



Odd Martin Rødsvik & Simran Kaur Marjara

**The Mediating and Moderating Role of
LMX on the Relationship Between
Feedback and Motivational Climate**

**Master's thesis spring 2023
Oslo Metropolitan University
MSc in Economics and Business Administration**

Abstract

Motivational Climate is crucial for organisations to achieve their goals, maintain competitiveness, and promote employee well-being and work performance. This study aims to explore the relationship between feedback and motivational climate, with a focus on the mediating and moderating roles of Leader-Member Exchange (LMX). Through empirical research, we investigate how LMX influences different aspects of these constructs.

Our findings reveal important insights into the complex dynamics between feedback, motivational climate, and LMX. Specifically, we found that LMX serves as a mediator between perceived feedback behaviour and mastery climate, indicating that the quality of leader-member relationships influences the relationship between feedback and the promotion of a mastery climate. Furthermore, LMX also mediates the relationship between perceived feedback behaviour immediacy and frequency and both mastery climate and performance climate.

Moreover, our study uncovers a significant finding that LMX moderates the relationship between perceived feedback behaviour and performance climate. This suggests that the quality of leader-member relationships can impact how feedback influences the creation of a performance climate within the organisation.

To obtain comprehensive results, we collected cross-sectional data from 218 representatives, considering a broad range of demographic variables to enhance the generalizability of our findings.

The implications of this study extend to managerial practices, emphasising the importance of fostering a conducive motivational climate and utilising feedback mechanisms to optimise employee performance and satisfaction.

Oslo Metropolitan University
2023

Acknowledgment

We developed and completed this thesis as the final part of our master's degree in the spring semester of 2023 at OsloMet, in the field of Strategy, Organization and Leadership.

During this journey we have acquired knowledge and developed a substantial comprehension of various concepts relevant to our thesis. This journey has been challenging and tough, but fun and inspiring at the same time. We would like to express our gratitude to our supervisor, Robert Buch, for our immediate interest in this subject, and further for all the support, guidance, motivation, and knowledge he has provided for us in this process. His contribution plays an important and valuable role in our thesis.

We would also like to thank one another for great collaboration throughout this process, and OsloMet for the opportunity and support. This process has taught us a tremendous amount and provided us with valuable knowledge that we will carry forward into our professional careers and lives.

Oslo, May 2023

Odd Martin Rødsvik & Simran Kaur Marjara

Table of Contents

1. Introduction	1
2. Theory and Hypotheses	6
2.1 Feedback.....	6
2.1.1 The Dynamics of Feedback: Understanding its Process, Value, and Recipient Perception	8
2.1.2 Enhancing Work Performance through Effective Feedback and Motivational Climate	9
2.2 Motivational Climate	11
2.2.1 Mastery & Performance Climate	13
2.2.2 Leader-Member Exchange and Motivational Climate.....	15
2.3 Leader-Member Exchange	16
2.3.1 The Influence of Leader-Member Exchange (LMX) on Affective Organisational Commitment, Feedback-Seeking Behaviour, and Psychological Safety.....	17
2.3.2 Leadership behaviour	19
3. Methodology	23
3.1 Sample and Procedure	23
3.2 Measurements.....	25
3.2.1 Perceived feedback behaviour constructiveness, immediacy and frequency	25
3.2.2 Leader-Member Exchange.....	26
3.2.3 Motivation climate.....	26
3.2.4 Control variables.....	26
3.3 Analysis	27
4. Results	29
5. Discussion	39
5.1 Strengths, Limitations, and Research Opportunities	44
5.2 Practical Implications.....	47
6. Conclusion	48
References	50
Appendix	61

List of Figures and Tables

Figure 1. Conceptual Moderating Framework.	22
Figure 2. Conceptual Mediating Framework.	23
Figure 3. Confirmatory Factor Analysis.	30
Table 1. Descriptive Statistics, Correlations, and Scale Reliabilities.	31
Figure 4. Conceptual Mediating Framework after testing the hypothesis 2a and b.	33
Figure 5. Conceptual Mediating Framework after testing the hypothesis 2c and d.	34
Table 2. Mastery Climate (MC) & Performance Climate (PC)	35
Figure 6. Conceptual Moderating Framework after testing the hypothesis.	36
Figure 7. Plotted Interactions.	38

1. Introduction

Feedback plays a central role in fulfilling the human need for recognition, as it is essential for individual independence and self-realisation. Our ability to gain recognition depends to a large extent on the feedback we receive from others (Øiestad, 2004). Despite this, it is shown in an American research study that a significant amount of 65% of the workforce has not received any kind of recognition or positive feedback in their work environment (Rath & Clifton, 2005). This statistical finding raises meaningful questions about the consequences of this lack of recognition and feedback in work contexts, especially when you consider that work is a significant part of our lives, with the average person spending countless hours at work throughout their lives.

These statistical results appear even more worrying, especially when considering the contemporary dynamics of our rapidly developing society, where concepts such as competitiveness and productivity are central to our consciousness (Acemoglu & Robinson, 2019). This perspective, on which problems can be prominent in today's society, reinforces the importance of examining the dynamics of the work climate, the importance of constructive feedback and the relationship between leaders and employees (Baloch et al., 2021; Chun et al., 2014; Nerstad et al., 2013). A thorough analysis of these factors becomes crucial, as they have the potential to influence the individual's ability to achieve and maintain a high degree of competitiveness and productivity in the modern work climate (Loi et al., 2011). A decisive factor in creating a positive work culture and a healthy work climate is feedback (Akhtar et al., 2022).

Research has shown that focusing on feedback is important for employees' development and improvement of their work performance. It can also increase their commitment and well-being in the workplace (Chun et al., 2014; Ilgen et al., 1979; Kluger & DeNisi, 1996). In other words, feedback plays a crucial role in our professional development and our ability to thrive and perform at our work. To increase the work performance of employees in an organisation, it is essential to create a climate where feedback and knowledge sharing are prioritised (Akhtar et al., 2022). Studies have shown that a high degree of competitiveness, effort, mastery skills, belonging and autonomy are positively associated with employee performance and well-being (Graves & Luciano, 2013; Karatepe et al., 2006).

An important factor in creating such a climate; is focusing on developing good relationships within the organisation. Developing good relationships between leaders and members plays a key role in work climates that want to reduce conflicts between employees and encourage feedback from colleagues and sharing of knowledge (Newell et al., 2009). Through knowledge sharing, employees can develop, feel ownership and gain a sense of mastery (Cui & Yu, 2021). Therefore, it is important to prioritise a culture where feedback and sharing knowledge is a natural part of the work environment (Akhtar et al., 2022; Newell et al., 2009).

Studies have shown that perceived motivational climate can affect an employee's effort and motivation, which is crucial for both the employee and the organisation (Nerstad et al., 2013). Motivational climate is a broad term that includes elements of both a mastery climate and a performance climate, depending on the organisation's goals and values. Research has often done a comparison of mastery climate and performance climates. Employees in a mastery climate feel more supported and encouraged to develop their skills, leading to higher commitment, motivation, and performance compared to those in a performance-oriented climate. A good mastery climate also enhances employees' well-being and job satisfaction, resulting in increased internal motivation and greater involvement. As a result, employees are also less likely to leave an organisation (Buch et al., 2017; Liem et al., 2008; Nerstad et al., 2013). On the other hand, a perceived performance climate may be positively related to turnover intentions, meaning that employees may be more likely to leave the organisation if they feel pressured to achieve results at the expense of their personal development and well-being (Buch et al., 2017).

Feedback can have a positive impact on a person's behaviour at work and is a valuable leadership strategy (Evans & Dobrosielska, 2021). In motivating climates, where leaders prioritise giving feedback to the employees, will at the same time, by doing so, contribute to the employees' development of competences (Øiestad, 2004). Feedback can be considered a cornerstone of a good relationship and good communication with one's leader. The relationship with the leader also affects the feedback processes. When there is a good relationship between an employee and a leader, it is often easier for the leader to give feedback at the "right" time. At the same time, the employees are more receptive to this feedback, as there is a mutual

trust and understanding of abilities, skills and needs for development (Evans & Dobrosielska, 2021). In other words, it is seen that employees develop through a process where they receive feedback, corrections and relevant information that they can integrate into their future work tasks and areas of responsibility. The leader passes the information on to an employee who uses this information in light of their own knowledge and skills. This creates a basis for behavioural changes and improvements based on the information provided and the employee's existing knowledge (Øiestad, 2004).

How can a leader build a good relationship with their employees, and how can this have a positive effect on the work climate? To achieve this, it is important that leaders strive and focus on their relationship with their employees. A textbook definition for this relationship is known as Leader-Member Exchange (LMX) (G. Graen & Cashman, 1975).

Research shows that LMX is one of the most common and important components in an organisation and in a work environment (G. Graen & Cashman, 1975). Leaders instruct and motivate their employees by actualizing their potential. This is done by giving them feedback on their performance (Chun et al., 2014). An employee's ability to obtain feedback that provides them with new and useful information from their leaders may depend on the general level of LMX. The better the quality of this relationship, the more likely the employee will receive useful information and guidance from their leader (L. W. Lam et al., 2017). In other words, it is important to look at feedback and LMX together, due to the close relation and greatly influence these two concepts have (Chun et al., 2014).

