2013). A central part of the unfreezing phase is that the force pushing towards a change needs to be bigger than the force pushing towards maintaining the status quo (Choi & Ruona, 2011). Therefore, it is in this phase that the organisation may benefit from affecting the employees' attitudes towards the change, trying to make them realise the change as necessary and potentially successful (Choi & Ruona, 2011; Eby et al., 2000). As a result, the organisation may enhance the individuals' readiness for the organisational change, which has been recognised as an important factor in order for the change to be successful (Bouckenooghe, 2010; Holt et al., 2007; Yilmaz, 2013).

Readiness for change

When faced with an organisational change, people may experience different affective, cognitive and behavioural reactions (Bouckenooghe, 2010; Oreg et al., 2011). How employees react to change may, in general, be described as a result of an overall evaluative judgement of a change initiative in the organisation (Oreg et al., 2011; Peng et al., 2020). This evaluation is further composed of different subconstructs such as readiness for change, resistance to change, cynicism about change, openness to change, commitment to change and coping with change (Bouckenooghe, 2010).

Readiness for change and resistance to change are the two most studied constructs (Bouckenooghe, 2010). There are many definitions of readiness for change, but generally they concern the extent to which the employees are prepared to implement a change (Peng et al., 2020). One of the most widely used definitions is provided by Armenakis et al. (1993) who

stated that readiness for change refers to individuals' "beliefs, attitudes, and intentions regarding the extent to which changes are needed, and the organisation's capacity to successfully make those changes" (p. 681). Holt et al. (2007) added an affective component in their definition, and stated that readiness for change collectively reflects "the extent to which an individual or individuals are cognitively and emotionally inclined to accept, embrace, and a adopt a particular plan to purposefully alter the status quo" (p. 235).

On the other hand, resistance to change has been viewed as the opposite. Resistance to change may be described as an intentional or behavioural component that acts like a driving force behind wanting to maintain the status quo, and thus hinder a successful change implementation (Bouckenooghe, 2010). However, resistance to change has lately been seen as a positive supplement to the readiness concept, as it may foster learning by including a critical view on the change initiative (Bouckenooghe, 2010; Ford et al., 2008).

Thus, readiness for change is a complex construct, and may be described as the change recipients' perceived balance between the cost and benefit of maintaining the status quo, and the cost and benefits following the change (Vakola, 2014). This attitude is affected by several factors, such as the content, process and context of the change, as well as the individuals going through the change (Holt et al., 2007). Additionally, readiness for change may be assessed at different levels of analysis, e.g. the individual level, the group level, or organisational level (Bouckenooghe, 2010; Rafferty et al., 2013; Vakola, 2013). The focus in this study is on the individual level of analysis, and thereby on individual readiness for change.

Individual readiness for change

The individuals in an organisation play a vital role in implementing the change, as the change activities are initiated and carried out by individuals in the organisation (Holt et al., 2007). They form assumptions, expectations and impressions of the change, which further affect the change implementation (Choi & Ruona, 2013). Individual readiness for change may be defined as an evaluation of the individual and organisational benefits from a change, the perceived need for the change, and the capacity to implement this change in a successful manner (Choi & Ruona, 2013). According to Vakola (2014) "an individual ready to change is one who exhibits a proactive and positive attitude toward change, which can be translated into willingness to support change and confidence in succeeding in change" (p. 196).

This attitude is further affected by several factors, both personal and contextual (Vakola, 2014). Related to contextual factors, readiness for change is affected by individuals' trust towards the organisation (Rafferty & Simons, 2006; Vakola, 2014). This trust may for

instance be related to the organisation's ability to change, the people leading the change, and the amount of necessary information regarding the change provided (Rafferty & Simons, 2006; Vakola, 2014). The more individuals in an organisations trust their peers, leaders and management, the more likely they are to be ready for a change, to consider the change positively, to follow the change, and to believe that the organisation may successfully achieve the change (Choi & Ruona, 2013; Rafferty & Simons, 2006; Vakola, 2014).

Following this, Armenakis et al. (1993) argued that "the creation of readiness for organisational changes must extend beyond individual cognition since it involves social phenomena as well" (p. 683). Both policies and processes in organisations are likely to influence readiness for change. In addition, organisational readiness in itself may be describe as being based on individuals perceptions and interpretations of the organisational context (Eby et al., 2000; Rafferty & Simons, 2006). Following this, it is interesting to investigate whether the context in the form of organisational climate may affect individual readiness for change.

Organisational climate

When starting to explain what organisational climate is, researchers often start by distinguishing it from organisational culture. Kuenzi and Schminke (2009) define organisational work climates as "a set of shared perceptions regarding the policies, practices, and procedures that an organisation rewards, supports, and expects" (p. 637), based on the work of Schneider and Reichers (1983). On the other hand, Denison (1996) defines organisational culture as "the deep structure of organisations, which is rooted in the values, beliefs, and assumptions held by organisational members" (p. 624).

There are different opinions concerning the actual distinctiveness and overlap between climate and culture as constructs (Beus et al., 2020; Kuenzi, 2008). They are both constructs that rise from individuals making sense of their environments, and evolves through interaction among these individuals (Kuenzi & Schminke, 2009; Schneider et al., 2013). Organisational culture is often seen as permanent core characteristics of an organisation, that are collectively held, evolves and changes slowly over time, are rooted in history, and are more difficult to change due to its complexity (Cameron & Quinn, 2011; Denison, 1996). On the other hand, climates are the more obvious characteristics in an organisation, which are based on people's attitudes, and changes more rapidly when individuals meet new situations and information (Cameron & Quinn, 2013). The difference between climate and culture may be explained by

climates referring to a situation, whilst culture refers to a more evolved context, in which situations are embedded (Denison, 1996).

In research history climate and culture have taken turns being the most popular topic related to organisational environment. Climate research derived from industrial psychology and dominated in the 1960s and 1970s, while culture research derived from anthropology and dominated from the 1980s (Denison, 1996; Schneider et al., 2013). In more recent time, from approximately the year 2000, there has been a renewed interest in climate research, which is also the focus in this study (Beus et al., 2020; Kuenzi & Schminke, 2009).

Organisational climates may be assessed at multiple levels of analysis, as early recognised by James and Jones (1974). They distinguished between psychological climates and organisational climates. According to Kuenzi (2008) a psychological climate consists of individuals evaluating their environment and attaching significance and meaning to what they perceive. When these perceptions are aggregated with some level of agreement, this becomes a measure of organisational climate. As Schneider and Reichers (1983) outlines, organisational climates are "summated, averaged meanings that people attach to a particular feature of the setting" (p.21). As such, organisational work climates are perceptual constructs consisting of shared perceptions among employees in a work environment, and different types of climates may exist simultaneously in one organisation (Kuenzi, 2008; Kuenzi & Schminke, 2009).

Molar and facet-specific climate

Early climate research studied climate as molar or global constructs, i.e. broader conceptualisations of the work environment (Kuenzi & Schminke, 2009). The purpose was to understand the total situational influences in organisations, and how the subjective perceptions of a broad environment affect individuals' behaviour and attitudes (Kuenzi, 2008; Kuenzi & Schminke, 2009). This line of climate research faced some theoretical and methodological challenges concerning how to measure it, how to operationalise it, and how to distinguish it from other constructs (Kuenzi, 2008). Consequently, researchers turned their attention to facet-specific climates.

Facet-specific climates differ from global climates as they are related to a particular aspect of the organisational context (Kuenzi, 2008; Kuenzi & Schminke, 2009). As Schneider and Reichers (1983) puts it: "climate is not an "it", but a set of "its," each with a particular referent" (p. 22). Several facet-specific climates are present in an organisational environment at the same time (Kuenzi, 2008; Kuenzi & Schminke, 2009). Further, Schneider et al. (1998) state that since multiple climates exist simultaneously within an organisation, climate is best

regarded as a specific construct, i.e. a climate for something. Commonly used examples of facet-specific climates are safety, service and innovation climates.