An effective feedback process and a high quality LMX can have multiple effects on each other. Feedback can be an important part of the LMX process, as feedback can allow the leader and the employee to communicate about performance and expectations. Feedback can also help build trust between leaders and employees, as it shows that the leader is willing to provide constructive feedback to help the employee to improve and develop. Similarly, LMX can also influence the feedback process. If there is a good relationship between a leader and an employee, the feedback can be more effective, as the employee will feel more comfortable receiving feedback. If there is a poor relationship between the leader and the employee, the

feedback may be less effective, as the employee may be less willing to accept the feedback from the leader (Baloch et al., 2021; Chun et al., 2014; Evans & Dobrosielska, 2021; L. W. Lam et al., 2017; W. Lam et al., 2007).

Analysing the relationship between feedback and its outcomes is complex and influenced by a number of variables and factors. Previous research has shown that there are several moderating factors that influence the relationship between feedback and its outcome (Evans & Dobrosielska, 2021). Despite the fact that it seems difficult and complex to analyse feedback, its outcomes and its relationship to other variables, there is still considerable potential for research in this field. Perhaps the ambiguity and complexity of this field makes it particularly fascinating and engaging to explore.

According to Evans and Dobrosielska (2021), there is only a limited amount of academic and empirical research on feedback in work contexts that can inform and be transferred to practice. "The academic study of workplace feedback therefore represents an opportunity ripe for academic work interested in replication, the wider transferability of this body of evidence, and impact." (Evans & Dobrosielska, 2021, p. 3402). It is interesting to note that no extensive research has been conducted on feedback as a phenomenon in working life, including examination of how the relationship between a leader and a member (LMX) functions as a moderator or mediator (Afshan et al., 2022; Buch, 2015). This indicates a potential for further research and understanding of these relationships.

In this thesis, the potential for research on feedback in the workplace is seen as a significant opportunity to create new knowledge and insight. It is seen as a source of valuable empirical data and a way to increase our understanding of how feedback can be used to improve the motivational climate and increase productivity in companies and organisations. In this context, the leader in a given workplace will have a central place. This, because leaders in most cases hold the key to information, the key to feedback. In most common cases, the leader is the sender, and the employee is the recipient of the feedback (L. W. Lam et al., 2017).

Based on this, it can be interpreted that this will give us a unique opportunity to investigate how LMX can function both as moderator and mediator in the relationship

between feedback and motivational climate. By examining these moderating and mediating factors, we contribute to uncovering the complex dynamics between feedback, LMX and motivational climate. The purpose of this thesis is to investigate and analyse the relationship between feedback, LMX and motivational climate and their interaction in organisational contexts. In what follows, we will be exploring this question:

What is the Mediating and Moderating Role of Leader-Member Exchange (LMX) impact the Relationship Between Feedback and Motivational Climate?

Our contribution to the research area will be to explore and document how the feedback processes and quality of LMX can affect the motivational climate in an organisation. In the thesis' second section central concepts and theories will be presented. In this section, there will be a focus on feedback, exchanges between leaders and members and motivational climate. By incorporating theoretical perspectives and previous research on feedback, LMX and motivational climate, it explores how establishing a positive and trusting relationship between leaders and employees can promote an effective feedback culture and contribute to creating and maintaining a motivational climate. In the third section of the thesis, we describe the method used, which is a survey. The composition of the sample and the procedure for data collection are explained in detail. The survey includes questions about LMX, feedback and motivational climate that are relevant to answering the research question. The results are presented and discussed in the fourth section. Data analysis of the survey reveals different correlations between LMX, feedback and motivational climate. The results are presented using statistical findings and descriptions of the identified correlations. The results from the survey can be valuable to organisations in their efforts to improve management practices, strengthen LMX, and promote a motivational climate for their employees. In the fifth section, we discuss and provide a deeper interpretation of the results in relation to the theoretical background. We pay a particular attention towards the mediating and moderating effects of LMX and its impact on the relationship between feedback and motivational climate. In this section, we also discuss the strengths and limitations of the study, as well as possible areas for further research. In the last section of the

thesis, we conclude and summarise the main results and answer of the research question.

2. Theory and Hypotheses

2.1 Feedback

Feedback is defined as information that is available to employees in their work environment (Hanser & Muchinsky, 1978). The main function of feedback is to regulate behaviour by helping employees work towards goals and achieve personal development. Feedback provides employees with information about their work performance, including whether they are meeting the set of standards and whether or not their behaviour is considered appropriate. This information helps employees perform their jobs effectively and allows them to evaluate their performance and improve their behaviour in the future (Lam et al., 2017).

”Originally, feedback was used to describe an arrangement in an electronic circuits whereby information about the level of an ‘output’ signal (specifically the gap between the actual level of the output signal and some defined ‘reference’ level) was fed back into one of the system’s inputs” (Black & Wiliam, 1998, p. 47).

Later, feedback has been used in other contexts, primarily in connection with behavioural sciences. A central description of feedback in this context is seen by Kluger & DeNisi (1996):

”They define ‘feedback interventions’ as ‘actions taken by an external agent to provide information regarding some aspects of one’s task performance’, although it is worth noting that the requirement for an external agent excludes self-regulation. In contrast, Ramaprasad (1983) defines feedback as follows: “Feedback is information about the gap between the actual level and the reference level of a system parameter which is used to alter the gap in some way (p. 4).”” (Black & Wiliam, 1998, p. 48).

Feedback has often been written about in educational contexts (Black & Wiliam, 1998; Carless, 2006; Hattie & Timperley, 2007). Over the time, the article by Black

and Wiliam, (1998) has been referred to often. In this article, a detailed and theoretical analysis of feedback is made. According to Black and Wiliam (1998), it is "...all those activities undertaken by teachers, and/or by their students, which provide information to be used as feedback to modify the teaching and learning activities in which they are engaged" (p. 7-8). This is a fundamental description of feedback, and this sentence can therefore easily be transferred to work contexts and made relevant for this thesis. To adapt the description over to this context, the sentence would rather sound like this: all activities undertaken by the leader and/or by their employees provide information to be used as feedback to modify the working environment, behaviours, and activities in which they are engaged.

With feedback we learn faster and more effectively, this is because we have a clear understanding of how we are doing and what we need to do to improve (Carless, 2006). According to Hattie and Timperley (2007), feedback consists of four levels. The essence of these four levels of feedback, and transferred to the context of this thesis, emphasises that leaders should give employees different types of feedback in relation to a work task. Leaders should understand the importance of providing feedback on work tasks, the process behind completing a work task, employee self-regulation, and personal feedback to enhance employee self-image and confidence. These different types of feedback can help a person improve in different areas and gain a more comprehensive understanding of their performance.

Feedback can also provide directions for acquiring more accurate or relevant information, improve information processing or learning processes, develop greater self-assessment skills and increase confidence to engage further in future work tasks. Furthermore, it is described by Hattie and Timperley (2007) that too much feedback which is only directed at 'task level' means that the person receiving feedback only focuses on immediate goals. This means that you can see a change immediately, and with this they forget the strategies to achieve a goal. Hattie and Timperley (2007) point out that praise can take the focus away from information about the work task, i.e. it is not effective to praise too much, because you take the focus away from the task to be carried out.

2.1.1 The Dynamics of Feedback: Understanding its Process, Value, and Recipient Perception

Øiestad (2004) describes feedback as a process involving two aspects. First of all, feedback requires an attention to another person and an awareness of the aspects that are desired to be communicated. Second, feedback involves communicating this attention to the person it concerns. It is not enough to simply observe and be aware of certain aspects of the other person's behaviour; it is also important to express these observations and involve the person the feedback is aimed at. The feedback process typically involves two roles: the person giving feedback and the person receiving feedback. Giving feedback involves acknowledging certain aspects of the other person's behaviour or performance. Receiving feedback allows that person to be validated and grow further. When feedback is given correctly, it conveys that it is safe to be with the other person and allows that person to relax and be themselves (Øiestad, 2019). Feedback is not always valuable or beneficial in itself. Its value depends on how it increases the recipient's knowledge (Ilgen et al., 1979). In other words, feedback is only valuable if it contributes to increasing the recipient's knowledge and improving their performance and skills in a constructive way (Kluger & DeNisi, 1996).

However, it is not enough that feedback is present. Feedback is only effective when the person receiving the feedback has a full understanding of the information given by the leader and what they are trying to convey. It is not automatically guaranteed that the recipient will act on it or change their behaviour, even if the feedback is given by a leader. The recipient's response to the feedback is dependent on their own perspective and interpretation of the information provided (Hattie & Timperley, 2007). How the recipient of the feedback reacts or perceives the information given depends on "...person characteristics, the nature of the message, and the characteristics of the source of feedback." (Ilgen et al., 1979).

As mentioned earlier, feedback is a way of providing information about a person's past actions or achievements and judging their quality. However, the amount of information in the feedback depends on the recipient's individual perspective and experiences. The amount of information provided will also depend on how much the

feedback recipient already knows about the behaviour or performance. Feedback can therefore be perceived differently by different people, depending on their personal background, experiences and knowledge (Ilgen et al., 1979). According to Newell et al. (2009) knowledge is an individual resource, which consists of the ability to use available data and information in combination with one's own experiences.

2.1.2 Enhancing Work Performance through Effective Feedback and Motivational Climate

Feedback is a complex process, as there is no universal solution or formula for feedback. Determining whether feedback is constructive and having the desired effect can be challenging, as people and situations vary. Feedback therefore requires different approaches adapted to individual differences and specific situations. The feedback process is complex, as no clear rules can be established, which can be applied in all cases. In contrast, feedback requires a flexible and adaptable approach that can meet individual needs and situations (Øiestad, 2004). For this reason, it seems important to remember that feedback contains many aspects (Black & William, 1998). The same complexity is pointed out by Carless (2006), who in this study argues that feedback processes are more complex than previously thought. When evaluating or examining feedback, it is important to look at all its aspects. This includes factors such as the frequency, timing and methods of feedback. In addition, one should also assess the quality and quantity of the feedback (Black & William, 1998).

In an article published by Kuvaas et al. (2017), they conduct a study on the relationship between perceived constructiveness and perceived immediacy and frequency of feedback from a superior and work performance. The researchers found that a high level of perceived immediacy and frequency of feedback from a superior had a positive influence on how constructive feedback was perceived. This led to further improvements in work performance. According to Kuvaas et al. (2017), employees can learn and implement more effective strategies to perform their tasks if they receive feedback more frequently and more immediately. The feedback that is given should be done without delay, so that the risk of forgetting is reduced. In practice, this can mean that the more frequently and quickly employees receive feedback on their work, the better they will be able to adapt and improve their

performance on a more continuous basis. In this study, they found a positive correlation between how employees perceived the leader's feedback about their work performance. The results from this study showed that the positive relationship between perceived constructiveness of supervisor performance feedback and job performance was only present when employees experienced a high degree of immediacy and frequency in supervisor performance feedback. In other words, this shows that when the supervisor gives feedback quickly and often, and when employees perceive the feedback as constructive, it can have a positive effect on their work performance (Kuvaas et al., 2017).

In other words, Black & William (1998) point out that the effectiveness of feedback depends on its quality and not so much on whether it is present. The frequency of feedback, in and of itself, does not necessarily lead to positive outcomes. Rather, for feedback to be effective, as mentioned earlier, it must be of high quality and tailored to the individual recipient. The work performed and the behaviour simply depends on the content of the feedback and its learning opportunities. In the wider context, learning opportunities differ from person to person and are based on the individual's motivations and self-perception (Black & William, 1998). Briefly explained, a leader can give feedback and have an intention and idea about how this should be perceived, however, this is not something the leader can control. What learning opportunities or development potentials come out of feedback is up to the employee; the one who receives the feedback, not the one who gives the feedback. Internal motivation and work effort have been shown to increase if feedback satisfies the need for competence. If the leader focuses on an employee's strengths and avoids negative feedback, the leader can help increase the motivation and work effort of employees, which can help contribute to a positive work culture (Kuvaas et al., 2017). Black and William (1998) point out how feedback is more effective when it is aimed at how the person who receives the feedback can correct his mistakes or shortcomings through a thoughtful approach.

Creating a good feedback culture and strengthening relationships with employees is not an easy task for the leader. This task requires time and resources. At the same time, the relationship between the employee and the leader should preferably have an open and respectful approach to communication. A good feedback culture

requires persistent effort from leaders and employees. In other words, it is important for both leaders and employees to be open to feedback and be willing to change their behaviour and practices according to feedback. This also requires an open and respectful approach to communication and a willingness to take responsibility for one's own development and well-being. Overall, a strong relationship between feedback, LMX and motivational climate can have a significant impact on a workplace's well-being and productivity. It is crucial that leaders invest in building a good feedback culture and strengthening their relationships with employees, while also involving employees in the decision-making process and giving them a voice. By doing this, workplaces can create a positive and productive culture where employees thrive and perform at their best (Baloch et al., 2021; Chun et al., 2014; Evans & Dobrosielska, 2021; Nerstad et al., 2013).

As a leader you are responsible and have influence over the people you lead. This implies a special opportunity to contribute and influence their lives, both inside and outside the workplace (Albæk, 2021). The leader can have an indirect influence on the lives of their employees by creating a positive work environment that promotes well-being and development. This influence can also be directly through conversations and feedback that can affect their careers and personal lives (L. W. Lam et al., 2017). Effective feedback can stimulate the individual's self-confidence, which is an important factor for motivation. However, it is not solely the leader's responsibility to motivate the employees, as the individual also has a responsibility to find their own motivation by searching for meaningful activities. But after all, it is still considered to be the leader's responsibility to create the framework and opportunities to promote motivation in the workplace (Øiestad, 2004). In this way, the leaders play a decisive role in establishing a motivating climate in which employees' motivation can develop and be strengthened. To achieve this, it is important to understand what a motivational climate entail.

2.2 Motivational Climate

Before proceeding to describe what a motivational climate entails, we consider it relevant to present a concise and fundamental definition of the concept of motivation. Self-determination theory (SDT) is a theory that was created by Deci and Ryan in the

70's with its purpose to understand human motivation. The theory looks at three fundamental psychological needs. These three are; **Autonomy** - the need that involves people's desire or urge to be agents of influence and feel that they have a free will. The need for **competence** is about people's inherent desire to master something and feel that they have the ability to influence their surroundings. And lastly, the need for **relatedness**, to interact with and be connected to other individuals, also experience good relation bonds with others. These three fundamental psychological needs are the essence to be intrinsically motivated (Deci & Ryan, 1985; Ryan & Deci, 2000). In an article by Graves & Luciano (2013), they look at how LMX is related to SDT and intrinsic motivation. They found that high value of LMX is positively related to all psychological needs. That being said, LMX has a positive relation to intrinsic motivation (Graves & Luciano, 2013). Extrinsic motivation on the other hand, is a concept where an individual's purpose to engage in a specific activity is to achieve a separate outcome, where they are motivated by external factors or rewards, like monetary compensation and recognition (Ryan & Deci, 2000). Nevertheless, what does it entail to work in a motivational climate?

The motivational climate refers to particular environments or situations in which individuals act or operate according to the framework of the Achievement Goal Theory (AGT), which is defined and determined by an individual's perception of what achieving a goal means and how their efforts will be rewarded (Ames, 1992; Nerstad et al., 2018). This can indirectly be conveyed through leaders' responses and incentives towards different behaviours, which establishes a social culture of different practices, guidelines and directions for goal achievement. It is important to note that all individuals, both leaders and employees, may have different perceptions of what goal achievement looks like, when they are considered achieved and how they are achieved. A motivational climate is based on these perceptions, and it is often divided into two dimensions; a mastery climate and a performance climate. These two dimensions may exist separately or at the same time. Traditional Achievement Goal Theory (AGT) mentions these two dimensions when explaining the motivational climate at work (Ames & Archer, 1989; Nerstad et al., 2013).

2.2.1 Mastery & Performance Climate

A mastery-oriented motivational climate is referred to as a mastery climate. In this type of climate, the work structure is all about learning, developing and mastering skills and building competence, especially with employees sharing knowledge and experiences to exchange individual learning processes and to improve (Ames, 1992; Caniëls et al., 2019; Nerstad et al., 2013). In these situations, there is little to no competition between the employees. The focus is on each individual's personal development, rather than competition between the employees. It is encouraged to take risks and learn from the mistakes that are being made. The reward itself will be related to each individual's personal development or self-development (Nerstad et al., 2013).

On the other hand, achieving outcomes with social comparison and differentiation from others, are the main focus points in a performance-oriented motivational climate, which is called a Performance Climate (Caniëls et al., 2019; Nerstad et al., 2013). A performance climate is characterised by values like competition and aiming for rewards and recognition, and success is seen through comparison with other employees, which are very different values compared to the values of mastery climate. Where success is seen through development and the competence one builds through working and completing a task. Performance climate can contribute to weakening of the focus on learning and developing, and further lead to a higher level of extrinsic motivation (Nerstad et al., 2013).

When it comes to previous research and studies, there are different findings and results. Some research points out that a performance climate can relate to a weaker performance and less great effort and it is said to be associated with negative work outcomes and lead to higher turnover intentions (Buch et al., 2017; Caniëls et al., 2019; Malik et al., 2015; Nerstad et al., 2013). Performance climate can also be linked to employees withholding their knowledge and avoiding knowledge sharing as an attempt to obtain or achieve competitive advantage, known as knowledge hiding (Beersma et al., 2013; Caniëls et al., 2019; Černe et al., 2014).

In general, research shows that a mastery climate often relates to greater effort, more engagement, intrinsic motivation, and better performance, compared to a performance climate. It is considered to be appropriate and relevant when it comes to

work outcomes and achieving these (Buch et al., 2017; Caniëls et al., 2019; Liem et al., 2008; Nerstad et al., 2013). This is associated with learning, development and knowledge exchanging among employees and co-workers, and it is linked to an enhanced feeling of wellbeing and job satisfaction (Caniëls et al., 2019).

Naturally, there are many reasons why a good motivational climate is beneficial for any organisation. Perceived motivational climate can impact an employee's effort and motivation, which is further important for both the employee and the organisation. A good mastery climate can contribute to a higher level of intrinsic motivation, more involvement and a lower turnover intention. Replacing employees is expensive. In addition to high expenses, replacing employees can also impact the culture and climate negatively, as new individuals with various minds and personality traits enter the organisations (Nerstad et al., 2013).

Even though mastery- and performance climates often appear to exist at the same time in an organisation, it can be seen that the possible intrinsic motivation that is achieved, may be jeopardised if one perceives or experience a high level of performance climate at the same time (Buch et al., 2015). When it comes to the interactions of perceived mastery and performance climate, and how it affects the intrinsic motivation, a study by Buch et al. (2015) shows that it is crucial for an organisation to have a low level of performance climate in order to achieve higher intrinsic motivation as a result of mastery climate.