The relationship between molar and facet-specific climates may be explained by bandwidth-fidelity theory. The bandwidth issue was early raised by Schneider (1975), as he discussed the relationship between the climate focus and the measurement focus in climate research. Bandwidth is related to the focus of the climate, where facet-specific climates have narrower manifestations, and molar climates have broader manifestations (Carr et al., 2003). The bandwidth-fidelity issue concerns the approach that the breadth of the criterion variable should match the breadth of the predictor construct, which will increase the validity of the outcome (Carr et al., 2003; Schneider et al., 2011). When applying the logic behind bandwidth-fidelity theory to the climate literature, broad climates may be seen as antecedents of narrower climates, i.e. molar climates can be seen as antecedents of facet-specific climates (Kuenzi, 2008).

Although the research following the renewed interest in organisational climates to a large extent is characterised by facet-specific climates, the initial purpose of climate research was to understand the organisation as a whole, i.e. molar climates (Kuenzi, 2008). As there are no agreed upon dimensions of molar climates, several researchers have used the Competing Values Framework as an organising framework (Beus et al., 2020; Kuenzi, 2008).

Competing values framework

The Competing Values Framework (CVF) was developed by Quinn and Rohrbaugh (1983), and had the same original goal as global climate research; to understand organisational effectiveness (Cameron & Quinn, 2011; Kuenzi, 2008). The framework has also been applied in culture research, but is applicable in climate research as well for several reasons. As outlined by Beus et al. (2020) and Kuenzi (2008), strategically important organisational values are reflected in the molar climate in the organisation. Further, the molar climate is reflected in the organisations policies, procedures and practices. Organisational climates consists of the individuals' evaluations of these policies, procedures and practices. Hence, climates based on strategically important values are more likely to have an impact on employee behaviour and organisational outcomes.

The original framework was based on a comprehensive list of effectivity indicators, where two fundamental dimensions stood out: Organisational focus and organisational structure (Hartnell et al., 2011; Kuenzi, 2008; Quinn & Rohrbaugh, 1983). The focus dimension distinguishes between person- and organisational orientation, with an internal focus at one end, and an external focus at the other end (Quinn & Rohrbaugh, 1983). The

structure dimension distinguishes between a focus on stability and control at one end, and flexibility and change at the other end. These two dimensions creates four approaches for prompting organisational effectiveness, as shown in Figure 1. Each quadrant represents a climate type: Human relations climate characterised by flexibility and an internal focus, open systems climate characterised by flexibility and an external focus, internal process climate emphasising control and an internal focus, and rational goal climate also emphasising control, but with an external focus (Beus et al., 2020; Quinn & Rohrbaugh, 1983).

As the name implies these climates represents competing values, with the diagonal climates being theoretically opposites (Cameron & Quinn, 2011). However, this does not mean that the climate types appear as mutually exclusive in an organisation (Quinn & Rohrbaugh, 1983). Rather, they may coexist and work together, and organisations may emphasise each dimension but with different strengths (Hartnell et al., 2011; Patterson et al., 2005). The competing values may therefore be more complementary than contradictory (Hartnell et al., 2011).

Figure 1

The competing values framework as four molar climates (Kuenzi, 2008)



Rigid

On the other hand, Kuenzi (2008) treats the four climate types in the CVF as distinct molar climate types. As she puts it, global values are reflected in the organisation's policies, procedures and practices, and since it is the individual's perceptions of these that make up the organisation, the molar climate in an organisation should relate to the CVF's climate types (Kuenzi, 2008). In line with this, Hartnell et al. (2019) found that the different climate types do in fact explain unique variance in relations to organisational effectivity. Especially team culture has been found to be central in police investigation units (Glomseth et al., 2007). Further, a qualitative study by Lone et al. (2017) investigating the organisational climate in the Norwegian police found that human relations climate was predominant. Following this, the focus in the present study is on human relations climate as a molar climate.

Human relations climate

As shown in Figure 1, a human relations climate, also referred to as a "clan climate", emphasises flexibility and has an internal focus. Such social systems highlight the importance of cohesion and morale, and wishes to develop their employees, as well as positive working relationship amongst them (Kuenzi, 2008). This is done through open communication, participation, training and development (Jones et al., 2005). Further, a human relations climate is characterised by teamwork and employee involvement, and emphasises an environment where the leaders are interested in empowering the employees and facilitate for participation, engagement, loyalty and open communication (Cameron & Quinn, 2011; Hartnell et al., 2011).

In line with this, perceived flexibility and participation have been found to be associated with readiness for change (Eby et al., 2000; Gigliotti et al., 2019; Rafferty & Simons, 2006). Further, several researchers have found that people's perceptions of trust and support among employees, and between employees and organisational management, are important for individuals' readiness for change (Gigliotti et al., 2019; Kirrane et al., 2017). Change recipients who perceive higher levels of trust among colleagues and in management, who feel respected by management, and who perceives management as supportive, are more willing to cooperate with change (Oreg et al., 2011). Trust in management and a strong communication climate has also been found to be related to individual readiness for change (Vakola, 2014). More specifically, the establishment of good partnerships an trust has been identified as key for policing reforms to be successful (Yilmaz, 2013).

The situation or context may also influence readiness for change through the individuals' interpretation of it (Eby et al., 2000; Holt et al., 2007). As climates reflect perceptions of the context in an organisation, and a human relations climate emphasises

several characteristics that may facilitate for trust, a human relations climate may have an effect on individual readiness for change. In line with this, Haffar et al. (2014) have argued that organisational members who perceive their work environment as having characteristics of the human relations quadrant in the CVF are more likely to have higher levels of readiness for change. In addition, Jones et al. (2005), found that employees who perceive strong human relations values reported higher levels of readiness to change before the change implementation. Hence, the first outlined hypothesis in this study states that there is a positive relationship between a human relations climate and individual readiness for change. Stated more precisely:

H1: Human relations climate has a direct positive effect on individual readiness for change.

Learning in organisations

Different terms are being used to describe and outline the process by which organisations adapt to their environment, e.g. organisational learning, knowledge, training and adaption, among others (Fiol & Lyles, 1985). However, a problem has been that the terms have not been used consistently (Fiol & Lyles, 1985). Four central terms in this discussion is organisational learning, the learning organisation, organisational knowledge and knowledge management (Easterby-Smith & Lyles, 2011).

Organisational learning may be described as different types of activities and processes that take place within and of the organisation, whereas a learning organisation relates to a particular kind of organisation that has the capacity to learn effectively and develop itself (Easterby-Smith & Lyles, 2011; Tsang, 1997). Hence, a learning organisation is one that is good at organisational learning (Tsang, 1997). Organisational knowledge relates to what and how much knowledge the organisation possesses, and how this knowledge is shared and stored. On the other hand, knowledge management is a more technical term, and refers to how measuring, storing, and leveraging knowledge may affect organisational performance (Easterby-Smith & Lyles, 2011). These four terms may be organised alongside two dimensions: Process versus content orientation, and theory versus practice orientation. The two dimension create four quadrants where organisational learning is process and theory oriented, the learning organisation is process and practice oriented, organisational knowledge is content and theory oriented, and knowledge management is content and practice oriented (Easterby-Smith & Lyles, 2011). This study will focus on the theory section of the

framework, and thus include aspects of both organisational learning and organisational knowledge, and the relationship between them.

Learning in organisations may be assessed from different perspectives, and at different levels of analysis (Argote, 2013). As a result, there exists many different definitions of organisational learning. Fiol and Lyles (1985) defines learning from an organisational level of analysis as "the process of improving actions through better knowledge and understanding" (p. 803). On the other hand, Huber (1991) takes an individual perspective on organisational learning, as he states that "an entity learns if, through its processing of information, the range of its potential behaviours is changed" (p. 89). Especially early theories on organisational learning often took an individual learning perspective, where learning is seen as attaining certain actions and practices through information and knowledge acquisition (Argote, 2013; Easterby-Smith & Lyles, 2011).