To summarise, individuals are motivated by different factors in different environments, but we know that intrinsic motivation is often favourable for organisations. External incentives, rewards or extrinsic motivation in general can lead to an undermining of what was initially appealing with the task. Overall, research shows that the benefits of a good mastery climate are more and bigger than the benefits of a good performance climate (Nerstad et al., 2018). Based on this, we want to test the following hypotheses, which are presented below. By examining Perceived Feedback Behavior Constructiveness (PFBC) and Perceived Feedback Behavior Immediacy and Frequency (PFBIF) and their relationship between both Mastery- and Performance Climates, we can gain valuable insight into whether feedback processes can help to influence the motivational climate at workplaces. We investigate whether PFBC or PFBIF contributes to the positive development of a

mastery climate and/or whether it potentially hinders the establishment of a performance climate.

H1a: PFBC has a positive relationship with mastery climate

H1b: PFBC has a negative relationship with performance climate

H1c: PFBIF has a positive relationship with mastery climate

H1d: PFBIF has a negative relationship with performance climate

Another important factor in management dynamics is the exchange between leaders and members. The leader-member exchange (LMX) concept proposed by Graen and his colleagues, builds on the idea that leaders develop unique relationships with individual employees (J. B. Bernerth et al., 2007; Dansereau et al., 1975; G. Graen & Cashman, 1975). Given the contextual parameters of the thesis and with a focus on addressing the research question, we believe it is suitable to focus on LMX in context of motivational climate, before going into detail and giving a more in-depth description of LMX.

2.2.2 Leader-Member Exchange and Motivational Climate

When it comes to LMX in the context of motivational climate, previous research found that the type of the LMX relationship can impact the motivational climate in the work environment (Harris et al., 2011; Nerstad et al., 2013, 2018; Zhou & Jiang, 2015). Research has shown that certain factors can be associated with both mastery climate and performance climate in the work environment (Malik et al., 2015). A mastery climate has been associated with better work outcomes and performance and may be dependent on various factors. An important factor is knowledge sharing among employees, which has been shown to be associated with a mastery climate (Caniëls et al., 2019). Research has also pointed out the importance of good cooperation between leaders and employees to promote knowledge sharing. It has been emphasised that close cooperation between leaders and employees can increase the potential for knowledge sharing and create a positive mastery climate. On the other hand, there are also factors associated with a performance-oriented motivational climate. A performance climate can create incentives for employees to retain important knowledge to gain competitive advantage or perform better than others.

This can result in a higher degree of knowledge hiding in the organisation. It is worth noting that both mastery climate and performance climate have implications for work outcomes and performance, although they are associated with different approaches and mechanisms. Understanding these factors can help organisations create a work environment that best suits their needs and goals (Dysvik et al., 2015).

It is also argued that intrinsic motivation can contribute to affective organisational commitment, as employees or individuals driven by intrinsic motivation are likely to develop an emotional connection with the organisation, while their feeling of a fulfilling job is associated with the organisation (Kuvaas, 2006). Research shows that a positive working environment with good relationships and cooperation is linked to internal motivation, job satisfaction and performance. Such factors have also been shown to be negatively related to employee turnover intentions. Creating a supportive work environment can therefore be crucial for promoting employee engagement and reducing turnover intentions (Andersen et al., 2020).

2.3 Leader-Member Exchange

LMX is rooted in Social Exchange Theory (SET) and emphasises the importance of interaction and relationships between leaders and members for achieving effective leadership (Bernerth et al., 2007, p. 979). By LMX being rooted in SET, it provides an insight that a high-quality professional relationship gives an individual something of his or her value to the opposite partner – this relationship is defining for the quality of future interactions between them (Baloch et al., 2021). Graen & Uhl-Bien (1995) theory of high quality LMX is characterised by the fact that the leader and the employee have a mutual respect for each other's abilities and skills are valued and recognized. In this relationship, there is a strong expectation that the mutual trust is strengthened, that with this trust they can rely on each other over time. At the same time, the mutual obligation between leader and employee is developed. In this way, they meet and work together towards achieving the organisation's objectives. And in this way, it is referred to that this relationship is a working partnership (Chun et al., 2014). An important factor in this context is employees' degree of identification with their leader and the organisation, also known as *Supervisor's Organizational Embodiment (SOE)*.

2.3.1 The Influence of Leader-Member Exchange (LMX) on Affective Organisational Commitment, Feedback-Seeking Behaviour, and Psychological Safety

Regarding this, Eisenberger et al. (2010) suggests that with increased SOE, there is also a greater relation between LMX and affective organisational commitment. If there is a high SOE, employees would perceive a more positive exchange relationship with their supervisor (LMX) and generalise this to the organisation. Further, this could contribute to a stronger affective organisational commitment. One way of a high SOE contributing to a stronger affective organisational commitment, is by employees feeling a sense of obligation towards the organisation, as a cause of their supervisor's favourable treatment of the employee. Tsui et al. (1997) argues that when the organisation acts positive and caring in regards of the employee, this could increase the affective organisational commitment through the norm of reciprocity, which in short, is a norm about returning favours (Gouldner, 1960). Therefore, employees who perceive their supervisors as caring and positive coming from the organisation, are also likely to feel obligated to "return the favour" with a higher level of affective organisational commitment (Eisenberger et al., 2010). This mutual obligation helps to strengthen the bond between the leader and the employee and increases the employees' commitment to the organisation (Vance, 2006). A positive and good relationship between the employee and leader also influences employee's behaviour, including their willingness to seek feedback.

Feedback-seeking behaviour is driven by a desire to obtain useful information that can help them improve their work performance or their public image. This desire to seek feedback can be a way for employees to regulate and improve their own behaviour, and it can also be a way for them to show that they are willing to learn and improve themselves (Chun et al., 2014). Establishing a working climate where employees actively seek feedback does not happen by itself. In order for an organisation to achieve its goals, it is important, according to the LMX theory, that leaders encourage collaboration and teamwork amongst employees from different lines and fields of expertise, as well as different backgrounds and cultures (A. Edmondson & Lei, 2014). To facilitate successful collaboration among employees, it is crucial that managers establish a solid foundation for this, which can be achieved by adapting and adjusting their management style in relation to the individual

employee. Within LMX research, this is a topic that has received a lot of attention in recent years (Andersen et al., 2020).

LMX theory argues that leaders should treat their employees differently. In this way, LMX challenges other management theories that focus on employees being treated equally and focuses on the individual. In this theory there is a focus on examining and understanding various interactions and relationships between leaders and their followers, based on the exchange of benefits, trust and investment (Andersen et al., 2020). The LMX theory therefore focuses on the fact that leaders have different interactions with different followers. Some followers may have a close personal relationship with their leader based on trust and long-term investment, while others have a more formal relationship based on quantifiable exchanges of favours. In order to achieve this, employees need to exhibit learning behaviours, such as experimenting with innovative ideas, voicing their opinions and effectively collaborating with their colleagues (Nembhard & Edmondson, 2011). In line with this, this thesis focuses on investigating the mediating and moderating effects of LMX in relation to feedback and motivational climate. By exploring this connection, we want to gain a deeper insight into how LMX affects the mutual dynamics between feedback and motivational climate.

Kuvaas et al. (2012) describe two different types of relationships within LMX. SLMX is linked to a greater work performance, and it is also suggested that this type of relationship is associated with a lower level of turnover intentions and better job satisfaction (Andersen et al., 2020). On the other hand, it is suggested that ELMX is associated with the opposite, which are, less great work performance, greater turnover intentions and extrinsic motivation poorer job satisfaction (Andersen et al., 2020, p. 2; Kuvaas et al., 2012). In work climates where there is a focus on SLMX, the employees are more motivated than if they were in a work climate with high ELMX. With high levels of motivation, trust and long-term investment, the employee feels more obligated to reciprocate the benefits and support they receive from their leader (Andersen et al., 2020). However, there is not yet much research into the different characteristics of leaders and how the leaders' different personality types influence their employees. Nevertheless, it is found the following: "... leader role ambiguity was positively related to follower economic LMX and negatively related to

follower social LMX." (Kuvaas and Buch (2020) cited in Andersen et al., 2020, p. 9). Which means that when employees have uncertainty about the leader's role, it can increase the focus on financial reward as a way of maintaining the relationship with the leader. On the other hand, when uncertainty arises about the leader's role, it can reduce the employee's focus on the social relationship with the leader.

Previous research indicates that psychological safety is an essential factor for facilitating organisational learning (Nembhard & Edmondson, 2011). Psychological safety refers to an individual's perception of feeling safe, accepted, and comfortable within a group or organisational setting, where they can freely express their ideas, take risks, and contribute without fear of negative consequences or judgement. In addition to this, recent studies have also shown the importance of psychological safety when it comes to LMX. Opoku et al. (2020) conducted a study where they examined the relationship between psychological safety, LMX and voice behaviour at work. The study hypothesised that psychological safety would play a mediating role in the relationship between LMX and voice behaviour. Results of the study found support for this, meaning that the results indicate that psychological safety mediates the relationship between LMX and voice behaviour. Similar results were discovered by Mao & Tian (2022), where they found that psychological safety mediated the relationship between LMX and work engagement.

As mentioned previously, when there is a high-quality LMX, trust is very likely to be present between a leader and an employee (G. B. Graen & Uhl-Bien, 1995). There are a few factors that are considered promoters for psychological safety at work, perceived trust being one of them (A. C. Edmondson, 2004), and with trust comes a sense of psychological safety (Carmeli & Gittell, 2009). A positive relation between psychological safety and LMX was also found by (Hu et al., 2018), and LMX can possibly increase employees' sense of psychological safety (Mao & Tian, 2022). In order to gain a deeper insight into the relationship between leaders and employees, it can be beneficial to examine the concept of leadership behaviour.