Kirkpatrick's (1967) four categories of training effectiveness is an example of an early, and widely used theory of organisational learning. These four categories are (1) reaction, (2) learning, (3) behaviour, and (4) result. The categories may also be described as levels or steps, as there is an underlying assumption of them being in a hierarchical order (Alliger & Janak, 1989). According to the model, for the training to be effective the trainees must first have a positive reaction to the training program. Further, they must acquire the desired knowledge, skills and abilities (KSA), and then be able to practice these skills at work. Finally, the training result may be assessed, measured in to what extent the training has had an impact on the organisations effectiveness (Alliger & Janak, 1989; Arnold et al., 2016). Hence, learning was seen as the result of cognitive increase of knowledge in the individual (Schneider et al., 2014).

The individual perspective on learning became complicated when faced with the problem of transferring learning from the individual to the organisation, resulting in organisational outcomes (Easterby-Smith & Lyles, 2011). A more process-oriented view followed the theory of single- and double-loop learning by Argyris and Schön (1978). Single-loop learning concerns an organisation's central rules, detection and correcting of errors following these rules, and is often related to routine tasks (Fiol & Lyles, 1985; Lim & Nowell, 2014). On the other hand, double-loop learning concerns how to resolve incompatible organisational norms by changing the priorities and routines based on a new conception of the universe (Easterby-Smith & Lyles, 2011; Fiol & Lyles, 1985). The theory depicts organisational learning as a comprehensive process involving both organisational change and environmental demands (Lim & Nowell, 2014).

The organisational learning construct has in more recent time further moved towards seeing knowledge as a social construct created by the interaction among individuals and between individuals and their environment (Arnold et al., 2016). This rationale is found in social learning theory. According to this theory, learning is a practical accomplishment involving socialisation and interaction (Easterby-Smith & Lyles, 2011). Individuals are engaged in learning through sensemaking and creation of knowledge as a result of their participation in the organisation. As Gherardi, Nicolini and Odella (1998) puts it: "learning, in short, takes place among and through other people" (p. 274). The learning content depends on the context, and learning involves the discovery of what, how and why things are done as they are in an organisation. Social learning theory shifts the focus of learning away from the individual mind, and turns it towards the organisational context (Easterby-Smith & Lyles, 2011).

Following this, knowledge develops in relation to other individuals, and according to Gherardi et al. (1998) "to know is to be capable of participating with the requisite competence in the complex web of relationships among people and activities" (p. 274). Further, Fiol and Lyles (1985) defines learning as "the process of improving actions through better knowledge and understanding" (p. 803). Following this social perspective on learning and knowledge, it is interesting to study knowledge sharing from a climate perspective.

Knowledge sharing as a facet-specific climate

Several different expressions have been used to describe distribution of knowledge in organisations, such as knowledge sharing, knowledge transfer, knowledge exchange and knowledge distribution (Argote et al., 2000; Glomseth et al., 2007; Huber, 1991; Ipe, 2003; Wang & Noe, 2010). Another challenge in the research literature has been that some have used the word "information" to describe both similar and distinguished subjects. Some researchers use the words interchangeably (Huber, 1991), while other acknowledges that there is a difference between knowledge and information (Ipe, 2003). The latter argues that knowledge, as opposed to information, concerns beliefs and commitment, involves action, is context specific and relational, and thus also involves meaning (Ipe, 2003). As the literature uses different wordings, this study includes research concerning both different types of knowledge and information.

Knowledge is a multilevel construct, and may exist at an individual, group, and organisational level (De Long & Fahey, 2000; Ipe, 2003). The focus in this study is at the individual level. At the individual level knowledge is possessed by the individuals, and is

created through interaction between individuals at different levels in the organisation (Ipe, 2003; Rusly et al., 2014). Hence, the organisation is dependent on the individuals who create, share and use the knowledge in order to leverage knowledge effectively (Ipe, 2003).

Ipe (2003) describes knowledge sharing as "the process by which knowledge held by one individual is converted into a form that can be understood, absorbed, and used by other individuals" (p. 341). Following this definition, knowledge sharing concerns making knowledge available to other individuals within the organisation (Ipe, 2003). One of the possible benefits of an organisation's knowledge sharing is that it may create a competitive advantage (Wang & Noe, 2010). It is therefore useful to know how to facilitate for knowledge sharing.

As knowledge sharing in organisations is dependent on individuals distributing knowledge between each other, the social relationships between these individuals become relevant (Ipe, 2003). These social relationships may further be shaped and affected by the organisation's values, which are reflected in the organisational climates. According to Cabrera and Cabrera (2005) knowledge sharing may be affected by such values in two ways. The first way is by creating an environment with strong social norms related to the importance of knowledge sharing. The second way is by encouraging individuals to share their knowledge with other trough an environment of caring and trust (Cabrera & Cabrera, 2005). As such, knowledge sharing involves the individuals within the organisation, the relationship between them, and organisational characteristics and values that affect these relationships. These aspects are represented in the measure of knowledge sharing as a facetspecific climate used in this study.

Internal and external knowledge sharing climate as mediators

The knowledge sharing climate construct used in this study is partially based on the integration variable in the Organisational Climate Measure (OCM) developed by Patterson et al. (2005). In this measure, integration is described as "the extent of interdepartmental trust and cooperation" (Patterson et al., 2005). Trust and cooperation may therefore be seen as central features for a knowledge sharing climate. In addition, based on the findings from Lone et al. (2017), elements of competence sharing and information sharing are included in the measure, as the police officers in this study perceived it as central features of the police climate. Hence, knowledge sharing as a facet-specific climate includes aspects of trust, cooperation and information sharing.

In this study, knowledge sharing climate is divided in two parts reflecting the organisational structure in the Norwegian police. Internal knowledge sharing climate is

related to groups in a work unit, and external knowledge sharing climate is related to work units in a district. As they are very alike, it is assumed that these climates involve similar underlying constructs. While acknowledging that these are separate constructs, they will in the following be presented as sharing, and being related to, the same arguments for their possible relationships to the other variables.

When summarising what makes an optimal internal and external knowledge sharing climate, characteristics such as communication, participation, cooperation, learning, commitment, openness, trust, organisational support, and involvement are mentioned as necessary conditions (Ipe, 2003; Rusly et al., 2014; Van Den Hooff & De Ridder, 2004; Wang & Noe, 2010; Witherspoon et al., 2013). Some of these characteristics may also be found in a human relations climate, as this climate emphasise positive working relationships between the employees, trust in employees, and wishes to facilitate for participation, engagement, loyalty, cohesion, morale and teamwork (Cameron & Quinn, 2011; Hartnell et al., 2019; Kuenzi, 2008). Hence, an organisational climate that is team oriented and focuses on cooperation, may create trust which is a necessary condition for knowledge sharing (Van Den Hooff & De Ridder, 2004; Wang & Noe, 2010). Team orientation has also been found to be a significant determinant of knowledge sharing in police investigation units (Glomseth et al., 2007).

This assumption is further substantiated by Lone et al. (2017) who found human relations climate to include dimensions of internal and external cooperation, which are both features of a knowledge sharing climate as well. In addition, Glomseth et al. (2007) found team culture to be positively related to knowledge sharing. Finally, in the OCM the integration variable is listed as a climate dimension representing a human relations climate, i.e. integration is a central feature of a human relations climate (Patterson et al., 2005). Based on this, two hypothesises in this study propose a positive relationship between a human relations climate and a knowledge sharing climate:

H2a: Human relations climate has a direct positive effect on internal knowledge sharing.H2b: Human relations climate has a direct positive effect on external knowledge sharing.

As with human relations climate, a knowledge sharing climate is a result of people's perceptions of a situation or a context, which has been found to influence readiness for change (Holt et al., 2007). More precisely Holt et al. (2007) expected a positive relationship between the organisation's communication climate and readiness factors. They explained this effect as

a result of employee participation; those who participate in planning and implementation of change have greater opportunity to influence the change, in addition to having greater access to relevant information. The same has been argued by Vakola (2014), who found trust in management and communications climate to be related to individual readiness for change.

As previously outlined, knowledge may be seen as an important aspect of organisational learning (Fiol & Lyles, 1985). Choi and Ruona (2011) have argued that a learning climate has a positive relationship with readiness for change as it encourages individuals to be engaged in organisational learning. This will further enhance the organisational capacity to make a successful change. Following the close connection between knowledge and learning, these effects may be transferable to a knowledge sharing climate.

Related to this, Oreg et al. (2011) found in their review that several studies show a connection between knowledge sharing and individual readiness for change. More precisely they summarised that an information environment consisting of a positive communication climate predicts change recipients' readiness to change. Based on this, it is hypothesised that there will be a positive relationship between the knowledge sharing climates and individual readiness for change.

H3a: Internal knowledge sharing has a direct positive effect on individual readiness for change.

H3b: External knowledge sharing has a direct positive effect on individual readiness for change.

Following the logic of bandwidth-fidelity theory in relation to climate research, broad climates may be seen as antecedents of narrower climates, i.e. molar climates can be seen as antecedents of facet-specific climates (Kuenzi, 2008). This further implies that facet-specific climates will mediate the relationship between molar climates and specific outcomes (Kuenzi, 2008). It is therefore hypothesised here that human relations climate will have an indirect effect through internal and external knowledge sharing climate on individual readiness for change.

H4a: Human relations climate has an indirect effect on individual readiness for change through internal knowledge sharing.

H4b: Human relations climate has an indirect effect on individual readiness for change through external knowledge sharing.

Summarised, this study examines the relationships between human relations climate, internal knowledge sharing climate, external knowledge sharing climate, and individual readiness for change. The hypothesised relationships and effects are presented in Figure 2.

Figure 2

The hypothesised structural model in this thesis



Method

The research project

This thesis is part of an ongoing collaborative project between the University of Oslo and the Norwegian Police University College. As the Norwegian police is going through major changes following the latest police reform, the aim of this study is to study the effects of organisational climates in relation to individual readiness for change.

Ethical considerations

The project is approved by the Norwegian Centre for Research Data (NSD). All the gathered data has been registered in TSD 2.0, which is a security system for registration, storing and analysing data. In addition, the datasets used in this thesis were anonymized

versions of the original datasets. The contenders were informed about freely consent, and about their option to withdraw their attendance at any time.

Data gathering

The data have been gathered from four police districts in Norway during the past four years. District 1 was questioned in 2016, district 2 was questioned in 2018, district 3 was questioned in 2019, and district 4 was questioned in 2020. In all the districts the participants answered the questionnaire online, except in district 1 where the participants answered the questionnaire in writing. The questionnaire consisted of nine measures, with a total of 146 items.

Sample

The total number of answers from the four police districts was 1562. After removing the cases with missing values listwise, N was 1417, which is considered an acceptable sample size when using Structural Equation Modelling (Hoe, 2008; Kline, 2016). After removing cases with missing values, district 1 had 799 answers, district 2 had 215 answers, district 3 had 195 answers, and district 4 had 208 answers. The total sample consisted of 45,6% females, and 54,4% males. Twelve age categories ranged from < 23 years to > 64 years, with the two largest categories being age 24-27 years old (13,6%), and 48-51 years old (13,3%).

Measures

The respondents were asked to answer all the questions in the survey, and to use their own experiences when doing so. The measure used a five point Likert-scale, ranging from 1 "definitely false" to 5 "definitely true". Alternative 3 "neither true nor false" was the neutral response alternative. All the items included in this study are shown in Appendices A to D.

Individual readiness for change

The measure for individual readiness consisted of six items, and was based on the scale developed by Vakola (2014). The measure has been translated to Norwegian by Koritzinsky (2015). Examples of the items are "when changes occur in my work unit, I believe that I am ready to cope with them" and "I usually try to convince people in my work unit to accept change".

Human relations climate

The measure of Human Relations Climate consisted of eight items, and was based on the Competing Values Framework developed by Quinn and Rohrbaugh (1983). The items were retrieved from Kuenzi's (2008) constructed measure of this framework, which was translated to Norwegian by Koritzinsky (2015). Examples of the items are "we develop supportive, positive working relationships in our work unit" and "we are committed to each other in our work unit".

Knowledge sharing climate

The measure for knowledge sharing climate was based on twelve items measuring internal knowledge sharing climate, and twelve items measuring external knowledge sharing climate. Ten of these questions (the initial five questions in each measure) were based on the integration dimension in the Organisational Climate Measure (OCM) developed by Patterson et al. (2005). The remaining seven questions in each measure were based on a thematic analysis by Lone et al. (2017) based on interviews of police officers. The measure has been translated to Norwegian by Koritzinsky (2015). The wording of the questions regarding internal and external knowledge sharing climate is very similar, with the only difference being whether the question is related to groups in a work unit (internal), or to work units in a district (external). To exemplify: "People are prepared to share information across the group in our work unit" measuring internal knowledge sharing climate, and "People are prepared to share information across the work unit in our district" measuring external knowledge sharing climate.

Preliminary analysis

Before starting the SEM-analysis, a preliminary analysis was conducted using SPSS 27. The preliminary analysis included assessment of normality, skewness and kurtosis. In addition, it included descriptive statistics such as mean, standard deviation and Cronbach's alpha. The result of this analysis is described in the result section, and presented in Table 1.

Structural Equation Modelling

Structural Equation Modelling (SEM) was used to test the outlined hypotheses in this study. SEM is a statistical method that combines a Confirmatory Factor Analysis (CFA) and a structural model into one test (Hoe, 2008). SEM stipulates causal relationships among multiple variables, and takes a confirmatory approach (Lei & Wu, 2007). The objective is to test whether a hypothesised theoretical model is consistent with the gathered data material, by evaluating fit indices that indicate whether the relationships between the variables are plausible (Lei & Wu, 2007). The following four fit indices will be used to evaluate the hypothesised model's fit: Chi square and degrees of freedom, Comparative Fit Index, Root Mean Square Error of Approximation, and Standardised Root Mean Square. *Chi-square* (χ 2)

Chi-square is the most common method for evaluating goodness-of-fit when using SEM analysis (Hoe, 2008). This is a badness-of-fit statistic, meaning that a low score indicates good fit (Hoe, 2008; Kline, 2016). The chi-square indicates good fit when the result is non-significant because this implies that the actual and predicted model are not statistically different, i.e. giving support for the hypothesized model reflecting true relationships (Hoe, 2008). However, the chi-square test has been found to be highly sensitive to sample size in the way that the value tends to increase as the sample size increases (Hoe, 2008; Kline, 2016; Lei & Wu, 2007).

Comparative Fit Index (CFI)

CFI is an incremental fit index, where fit is the result of a comparison between the researcher's model and a baseline (null) model (Hu & Bentler, 1999; Kline, 2016). CFI is also a goodness-of-fit-statistic, and ranges from 0 to 1.0 where 1.0 represents the best fit (Kline, 2016). According to Hu and Bentler (1999) the CFI cut-off value should be close to .95 to indicate good fit for the hypothesised model.

Root Mean Square Error of Approximation (RMSEA)

RMSEA is an absolute fit index, meaning it estimates how well the researcher's hypothesised theoretical model is reproduced in the data material (Hu & Bentler, 1999; Kline, 2016). RMSEA ranges from 0 to 1.0, and is also a badness-of-fit statistic where zero indicates the optimal result (Hoe, 2008; Kline, 2016). Different cut-off criteria have been suggested. Kline (2016) recommends a cut-off at < .05 to indicate acceptable fit, but Hu and Bentler (1999) sets the cut-off at < .06. It is common to report the statistic with its 90% confidence intervals (Kline, 2016). Further, RMSEA is known to have limitations in reference to sample size, degrees of freedom, and complexity of the model: It tends to impose a harsher penalty on smaller models with relatively few degrees of freedom (Kline, 2016).

Standardised Root Mean Square (SRMR)

SRMR is another absolute fit index, and is a badness-of-fit statistic where zero represents the best fit (Kline, 2016). This statistic is a measure of the mean absolute correlation residual, i.e. the overall difference between the observed and predicted correlations (Kline, 2016). According to Hu and Bentler (1999) a value < .08 indicates good fit.