2.3.2 Leadership behaviour

In leadership theory, we have two broadly defined behaviours, Task-Oriented and Relations-Oriented behaviours. Whereas "Task-Oriented behaviour is primarily concerned with accomplishing the task in an efficient and reliable way" (Yukl &

Gardner, 2020, p. 43). Relations-Oriented behaviour “is primarily concerned with increasing mutual trust, cooperation, job satisfaction, and identification with the team or organisation (Yukl & Gardner, 2020, p. 43).

These two terms are the essence in the well-known managerial Grid, also known as the Blake-Mouton Grid, that was introduced in the 60's by Blake and Mouton. The grid consists of a vertical axis representing concern for people, relations-oriented, and a horizontal axis representing concern for production, task-oriented. These axis create four quadrants, and four different leadership styles (Blake & Mouton, 1985). These different leadership styles have a lot of different names. A common definition of them are; **Team Leader** (high on both relation and task), this style is the most effective for the organisation since it focuses on both the task and the people. **Authoritarian** (High task, low relation) is often associated with tyrant leadership style, where it only focuses on the task, and not the people. **Country club** (high relation, low task) is where the employees thrive and have a high sense of well-being, as there are low requirements and less stress, but for the organisation it's less effective. **Impoverished** (Low on both task and relation), this is what's called missed opportunities (Yukl & Gardner, 2020). It's also common to add the fifth leadership style, **laissez-faire**. This refers to a hands-off approach where leaders provide minimal guidance or direction to their subordinates. This style is in the middle of the four quadrants, where you as a leader are not present and don't take action. (Yukl & Gardner, 2020). Describing the different leadership styles can provide us with a deeper understanding of the complex dynamics between leaders and employees and offer guidance to improve the quality of management in the motivational climate (Yukl & Gardner, 2020).

In research, it has previously been shown and focused on that LMX has a mediating effect (Afshan et al., 2022; Baloch et al., 2021). In the article by Baloch et al. (2021) there is a focus on how LMX mediates the relationship between relational justice and feedback acceptance, whereby 'ratees' desire greater levels of procedural, informational and interpersonal justice. In this article, it is suggested that LMX acts as a mediating factor influencing how employees perceive and respond to justice and acceptance of feedback. In other words, it is the close relationship between leader and employee that is decisive for how employees want to be treated with justice and

accept feedback. Another article that focuses on the LMX mediating effect is a meta-analysis by Gottfredson and Aguinis (2017). In this study they showed that “leader-member-exchange is a mediating mechanism that was empirically determined to be involved in the largest indirect relations between the four major leadership behaviours and follower performance.” (Gottfredson & Aguinis, 2017, p. 558). With inspiration from these articles, we have formulated the following hypotheses that we want to test:

H2a: LMX mediates the positive relationship between PFBC and mastery climate

H2b: LMX mediates the negative relationship between PFBC and performance climate

H2c: LMX mediates the positive relationship between PFBIF and mastery climate

H2d: LMX mediates the negative relationship between PFBIF and performance climate

Despite the fact that these articles focus on how LMX has a mediating effect, Afshan et al. (2022) argues that there is relatively little empirical research that has directly tested the LMX mediating effect. In this paper, Afshan et al. (2022) refer to a meta-analytic review, where it is described in this study that “there are surprisingly few studies that have directly tested mediational models of LMX, despite the frequent calls in the literature” (Martin et al. 2016 cited in Afshan et al. 2022). In the article by Afshan et al. (2022), they investigated whether LMX can have both a mediating and moderating effect. Reading and seeing an example of it being possible to look at both things in the same article, inspired us to do the same; to both look at whether LMX has a mediating and/or moderating role. In the article by Lam et al. (2017), the focus is on investigating and analysing which moderating effect LMX has in connection with feedback - more specifically, they describe that you will analyse the following: “how leader-member exchange (LMX) moderates the FSB-performance relationship in individual and group contexts.” (L. W. Lam et al., 2017, p. 2196). To clarify the usage of FSB in this article and context is short for feedback-seeking behaviour. Another example that looks at LMX as a moderator is Buch (2015) with the title: “Leader-member exchange as a moderator of the relationship between employee-organization exchange and affective commitment”. In this article, it is described in the discussion that “While there is evidence available on the outcomes of employee-

organization exchange relationships (e.g. Shore et al. 2009a), less is known about the moderating influences of LMX relationships on ongoing employee-organization exchanges.” (Buch, 2015, p. 69). This sentence appears as an obvious call to investigate this field more closely, and based on the analysis and the inspiring influence of the mentioned articles, we have formulated the following hypotheses:

- H3a: LMX moderates the positive relationship between PFBC and mastery climate*
- H3b: LMX moderates the negative relationship between PFBC and performance climate*

Previous research has shown that the frequency of feedback has shown to be a moderator of constructivism (Kuvaas et al., 2017), we want to test whether it is LMX that has the moderating effect, and that we then test for a three-way interaction, where the hypothesis reads as follows:

- H4a: There is a three-way interaction, where PFBIF and LMX moderates the positive relationship between PFBC and mastery climate.*
- H4b: There is a three-way interaction, where PFBIF and LMX moderates the negative relationship between PFBC and performance climate.*

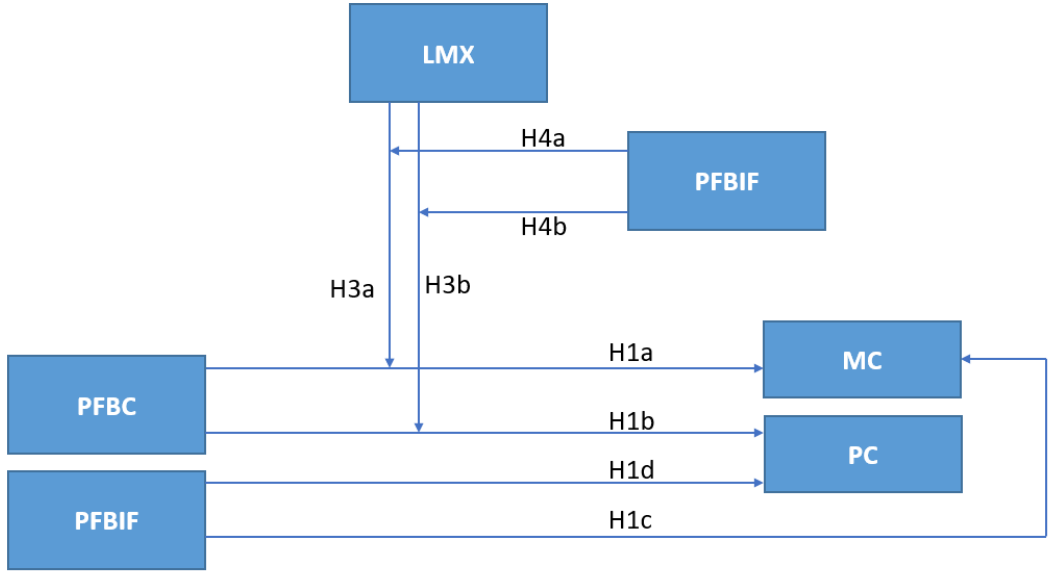


Figure 1. Conceptual Moderating Framework.

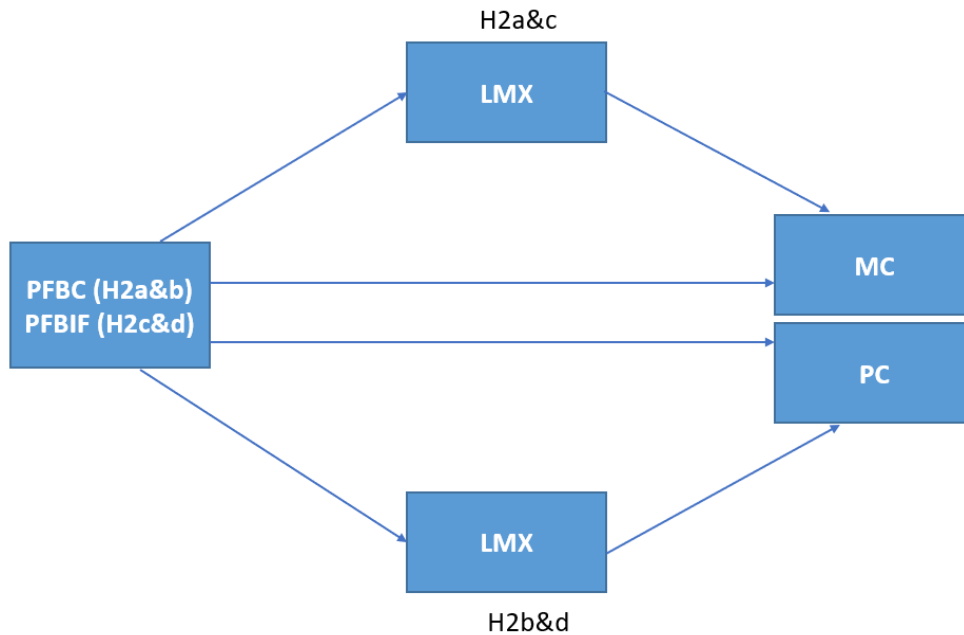


Figure 2. Conceptual Mediating Framework.