Results

Descriptive statistics are presented in Table 1. Human relations climate had the highest reported mean (3,948), and readiness for change had the lowest (3,789). The Cronbach alpha values were satisfactory (> .70; Field, 2018), all being above .75. In addition the variables were within the recommended threshold for skewness (< 3.0) and kurtosis (< 10.0; Kline, 2016), with skewness ranging from -.032 to -.686, and kurtosis ranging from -.123 to .748. The Shapiro-Wilk test of normality had p < .001, implying that the sample is significantly different from a normal distribution, i.e. not normally distributed (Field, 2018). However, it is known that the test might be overly sensitive to large sample sizes. An inspection of the histograms revealed that the distributions for the variables seemed to be generally normally distributed.

Table 1

Descriptive statistics, reliability and bivariate correlations between the variables

Construct	Mean	SD	α	1.	2.	3.	4.
1. Human Relations Climate	3.948	.645	.879	1.			
2. Internal knowledge sharing climate	3.824	.660	.923	.667**	1.		
3. External knowledge sharing climate	3.365	.631	.918	.501**	.553**	1.	
4. Readiness for change	3.789	.546	.757	.226**	.207**	.256**	1.

Note. Standard Deviation (SD), Cronbach's alpha (α), and zero-order correlation for all constructs. N = 1417. **Correlation is significant at the .01 level (2-tailed).

Measurement models

Poorly fitted measurement models may have a substantial effect on the fit of the structural model (Williams et al., 2009). Confirmatory Factor Analysis' were therefore conducted in order to investigate the individual measurement models of human relations climate, internal knowledge sharing climate, external knowledge sharing climate and individual readiness for change. Initially, none of the measures had acceptable fit values. Factor loadings, residuals and modification indices were inspected to decide whether step by step alterations should be made in order to improve the fit of the measurement models. The original and modified models are presented in Table 2.

According to the CFA of readiness for change item 4 "I believe that I am more ready to accept change than my colleagues" had a low factor loading of .33, which is below the recommended threshold of > .50 (Kline, 2016). In accordance with previous studies using the

same measure (Myklebust et al., 2020), this item was therefore removed. As mentioned by Myklebust et al. (2020), an explanation for the low factor loading of this item could be that this is the only question asking for a comparison of oneself to other colleagues. After removing this item, the measurement model of readiness for change obtained acceptable fit.

In the measurement model of human relations climate all items initially had factor loadings > .50, but the local fit was unsatisfactory. A high standardised residual covariance (> 2.0; Kline, 2016) was observed between item 2 "the environment is such that members of the department get along well with each other" and item 3 "we have little conflict between out department members". A possible explanation could be that the questions are consequences of each other; if the environment is such that members of the department get along well, it is likely that there is little conflict between the members, and vice versa. Item 2 and item 3 were therefore parcelled. The same step was done by Myklebust et al. (2020) concerning these items. After parcelling item 2 and 3, the human relations climate measurement model achieved acceptable fit.

Concerning the measurement models of internal and external knowledge sharing climate, the same alterations were made in both variables based on the CFA's. To avoid being unnecessarily repetitive, the items from internal knowledge sharing climate will be described in full, and the difference in wording in items from external knowledge sharing climate will be stated in parentheses.

Item 3 "people are suspicious of other groups (work units) in our work unit (district)" and item 5 "there is little respect between some of the groups (work units) in our work unit (district)" were removed due to somewhat low factor loadings (< .60), and several high standardised residual covariances > 2.0. An explanation for why these two items had low loadings on the latent variable could be that they concerned two themes (suspiciousness and respect) that stood out compared to the remaining items.

Low factor loadings were also the case for item 2 "there is very little conflict between groups (work units) in our work unit (district)" and item 8 "there is much conflict over sharing of competence between the groups (work units) in this work unit (district)". Due to high residual covariance between these items, in addition to modification indices, these items were parcelled in both measures. This may be explained by the fact that the items may be perceived as reversed versions of each other. As opposed to the previous items, item 2 and 8 were parcelled in order to retain items that reflect relational aspects of the knowledge sharing climate, and at the same time preserve their unique variance. An alternative approach could be

to allow their error terms to correlate, but due to the differing opinions regarding this proceeding (Hermida, 2015), the items were parcelled.

Item 9 "there is an efficient sharing of information across the groups (work unit) in our work unit (district)" and item 10 "we share a lot of information across the groups (work unit) in our work unit (district)" were also parcelled based on similar wording, standardised residual covariance > 2.0, and modification indices. A possible explanation for why these items might be perceived as similar is that the distinction between efficient knowledge sharing and amount of knowledge sharing may not be easily picked up by the participants. In addition, it may be difficult for an employee to evaluate the efficiency of information sharing between groups and work units.

Lastly, item 11 "there is a high degree of collaboration between the groups (work units) in our work unit (district)" and item 12 "people are prepared to collaborate across groups (work units) in our work unit (district)" were parcelled due to standardised residual covariance > 2.0. The wording and meaning of the items may have been perceived as similar by the respondents, given that both items concern collaboration. Another explanation could be that item twelve is a nuance of item eleven, i.e. when there is a high degree of collaboration in a work unit, people are likely to be prepared to collaborate.

After making these changes, the measurement models of internal and external knowledge sharing climate did still not reach acceptable fit. The RMSEA value was especially poor, being .075 for internal knowledge sharing climate and .061 for external knowledge sharing climate. According to Kenny et al. (2015) RMSEA may be elevated in correctly specified models with low degrees of freedom, even when the sample size is large. With this in mind the structural model was examined next despite the fact that some of the measurement models did not have satisfactory fit.

Table 2

Goodness of fit statistics for measurement models

Scale	χ2	df	CFI	RMSEA [90% CI]	SRMR	Comments
Readiness for change						
Original model	103.372***	9	.953	.086 [.072, .101]	.0405	
Modified model	22.609***	5	.990	.050 [.030, .072]	.0173	Item 4 excluded
Human relations climate						
Original model	121.057***	9	.972	.094 [.079, .109]	.0284	
Modified model	12.233*	5	.998	.032 [.009, .055]	.0106	Item 2 and 3 parcelled
Internal knowledge sharing						
Original model	1628.009***	54	.847	.143 [.138, .150]	.0711	
Modified model	81.623***	9	.985	.075 [.061, .091]	.0216	Item 3 and 5 excluded, item 2 and 8, item 9 and 10, item 6 and 7, and item 11 and 12 parcelled.
External knowledge sharing						
Original model	1598.924***	54	.841	.142 [.136, .148]	.0750	
Modified model	56.912***	9	.989	.061 [.047, .077]	.0189	Item 3 and 5 excluded, item 2 and 8, item 9 and 10, item 6 and 7, and item 11 and 12 parcelled.

Note. N = 1417; $\chi 2$ = chi-square; df = degrees of freedom; CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardised Root Mean Square; CI = confidence interval. * p < .05; *** p < .001.

Structural model

As shown in Table 3, the original structural model with all items included (depicted in Appendices E) did not achieve acceptable fit. This was expected due to none of the measurement models having acceptable fit before alterations. After making the changes proposed in the measurement models section, the fit values did improve. Unfortunately, the goodness of fit indices were still not completely satisfactory. The chi-square was significant at the p < .001 level, and the CFI value (.942) did not reach the recommended threshold of .95 (Hu & Bentler, 1999). Further, the RMSEA with its 90% CI (.057 [.054, .060]) was within Hu and Bentler's (1999) threshold of RMSEA < .06 indicating good fit, but exceeded the threshold of < .05 recommended by Kline (2016). On the other hand, the SRMR value (.0635) was < .08 as recommended by Hu and Bentler (1999) for indicating good fit.

Table 3

Goodness of fit statistics for the structural model

Model	χ2	df	χ2 /df	CFI	RMSEA [90% CI]	SRMR	Comments
Model 1	6468.572***	660	9.800	.811	.079 [.077, .081]	.0757	All items included
Model 2	1139.167***	205	5.556	.942	.057 [.054, .060]	.0635	Items CHA4, INT3, INT5, EXT3 and EXT5 excluded, item HR2 and HR3, INT2 and INT8, INT6 and INT7, INT 9 and INT10, INT11 and INT12, EXT2 and EXT8, EXT6 and EXT7, EXT9 and EXT10, and EXT11 and EXT12 parcelled.

Note. N = 1417; χ 2 = chi-square; df = degrees of freedom; CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardised Root Mean Square; CI = confidence interval. * p < .05; *** p < .001.