3. Methodology

3.1 Sample and Procedure

In this study we have chosen a quantitative approach where quantitative data were collected, rather than a qualitative approach. This method was chosen as it is appropriate for the purpose of this study and to test our hypotheses. With this approach, we collect a wider range of information from several individuals, which enables easier generalisation and shapes an overall picture and an idea of the motivational climate, relations with management and attitudes to receive feedback (Thrane, 2018). Furthermore, we chose to use primary data for our study and collect our own data, instead of relying on secondary data. By using secondary data, we would face certain limitations in our study. Secondary data is often easier to access, easier to handle and less time-consuming than collecting your own data, but it is usually data that was collected for a different purpose. Therefore, by using primary data, we can avoid having to adjust our study to fit any existing secondary data sets, thereby avoiding any constraints or limitations imposed by the data. Having access to primary data provides us with a stronger foundation for testing and answering our specific hypotheses in this study of ours.

To gather primary data, we have chosen to use a digital survey, where the aim is to both test and answer the study's hypotheses. For this study, we have employed a general and random sample selection approach, to reach a wide audience and to collect diverse data, without intentionally targeting candidates from specific categories, to conduct our survey. In other words, our purpose is not to directly discover answers, findings, or patterns within any categories, for example industries, organisations, or individuals, but to generally explore how the hypotheses of the research will be supported or not by the data collected. With that being said, the results of our survey may still indicate answers or patterns within categories, without being the direct aim with the survey. Since the data from the survey is only measured from one single point of time, we are only provided with a glimpse of reality (Campbell & Katona, 1953).

The digital survey is designed and built through Nettskjema.no. A tool for designing and conducting digital surveys online, which is provided by Norwegian centre of Research Data. In doing so we follow the guidelines for anonymity. Before the responders gave their answers, they were giving some brief and general information about the purpose of the study. Connected to this information, we emphasised that they had the opportunity to withdraw during the answering of the questionnaire, this by closing the tab, but their data did not have the opportunity to be deleted, as their answers cannot be tracked back to them, due to anonymity. Our survey was distributed through multiple channels, like Facebook, LinkedIn and we also handed out the surveys, to ensure enough responders and diverse data. This survey only captures the perspective of employees, thus providing a one-sided view of both LMX and perceived feedback. Due to the nature of the general survey, we are unable to determine the specific leader-subordinate relationships or working group dynamics within the sample population (Gerstner & Day, 1997).

First, we aimed for 30 answers per variable to have sufficient statistical power (Hair, 2009). Then we used the software G*Power, to calculate how many answers we needed for our regression to have sufficient statistical power based on our variables (Erdfelder et al., 1996). The answer was 94. Since we didn't target a specific group, and used social media, like Facebook and LinkedIn to collect answers, we opted to

have a minimum of 200 answers to be sure we had sufficient statistical power for our analysis.

In total we collected 231 answers, but the dataset ended on 218 answers, after removing missing data and outliers. Out of these 218 answers 66% were women, and 34% were men. Of those, 3% were under 20 years, 66% between 21 and 40 years, 30% between 41 and 60 years and only 1% over 60 years old. The educational level was distributed as follows. 23% with Upper high school or lower, 50% with Higher education 4 years or lower, and 27% with higher education above 4 years. For Tenure 18% had under 1 year, 46% between 1 and 5 years and 36% had over 5 years.

3.2 Measurements

The survey is divided into three main categories, Leader-member-exchange relation, perceived feedback behaviour and perceived motivational climate, where each category would mainly measure one variable through the questionnaire in the specific category. The categories consist of sets of questions that are answered using a 5-point likert scale, from strongly disagreeing (1), to strongly agreeing (5), since attitudes and values are easily measured by using this format (Ringdal, 2018). Further, the section of the survey consisted of a few questions regarding demographic variables.

Additionally, it is worth noting that all the statements and measurement tools employed in the survey were Norwegian versions, as our participants/survey audience is mainly Norwegian. Using the original language, English, in the survey could to a certain degree increase the risk for misunderstanding.

3.2.1 Perceived feedback behaviour constructiveness, immediacy and frequency

The first category and variable in our survey is feedback, and feedback in the context of perceived feedback constructiveness, and perceived immediacy & frequency. This category consists of a set of statements about perceived feedback behaviour from the participants' leaders/immediate supervisor. To measure this variable, we employed the 13-items scale developed and validated by (Kuvaas et al., 2017). Where 4-items measure perceived feedback behaviour immediacy and frequency, and 9-items measure perceived feedback behaviour constructiveness. A few

statement examples from this set are: “I receive performance feedback from my immediate supervisor immediately after I have done the work” and “My immediate supervisor provides feedback that is more concerned with what I’m good at in my job than with what I’m not so good at”.

3.2.2 Leader-Member Exchange

Leader-member exchange relation is the second category in the survey, and it measures the participants relations to his/her leader or immediate supervisor. For this category we used the LMX-7 questionnaire developed by Graen & Uhl-Bien (1995). Despite its age, it remains one of the most widely employed methods to measure LMX to this day (Hanasono, 2017). The purpose with this category is to establish an understanding of the working relationship between leaders and their followers. To measure this, the participants answered the questionnaire, where they report on their degree of mutual respect, trust and obligation in their leader-follower relation. This allows us to observe and examine participants’ leader-member relations. A few examples from the questionnaire are: “How well does your leader recognize your potential” and “How well does your leader understand your job problems or needs”.

3.2.3 Motivation climate

To measure motivation climate, we used the Motivational Climate and Work Questionnaire (MCWQ) in our survey. The questionnaire, developed and validated by (Nerstad et al., 2013), consists of 14-items, with 6-items measuring Mastery climate, and 8-items measuring Performance climate. These items were designed to assess participants' evaluation of perceived climate at work. A few examples of the MCWQ statements examples are: “In my department/work group, work accomplishments are measured based on comparisons with the accomplishments of coworkers” and “In my department/work group, each individual’s learning and development is emphasised.”

3.2.4 Control variables

Controlling for possible socio-demographic differences is an important step in research to ensure that the hypothesised relationships between variables are not simply a result of differences in individual characteristics or backgrounds. And to

enhance the internal validity of our results. To eliminate the possibility of alternative explanations for the proposed hypothesis (Buch et al., 2010).

We controlling for the standard socio-demographic variables such as Age (1=Under 20 years, 2=21-40 years, 3=41-60 years and 4=Over 60 years), Gender (1=Women; 2=Men), Education level (1=Upper high school (or lower), 2=Higher education 4 years (or lower) and 3=Higher education over 4 years.), and tenure (1=Under 1 year, 2=1-5years and 3=Over 5 years) (J. Bernerth & Aguinis, 2016; Buch et al., 2010).

We chose the given range and not to include other covariates out of the standards as we didn't want to over control – as too many variables can make it harder to generalise and interpret the results (Tabachnick & Fidell, 2012).

3.3 Analysis

First, we examined the dataset for missing data and outliers. However, since our questions are based on the representatives' perceived perception, we would argue that you cannot consider them as outliers. However, we removed responses where the response time was under 3 minutes and 30 seconds, as it is unlikely to be able to answer the questions that quickly and the results were often the same. This corresponds to 13 responses, and we ended up with 218 answers.

We then conducted a confirmatory factor analysis (CFA) using AMOS in SPSS 28 to test and assess our measurement models. We followed Taylor's (1990) recommendations for low correlations under .35, moderate correlations between .36, and high correlations above .68 when interpreting the results. It should be noted that we did a CFA since we had a pre-set hypothesis and a theoretical foundation to support it (Hurley et al., 1997). Also all the questionnaires had already been validated and shown to be reliable in a previous exploratory factor analysis as referred to above (G. B. Graen & Uhl-Bien, 1995; Kuvaas et al., 2017; Nerstad et al., 2013).

In the next step, we conducted a series of analysis using SPSS 28 to examine the relationship between our selected variables. A correlation analysis was used to examine the correlation coefficients and report the degree of association between the variables in accordance with recommendations by (Taylor, 1990). To avoid multicollinearity, which can make it difficult to differentiate the dependence relations between the variables (Farrar & Glauber, 1967), the data were examined for this type

of correlation. Pearson's product moment (r), which is one of the most used correlation coefficients (Akoglu, 2018), was used to assess the relationships between the variables. It is important to note that our analysis was conducted with reference to these recognized methods and previous research.

To measure internal consistency reliability in our data, we used McDonald's omega (ω) (McDonald, 1999), which researchers often consider a more accurate and general measure of reliability compared to Cronbach's alpha (e.g., Hayes & Coutts, 2020; Ravinder & Saraswathi, 2020; Revelle & Zinbarg, 2009). An advantage of using omega is that the risk of over or underestimating reliability is less compared to Cronbach's alpha (Dunn et al., 2014).

We calculated the omega coefficient using Hayes and Coutts (2020) OMEGA macro for SPSS, by performing a maximum likelihood factor analysis on the correlation matrix of our scale items. According to Ravinder & Saraswathi (2020), omega ranges from 0 to 1 and is calculated as the ratio of the variance due to the common trait to the total variance. To assess the reliability of our results, we applied Campo-Arias & Oviedo (2008) standard, where an acceptable omega coefficient should be between 0.70 and 0.90.

Next we did a regression with the macro Process v4.2 (Hayes, 2018) in SPSS 28 to see if LMX mediates the relation between Perceived Feedback Behaviour - Constructiveness, -Immediacy and frequency and Motivation Climate. After completing our mediated models, we conducted a hierarchical moderated regression model to analyse the overall pattern of association between the variables. To avoid multicollinearity problems that often arise in interaction models due to their strong correlation with the main effect, we mean-centred our variables before multiplying them with each other. This was consistent with the recommendations of several researchers, including Cohen et al. (2014), Dawson, 2014 and Jaccard et al., (1990) as this approach increases discriminant validity.