An inspection of the direct and indirect effects revealed that human relations climate had a significant direct effect on individual readiness for change ($\beta = .200$, p < .001). Human relations climate also had a significant direct effect on both internal knowledge sharing

climate ($\beta = .735$, p < .001) and external knowledge sharing climate ($\beta = .554$, p < .001). In addition, external knowledge sharing climate had a significant direct effect on individual readiness for change ($\beta = 206$, p < .001). Related to indirect effects, human relations climate had a significant indirect effect on individual readiness for change through external knowledge sharing climate ($\beta = .112$, p < .001). On the other hand, the direct effect of internal knowledge sharing climate on individual readiness for change was very small and not significant ($\beta = .043$, p = .425). As such, this relationship was constrained to zero. Since there was not a direct effect of internal knowledge sharing climate on individual readiness for change through internal knowledge sharing climate. Thus, internal knowledge sharing climate had no significant effect on individual readiness for change. This variable was therefore removed from the structural model in order to make the model more parsimonious.

After excluding internal knowledge sharing climate from the structural model, the effects between human relations climate, external knowledge sharing climate, and individual readiness for change were at similar levels, and still significant. These direct and indirect effects are summarised in Table 4. The final structural model is presented in Figure 3, which obtained satisfactory fit on all goodness of fit measures, as shown in Table 5.

Table 4

Direct and indirect effects

Model	b	SE	95% CI	β
Modified measurement model				
$\mathrm{HR} \rightarrow \mathrm{CHA}$.197***	.034	[.119 , .281]	.215***
$HR \rightarrow EXT$.600***	.036	[.531, .677]	.507***
$EXT \rightarrow CHA$.177***	.028	[.113, .249]	228***
$\mathrm{HR} \rightarrow \mathrm{EXT} \rightarrow \mathrm{CHA}$.106***	.021	[.068, .151]	.117***

Note: HR = human relations climate, CHA = individual change readiness, INT = internal knowledge sharing climate, EXT = external knowledge sharing climate, b = unstandardised path coefficient, SE = standard error, CI = bias-corrected confidence interval (unstandardised), β = standardised path coefficient. 10 000 bootstrap samples. *** p <.001.

Goodness o	of fit statistics fo	r the st	ructural me	odel			
Model	χ2	df	χ2 /df	CFI	RMSEA [90% CI]	SRMR	Comments
Model 3	329.811***	101	3.265	.977	.040 [.035, .045]	.0380	Internal knowledge sharing climate removed

Root Mean Square Error of Approximation; SRMR = Standardised Root Mean Square; CI = confidence interval. * p < .05; *** p < .001.

Figure 3

The final partially mediated model



Note. a. Exogenous predictor variable: HR = human relations climate; mediating endogenous variable: EXT = external knowledge sharing climate; Criterion variable: RFC = readiness for change. b. numbers are shown as standardised estimates.

Discussion

The objective of this study was to explore the relationship between a molar human relations climate, facet-specific internal and external knowledge sharing climates and individual readiness for change. More specifically, the aim was to examine whether a human relations climate had a direct effect on individual readiness for change, and if there were any indirect effects through internal or external knowledge sharing climate. These relationships constituted seven hypothesises, analysed by using Structural Equation Modelling.

The first hypothesis concerned the relationship between human relations climate and individual readiness for change. H1 stated that human relations climate would have a direct positive effect on individual readiness for change, and this hypothesis was supported. This finding indicates that individuals who perceived their organisational climates as flexible, and who experience strong relationships with peers, may also feel more ready to change, and react better to the changing environment. Hypothesis 2a and 2b concerned the direct effect of human relations climate on internal and external knowledge sharing climate. These hypotheses showed significant results and were supported, suggesting that a human relations climate in an organisation may work as a facilitator for creating and maintaining a good knowledge sharing climate. Hypothesis 3a stated that internal knowledge sharing climate would have a direct positive effect on individual readiness for change. The results showed that this effect was minor, and not significant. This hypothesis was therefore rejected. However, hypothesis 3b concerning the direct effect of external knowledge sharing climate on individual readiness for change was supported, indicating that having a strong external knowledge sharing climate may be beneficial when wanting to prepare the employees for a change implementation and create readiness for change. Lastly, the indirect effect of human relations climate on individual readiness for change through internal knowledge sharing was postulated in hypothesis 4a, and the indirect effect through external knowledge sharing was postulated in hypothesis 4b. Hypothesis 4b showed a significant effect, and was supported, which may suggest that the effect of human relations climate may be greater if there is also an external knowledge sharing climate present. On the other hand, H4a was rejected. Since there were no direct effect of internal knowledge sharing climate on individual readiness for change, there could not be an indirect effect through internal knowledge sharing climate on individual readiness for change.

Summarising the supported and rejected hypothesis, the final structural model consisted of three constructs: Human relations climate, external knowledge sharing climate, and individual readiness for change. The results supported a partially mediated model where

human relations climate had a direct positive effect on individual readiness for change, in addition to a positive indirect effect on individual readiness for change through external knowledge sharing climate. These findings have several theoretical and practical implications, which will be addressed in the following.

Theoretical implications

The relationships and effects found between human relations climate, external knowledge sharing climate, and individual readiness for change support existing findings, as well as adding insight to some gaps in the literature. Generally, the findings contribute to knowledge about factors related to readiness for change, which further complements the massive field of research concerning organisational change. More specifically, this study contributes to the understanding of antecedents of readiness for change, which has become an important research topic as readiness for change may contribute to change success (Armenakis et al., 1993; Bouckenooghe, 2010).

First of all, the present study supports previous findings concerning organisational climates as an antecedent for individual readiness for change (Choi & Ruona, 2011; Jones et al., 2005). This study includes human relations climate as a molar climate. Hence, the present findings supports earlier findings linking a human relations climate to enhanced readiness for change (Choi & Ruona, 2011; Eby et al., 2000; Haffar et al., 2014; Jones et al., 2005; Rafferty & Jimmieson, 2010). As defined by Quinn and Rohrbaugh (1983) in their competing values framework, organisations practicing a human relations climate value flexibility and has an internal focus. As argued by Eby et al. (2000), perceived flexible organisational policies, participation and trust in peers are necessary conditions in order to develop readiness for change. These conditions may lead to individual readiness for change as a result of making the employees feel included, and thus increasing the individual and collective efficacy, i.e. the perceived ability to change (Armenakis et al., 1993). Another plausible explanation for this effect follows the argumentation of Jones et al. (2005). According to them, organisations with human relations values tries to foster cohesion and morale among the employees through training and development. As change is an implicit part of development, the effect of human relations climate on readiness for change may be explained by the rationale that people who experience changes as a part of their organisational climate may be more used to it, and have greater confidence and capabilities to undertake changes.

External knowledge sharing climate also had a direct positive effect on individual readiness for change. This finding yields support for external knowledge sharing as a facet-specific climate being another antecedent of readiness for change. An external knowledge

sharing climate in the police service relates to the work units in a district, and may therefore be especially transmittable to such organisations. Since only external knowledge sharing climate showed an effect on individual readiness for change, these findings also support earlier findings concerning internal and external knowledge sharing being two separate constructs in the Norwegian police service (Lone et al., 2017).

Since the relationship between human relations climate and individual readiness for change was partially mediated by external knowledge sharing climate, the present study contributes to research on the relationships between multiple climates in an organisation. This study involves molar as well as facet-specific climates, and thus adds to a holistic understanding of how such climates are related in an organisation. Based on this, the present study also yields support for the relevance of bandwidth-fidelity theory related to organisational climate research. As argued by Kuenzi (2008), facet-specific climates should mediate the relationship between molar climates and specific outcomes. Following this finding, the present study contributes to research on possible mediating variables between climates and outcomes, which has been identified as a research gap by several authors (Kirrane et al., 2017; Kuenzi, 2008; Oreg et al., 2011).

Despite the fact that internal knowledge sharing climate was removed from the final structural model, human relations climate showed a distinct positive direct effect on both knowledge sharing climates. These findings supports earlier findings connecting human relations values to knowledge sharing (Glomseth et al., 2007; Lone et al., 2017). As argued by Cabrera and Cabrera (2005) such values affect knowledge sharing by creating an environment with strong social norms related to the importance of knowledge sharing, and by encouraging the individuals to share their knowledge in an environment characterised by caring and trust. This is supported by Van Den Hooff and De Ridder (2004) who argues that employees who are more committed to their organisation, and who exerts greater trust towards management and co-workers are more likely to be willing to shar their knowledge.

This study also contributes to the existing climate research in methodological ways. Another gap in climate research mentioned by Kuenzi (2008) concerns the limited use of more sophisticated statistical methods in climate research. In this study, Structural Equation Modelling was used to examine the outlined hypothesises; a research method that contributes somewhat more to the question of causality in climate research (Kuenzi, 2008).

Another theoretical implication of the present study follows from the treatment of internal and external knowledge sharing as facet-specific climates. Following the more modern view of organisational knowledge as a social construct, e.g. social learning theory,

this study treats internal and external knowledge sharing as climates. As such, the measures includes several different aspects of knowledge sharing, and tries to collect these aspects into an integrated measure. However, the measurement models of these variables did not achieve acceptable fit, especially the RMSEA values were too high. Despite the fact that this may be explained by few degrees of freedom (Kenny et al., 2015), it could also be an indication of complexity in the measure. Internal and external knowledge sharing climates are complex constructs involving both practical and relational features. Connecting these to a singular measure may lead to distorted results, especially when using SEM analysis where the program seeks to find unidimensionality (Hoe, 2008). Taken together, the results in the present study may contribute to a more socially oriented view of knowledge sharing in organisations, but the measure of internal and external knowledge sharing as facet-specific climates should be further examined.

It is worth mentioning that despite the fact that this study found effects of a human relations climate and external knowledge sharing climate on individual readiness for change, other researchers have reported otherwise. A strong information and communication climate has been argued to be associated with greater acceptance and support for change (Holt et al., 2007; Oreg et al., 2011; Rafferty & Jimmieson, 2010; Vakola, 2014). However, Oreg et al. (2011) also found in their review that some studies have shown a negative effect of information on change evaluation. The crucial aspect seemed to be the content and the amount of the information, as learning more about the change may give recipients further reasons to resist it and cause stress. It may be useful for organisations to be aware of possible negative reactions, in order to increase the possibility of implementing a knowledge sharing climate in a way that provides the positive effects reported.

Precautions should be taken in relation to the effect of a human relations climate. This climate emphasises the employees and the relationships between them, which may have several positive implications. However, commitment has also been found to have a negative effect on change reactions (Oreg et al., 2011). People who are committed to, and satisfied with the status quo may be less willing to change their conditions. This is also mentioned by Hartnell et al. (2011), who argued that characteristics of a clan climate may lead to negative group responses. They explained this as a result of the possibility that highly cohesive groups may be less likely to identify and introduce new alternatives and challenge traditional perspectives. The result of the present study should therefore be interpreted and practiced with certain precautions.

Practical implications

In this study there was an effect of a molar human relations climate, and a facetspecific external knowledge sharing climate on individual readiness for change. These results may be utilised by organisations experiencing change. Firstly, the results show that it is helpful for organisations to be aware of their existing climates before introducing a change, as some climates may have a positive effect on individual readiness for change. Since human relations climate and external knowledge sharing climate was shown to have an effect on individual readiness for change, organisations may focus on central aspects of these climates in an unfreezing phase before a planned change implementation. Common features for these climates are positive working relationships, communication, participation, cooperation, and trust in management and among peers. By amplifying these values, the organisation may increase employees' readiness for change. More specifically, since human relations climate is a central molar climate in the Norwegian police (Lone et al., 2017), these findings may be especially interesting for creating individual readiness for change in similar organisations.

Although it is beneficial for the organisation to focus on these organisational values before a planned change, organisations may also benefit from implementing them in their organisational culture. As mentioned in the theory section, organisational culture consist of deeper, more permanent core characteristics of an organisation (Choi & Ruona, 2013). While some organisations have a planned approach to change, others take an emergent approach, viewing it as continuous and dynamic as a means of the changing environment. Therefore, implementing values related to a human relations climate and external knowledge sharing climate in the organisational culture may be useful when changes appear frequently. This could strengthen employees' individual readiness for change, and thus contribute to change success.

The results may also be seen as complementing previous studies of internal and external knowledge sharing. As outlined by the participants in the study by Lone et al. (2017), the cooperation between units was perceived as ineffective and inadequate. A mentioned example was that units mainly focusing on achieving the goals in their own work unit, sometimes at the expense of helping other units in the district and the overall goals of the district. The results of this study shows an effect of human relations climate on internal as well as external knowledge sharing climate. As cooperation is a key part of the knowledge sharing climates, focusing on human relations climate characteristics could show a positive effect on developing the cooperation between units in a district. These findings may be especially applicable to other organisations with similar organisational structure. For instance, Cummings (2004) found that external knowledge sharing was more strongly associated with performance when groups were structurally diverse, i.e. groups with members in different locations, representing different functions and managers, and who work in different units. This effect was explained by the fact that knowledge sharing with sources outside the group may lead to unique knowledge, which may enhance performance.

Limitations

Despite the positive results reported it is important to be aware of the methodological and theoretical limitations when trying to utilise the results. A first limitation concerns the possibility of common method variance. This is a general challenge in climate research, as climates are perceptual constructs that originate from measuring individuals' perceptions, and aggregating these scores to a higher level (Beus et al., 2020). Common method variance may arise when different constructs are measured with the same method, and concerns the problem of similar measurement method inflate the observed relationships (Podsakoff et al., 2012). Such effects may appear in several ways, for example in self-report research where the same participants answer questions regarding multiple variables in the study, when the variables are measured in the same way, and when the variables are assessed at the same time (Beus et al., 2020; Kuenzi, 2008; Rafferty & Simons, 2006). As this study is a cross-sectional study based on only self-report measures, there is a realistic possibility for an effect of common method variance in the results. Hence, future research may benefit from adopting different measurement methods in their studies.

Another limitation concerns the problem of interpreting causality based on the results of the study. As a result of the design of the study, one cannot be certain of the direction of causality between the variables. The study found a positive relationship between a human relations climate, an external knowledge sharing climate, and individual readiness for change. However, one cannot conclude about the direction of these relationships, or if the variables mutually enhance each other.

A third limitation is related to generalisation. The sample in this study consisted of people from the Norwegian police service. As such, the context and sample create a culture specific context, which may limit the generalisation abilities of the study. On the other hand, it is worth mentioning that this research context also has its benefits. The fact that the study is conducted in the police service which may have a more stable environment compared to other companies, creates favourable conditions for a cross-sectional study. Further, as this research project is ongoing, a stable environment is favourable in order to minimise the effects of external factors that may affect the work environment, such as a worldwide pandemic.

The issue of generalisation also rises in relation to the chosen measure in this study. In climate research two widely used ways of measuring is by using either Likert-scale or ipsative scores (Cameron & Quinn, 2011). As Likert-scale is used in this study, it is more difficult to generalise the result and compare them to climate research using ipsative scores.

Lastly, a limitation follows the measurement models of internal and external knowledge sharing climate. As mentioned, several alterations were made to these measures. Most of the items in the variables were kept in the measurement models, either in their original form, or by parcelling them with similar items. However, the items excluded were related to respect and suspiciousness. As a result, the internal and external knowledge sharing climate variables may lack aspects that are closely related to trust, which has been acknowledged as a central part of knowledge sharing (Ipe, 2003; Wang & Noe, 2010; Witherspoon et al., 2013).

Future research

The results and limitations of the present study reveal several implications that should be studied further. Firstly, following the last mentioned limitation, how to measure knowledge sharing climate needs greater attention. This study outlined knowledge sharing as a complex facet-specific climate, having connections to training, learning and several interpersonal constructs such as trust and cooperation. However, the measure used in this study underwent several alterations in order to improve the goodness of fit, including removing some of these aspects. For instance, several items were parcelled based on the analysis. This may indicate that the number of items in the measure could be reduced, or that the items could be worded differently. There is little research treating knowledge sharing as a facet-specific climate, and more research is needed in order to establish the validity of this measure.