To observe the change in R-squared as a result of implementing the interaction, we followed Dawson's (2014) recommendation to use a hierarchical entry of predictor variables. Therefore, the final regression included all independent variables,

moderators, and all interaction terms. This allowed us to calculate the effect of the interaction and the effect of our independent variable on our dependent variable linearly with our moderators. We used Process Macro 4.2 by Hayes (2018) in SPSS 28 to perform the regression.

Finally, we plotted the interaction term to interpret it separately and examine the form of the interaction. This was in line with the recommendations of Dawson and Richter, (2006), and Dawson (2014). We also followed Aiken & West's (1991) procedure by looking at high and low values of our dependent and independent variables, where they were one standard deviation above and below the mean. The variables were mean-centred before we plotted them, in accordance with the authors' suggestions.

4. Results

The confirmatory factor analysis (figure 3. - CFA) shows, as expected, that all values from the questionnaire are above .40 when adjusted for measurement error (Taylor, 1990). Note that for question PFBIF2 and PFBIF4 we reversed them before conducting the CFA. Having all values above .40 implies that our intention is to measure the variables that we aim to evaluate, and confirm similar findings of the exploratory factor analysis mentioned in measurements by previous research (G. B. Graen & Uhl-Bien, 1995; Kuvaas et al., 2017; Nerstad et al., 2013).

We see that there is high correlation between PFBIF and PFBC (.77), LMX and PFBIF (.77), LMX and PFBC (.91), PFBC and MC (.81), and LMX and MC (.80). Despite the high correlations, it does not imply causality (Cohen et al., 2014). The presence of strong correlations can be attributed to the complexity of these variables and their proximity to each other, as explained in the theory and in the following discussion.

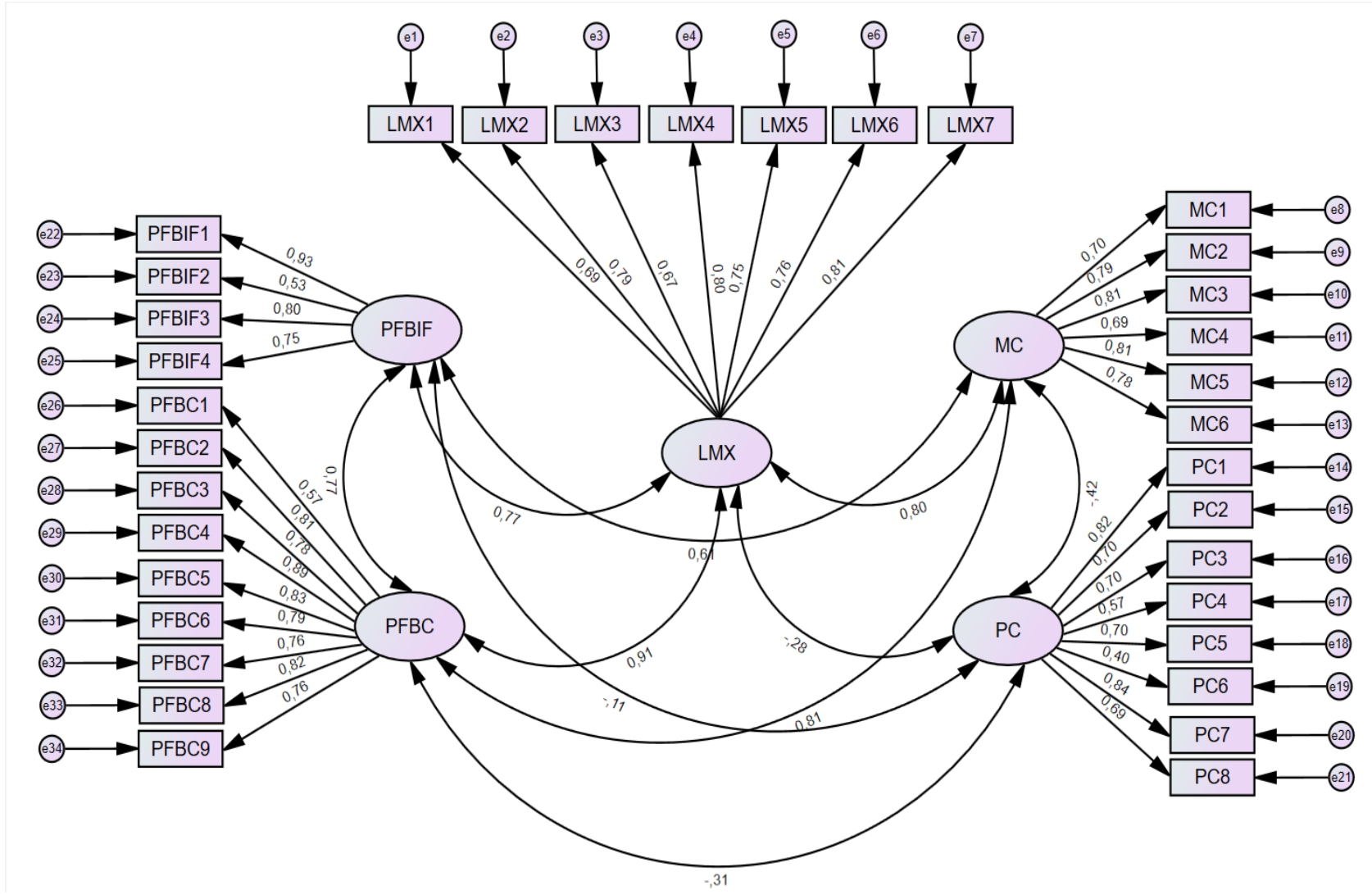


Figure 3. Confirmatory Factor Analysis.

Table 1. Descriptive Statistics, Correlations, and Scale Reliabilities.

	Mean	SD	1	2	3	4	5	6	7	8	9
1 Gender^a	1.33	.47									
2 Age^b	2.31	.54	-.08								
3 Education^c	2.02	.71	.03	-.02							
4 Tenure^d	2.19	.72	-.06	.42**	-.11						
5 LMX	3.71	.85	.04	.82	.02	.04	(.90)				
6 PFBC	3.68	.92	-.01	-.06	.09	-.01	.83**	(.93)			
7 PFBIF	3.35	.99	.00	-.07	.05	-.03	.65**	.67**	(.84)		
8 MC	3.68	.91	-.03	.05	.11	.01	.72**	.75**	.54**	(.89)	
9 PC	2.19	.85	.14*	-.01	-.20**	.09	-.22**	-.23**	-.10	-.32**	(.87)

N = 218

McDonald's omegas are displayed in the parenthesis.

* p < .05

** p < .01

^a 1 = Women; 2 = Men

^b 1 = Under 20 years; 2 = 21-40 years; 3 = 41-60 years; 4 = Over 60 years

^c 1 = Upper high school (or lower); 2 = Higher education 4 years (or lower); 3 = Higher education over 4 years

^d 1 = Under 1 year; 2 = 1-5 years; 3 = Over 5 years

LMX = Leader-Member Exchange

PFBC = Perceived Feedback Behaviour Constructiveness

PFBIF = Perceived Feedback Behaviour Immediacy and Frequency

MC = Mastery Climate

PC = Performance Climate

In table 1 we present descriptive statistics with means and standard deviations, bivariate correlations, and McDonald's Omega for multi-item scales. The correlation analysis itself does not give an explanation of the relationship between the variables, but it gives a foundation for further analysis (Taylor, 1990).

The correlation analysis reveals a significant positive correlation between PFBC and LMX ($r=.83$, $p < .01$). This indicates support towards hypothesis 2a and b, and 3a and b. Similarly, there is a significant positive correlation between PFBIF and LMX ($r=.65$, $p < .01$). Which indicates support for hypothesis 2c and d.

For the motivational climate, we see that Mastery Climate correlates positively with LMX (.72), PFBC (.75) and PFBIF (.54) and they are all significant at 1%. In support towards hypothesis 1a,b,c and d. In terms of the Performance climate, we see a positive correlation with gender ($r=.14$, $p < .05$). Meaning men perceive performance climate at another level than women, or that they are more motivated by it. We also see that Performance climate has a negative correlation with education. ($r=-.20$, $p < .01$). And lastly, we see a negative correlation between PC and LMX (-.22), PFBC (-.23) and MC (-.32) all three are significant at 1%. Examining the control variables we can see that Age correlates positive with Tenure ($r=.44$, $p < .01$), as expected.

In Figure 4 and 5, we present the results of the mediation regression analysis. Figure 4 illustrates a significant mediation effect of LMX on the relationship between Perceived Feedback Behaviour Constructiveness and Mastery Climate ($\beta=.26$, $p<.05$). We also see that PFBC has a direct relation on MC ($\beta=.47$, $p<.05$). This suggests that LMX accounts for a portion of the explanation for the relationship between Perceived Feedback Behaviour Constructiveness and Mastery Climate through the indirect effect of the mediation. These findings provide support for hypothesis 2a. For Performance Climate on the other hand the mediation was not significant, and hypothesis 2b was not supported.