Future research projects should, to a greater degree, include other organisational climates. In this study, the only molar climate included was human relations climate. Several authors have mentioned that focusing on one narrow aspect of an environment may not accurately reflect the whole work environment (Hartnell et al., 2011; Kuenzi, 2008) It could therefore be rewarding for future research to include other climate types, e.g. the three remaining climate types in the CVF, and study them in relation to internal and external knowledge sharing climate, and individual readiness for change.

A third suggestion for future research concerns the limitations of the research methods used in this study. There are methodological limitations concerning both the items used in the different measures, but also the research method used in these measures. This research is a cross-sectional study using self-report surveys. There is a need for research studying these variables using other research methods, as the far most used research method in climate research is self-report measures (Kuenzi, 2008). For example, Cummings (2004) studied knowledge sharing in a field study, and by using interviews to assess what the participants perceived as central features of the variable. Additionally, since organisational climates include relational aspects, studying the dynamics and processes in the relevant groups could be an interesting research problem, that avoids the trouble of common method variance. Other possible research methods are longitudinal studies, and studies assessing causality to a greater extent.

Finally, future research could study the effects of the later technological working trends in relation to the variables included in this study. More specifically, the COVID-19 pandemic has been affecting how we work during the past year, and organisations have had to adapt to new, technologically influenced ways of working. In the time that follows, it will be interesting to see how our ways of working has been influenced by this period, and whether it will lead to permanent changes. A possible change is that more meetings are carried out online. As a result, employees may meet in different way, and this may affect how the relationships development between employees. Therefore, it would be interesting for future research to further investigate how new working trends affect organisational climates, especially human relation climate and knowledge sharing climate as these are influenced by relational constructs such as trust and cooperation.

Conclusion

Organisational climates and readiness for change are complex constructs. This study contributes to the research field by addressing several gaps in the literature. Firstly, by including multiple climates, and secondly by examining mediating variables between climates and readiness for change. As such, these findings contribute to the further development holistic understanding of how different organisational climates exists and affect each other, and how an organisational context may affect specific outcomes in different ways. Hopefully, these findings may be of use for the Norwegian police service, in their efforts to create a police force capable of continuous learning, development and improvement. These findings can, hopefully, inspire other organisations, as knowledge about how to facilitate for individual readiness for change may help organisations as well as their employees in these rapidly changing and uncertain times.

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Appendices

Dimension	Item name	Item Statement
Human relations climate	HR1	Vi utvikler støttende, positive arbeidsforhold her på enheten / We develop supportive, positive working relationships in our work unit
	HR2	Arbeidsmiljøet er sånn at vi på enheten kommer godt overens med hverandre / The environment is such that we get along well with each other in our work unit
	HR3	Vi har lite konflikt mellom oss på enheten / we have little conflict between ourselves in our work unit
	HR4	Vi er forpliktet til hverandre her på enheten / We are committed to each other in our work unit
	HR5	Det er høy moral blant ansatte på enheten / There is high morale among employees in our work unit
	HR6	På min enheten hjelper vi ansatte hverandre når det trengs / In my work unit, we help each other when needed
	HR7	Hver ansatt har mulighet for utvikling her på enheten / Each employee has an opportunity for growth and development in our work unit
	HR8	Hver ansatt har mulighet for faglig utvikling her på enheten / Each employee has an opportunity for professional growth and development in our work unit

Appendices A – Human relations climate

Dimension	Item name	Item Statement
Internal knowledge sharing climate	INT1	Folk er innstilt på å dele informasjon på tvers av gruppene her på enheten / People are prepared to share information across the group in our work unit
	INT2	Det er svært lite konflikt mellom gruppene her på enheten / There is very little conflict between groups in our work unit
	INT3	Folk er mistenksomme overfor andre grupper her på enheten / People are suspicious of other groups in our work unit
	INT4	Det er svært effektivt samarbeid mellom gruppene her på enheten / Collaboration between groups in our work unit is verv effective
	INT5	Det er lite respekt mellom noen av gruppene her på enheten / There is little respect between some of the groups in our work unit
	INT6	Folk er svært innstilt på å dele på kompetanse mellom gruppene her på enheten / People are very prepared to share competence between groups in our work unit
	INT7	Folk er svært innstilte på å dele på personer med fagkompetanse/kompetansepersoner mellom gruppene her på enheten / People are very prepared to share person with expertise between groups in our work unit
	INT8	Det er mye konflikt om deling av kompetanse mellom gruppene på denne enheten / There is much conflict over sharing of competence between the groups in this work unit
	INT9	Det er effektiv deling av informasjon på tvers av gruppene her på enheten / There is efficient sharing of information across the groups in our work unit
	INT10	Her deler vi mye informasjon på tvers av gruppene på enheten / We share a lot of information across the groups in our work unit
	INT11	Det er stor grad av samarbeid mellom gruppene her på enheten / There is a high degree of collaboration between the groups in our work unit
	INT12	Folk er innstilte på å samarbeide på tvers av gruppene her på enheten / People are prepared to collaborate across the groups in our work unit

Appendices B – Internal knowledge sharing climate

Dimension	Item name	Item Statement				
External knowledge sharing climate	EXT1	Folk er innstilt på å dele informasjon på tvers av enhetene her i distriktet / People are prepared to share information across the work units in our district				
	EXT2	Det er svært lite konflikt mellom enhetene her i distriktet / There is very little conflict between work units in our district				
	EXT3	Folk er mistenksomme overfor andre enheter her i distriktet / People are suspicious of other work units in our district				
	EXT4	Det er svært effektivt samarbeid mellom enhetene her i distriktet / Collaboration between work units in our district is very effective				
	EXT5	Det er lite respekt mellom noen av enhetene her i distriktet / There is little respect between some of the work units in our district				
	EXT6	Folk er svært innstilte på å dele på kompetanse mellom enhetene her i distriktet / People are very prepared to share competence between work units in our district				
	EXT7	Folk er svært innstilte på å dele på personer med fagkompetanse/kompetansepersoner mellom enhetene her i distriktet / People are very prepared to share persons with expertise between work units in our district				
	EXT8	Det er mye konflikt om deling av kompetanse mellom enhetene her i distriktet / There is much conflict over sharing of competence between the work units in this district				
	EXT9	Det er svært effektiv deling av informasjon på tvers av enhetene her i distriktet / There is an efficient sharing of information across the work units in our district				
	EXT10	Her deler vi mye informasjon på tvers av enhetene i distriktet / We share a lot of information across the work units in our district				
	EXT11	Det er stor grad av samarbeid mellom enhetene her i distriktet / There is a high degree of collaboration between the work units in our district				
	EXT12	Folk er innstilte på å samarbeide på tvers av enhetene her i distriktet / People are prepared to collaborate across the work units in our district				

Appendices C – External knowledge sharing climate

Dimension	Item name	Item Statement
Individual readiness for change	RFC1	Når endringer skjer på min enhet tror jeg at jeg er klar for å takle dem / When changes occur in my work unit, I believe that I am ready to cope with them
	RFC2	Jeg prøver vanligvis å overbevise folk på min enhet om å akseptere endring / I usually try to convince people in my work unit to accept change
RFC3	RFC3	Når endringer skjer på min enhet pleier jeg å klage på dem heller enn å gjøre noe med dem / When changes occur in my work unit, I tend to complain about them rather than deal with them
	RFC4 Jeg tror at jeg er mer klar for å akseptere endring kollegaer på min enhet / I believe that I am more accept change than my colleagues	Jeg tror at jeg er mer klar for å akseptere endring enn mine kollegaer på min enhet / I believe that I am more ready to accept change than my colleagues
	RFC5	Jeg er ikke bekymret for endringer på min enhet fordi jeg tror at det er en måte å takle dem på / I don't worry about changes in my work unit because I believe that there is always a way to cope with them
	RFC6	Når endringer skjer på min enhet har jeg stort sett til hensikt å støtte dem / When changes occur in my work unit, I have always the intention to support them

Appendices D – Individual readiness for change



Appendices E – Structural model before alterations