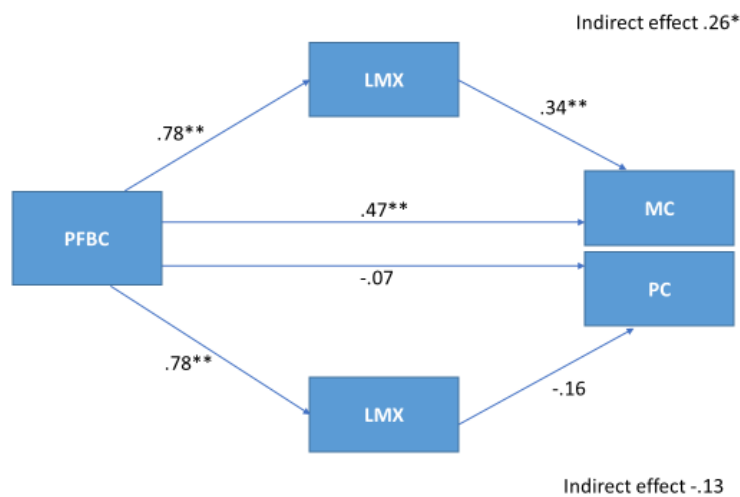


Figure 4. Conceptual Mediating Framework after testing the hypothesis 2a and b.

Figure 5. Illustrates a significant mediating effect of LMX on the relationship between Perceived Feedback Behaviour Immediacy & Frequency and Mastery Climate ($\beta=.38, p<.05$). While the direct relation is much weaker. ($\beta=.11, p<.05$) This finding suggests that LMX plays a substantial role in explaining the relationship between PFBIF and MC. It also gives us support for hypothesis 2c. For Performance Climate on the other hand the mediation had a negative effect on the relation between PFBIF and PC ($\beta=-.17, p<.05$). These findings suggest that LMX plays a crucial role in explaining the relationship between PFBIF and PC. The negative mediating effect of LMX indicates that LMX serves as a mechanism through which PFBIF influences PC. Specifically, it implies that the impact of PFBIF on PC is primarily explained by the presence of high-quality leader-member exchange relationships. This gives us support for hypothesis 2d.

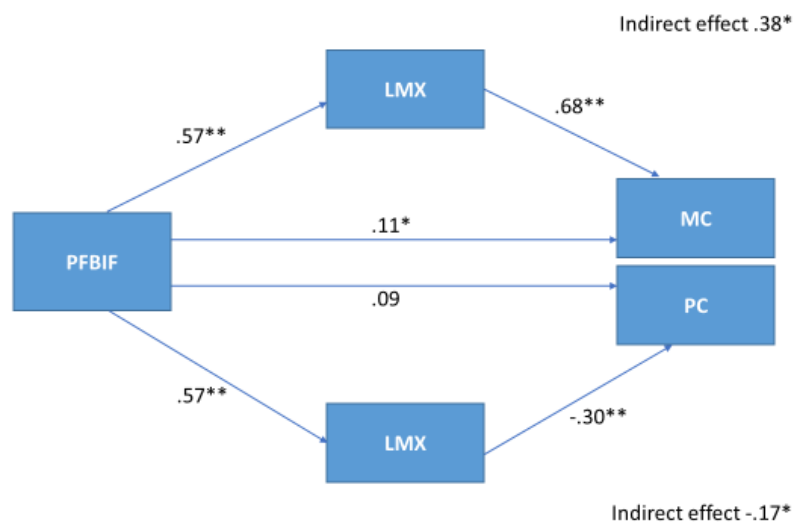


Figure 5. Conceptual Mediating Framework after testing the hypothesis 2c and d.

In table 2, we present the multiple regression analysis, displaying the relationship between the independent variables LMX, PFBC and PFBIF, and the dependent variables MC and PC. Controlled for the covariates Gender, Education, Tenure and Age. Since we have two dependent variables, we did the regression one time for each climate in every model, for a total of 6 regressions. We included the covariates in the regression, followed by Tufte's (2018) recommendation, running the analysis with and without the covariates, to see their impact - which they had. In our case Gender and Education have a significant correlation ($p < .05$ / $p < .01$) on Performance climate, while Age correlates positively with Mastery climate in model 1 and 2 at a 5% significance level.

Table 2 - Results of hierarchical moderated regression analysis

Mastery Climate (MC) & Performance Climate (PC)						
Variables	Model 1		Model 2		Model 3	
	MC	PC	MC	PC	MC	PC
Intercept	.33	2.99**	3.36**	2.22**	3.34**	2.12**
Gender	-.07	.28*	-.07	.30**	-.08	.31**
Education	.08	-.22**	.07	-.24**	.09	-.23**
Tenure	-.05	.14	-.05	.17	-.03	.15
Age	.17*	-.09	.17*	-.09	.16	-.07
LMX	.33**	-.20	.32**	-.25*	.26**	-.27**
PFBC	.46**	-.12	.45**	-.18	.56**	-.18
PFBIF	.02	.16	.03	.15	.03	.13
Two-Way Interactions						
PFBCxLMX			-.03	-.11	-.00	-.18*
PFBCxPFBIF					.15	.11
PFBIFxLMX					-.23**	.05
Three-way interaction						
PFBCxPFBIFxLMX					-.04	.03
R ²	.60	.14	.60	.15	.62	.16
ΔR ²			.00	.01	.02	.01

In the first two analysis (Step1 MC & PC), we entered all covariates and independent variables. For Mastery climate, the results show that Age has a positive correlation ($\beta=.17$, $p<.05$). Indicating that the older you are, the more likely you are to prefer or perceive the climate to be a mastery climate. We also see that LMX and PFBC both correlate positively at a 1% significance level. (LMX, $\beta=.33$, PFBC, $\beta=.46$). Whereas PFBC gives support to Hypothesis 1a.

For Performance Climate (PC), Gender correlates positively ($\beta=.28$, $p<.05$), indicating that men prefer or perceive performance climate more than women. On the other hand, education has a negative correlation ($\beta=-.22$, $p<.01$), which indicates that the higher education you have, the less you prefer or perceive the performance climate. We also see that PFBC is not significant, and our hypothesis 1b is not supported. The same goes for hypothesis 1c and 1d as PFBIF is not significant for either Mastery Climate or Performance Climate. The analysis for model 1 has an R-square, a predicted variance (Christophersen, 2009) of .60 for mastery climate and

.14 for performance climate, meaning that the dependent variables in the model explain 60% (MC) and 14% (PC) of the variance in the work climate.

In the next two regressions, step 2, we included the two-ways interaction for our hypothesis 3a and 3b. The results for mastery climate show a drastic change in the intercept. ($\beta=3.36$, $p<.01$ from model1, $\beta=.33$, n.s. The two-way interaction had a slightly negative correlation but was not significant. ($\beta=-.03$, n.s). For performance climate the two-way interaction was also negative and not significant. ($\beta=-.11$, n.s). So our hypothesis 3a and 3b was not supported.

In the last step, step 3, and model 3, we included the three-way interaction with process v4.2 by Hayes (2018). Which also includes all possible two-way interactions based on the independent variables. In this regression, we see that we get support for our hypothesis 3b as the regression has a slightly stronger explanation in the variance. ($\beta=-.18$, $p<.05$) (ΔR^2 of 0.2 for mastery climate model, and 0.1 for performance climate model.)

The three-way interaction on the other hand is not significant for either of the two climates. However, the analysis shows that the two-way interaction between PFBIFxLMX correlates negatively with mastery climate. ($\beta=-.23$, $p<.01$). The results from model 3 are shown in the conceptual framework below.

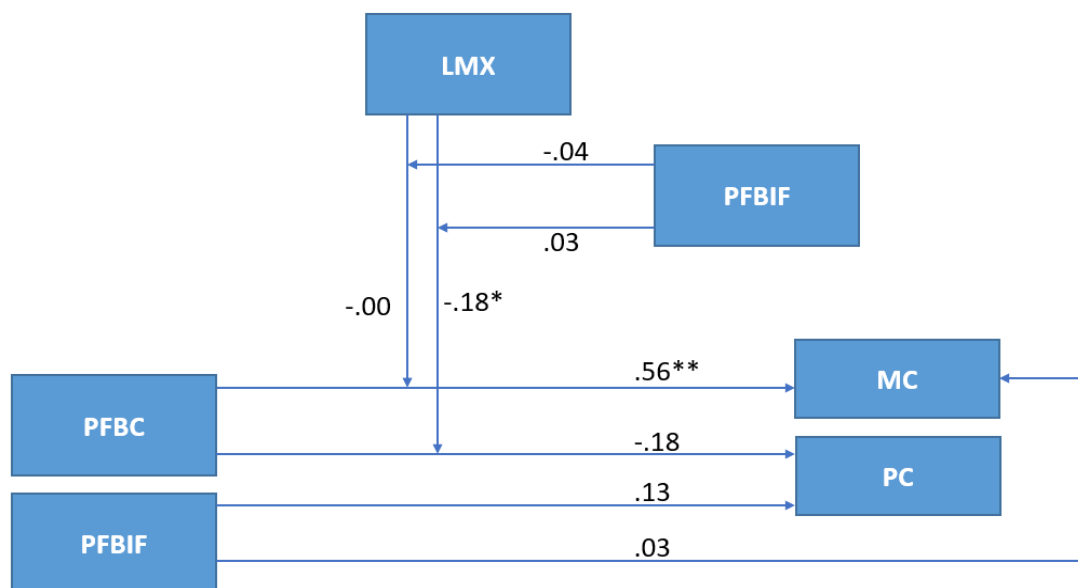


Figure 6. Conceptual Moderating Framework after testing the hypothesis.

Lastly we followed Aiken & West's (1991) recommendation to plot the slopes of the regression. This is also an outcome when using and checking off +/-1SD, in the process macro 4.2 by Hayes in SPSS (2018). In figure 5. We see the slopes of the three-way interaction. The figure shows the high level of perceived feedback behaviour immediacy and frequency, and high level of perceived feedback behaviour constructiveness gives a higher mean of master climate compared to low levels of perceived feedback behaviour immediacy and frequency. We also see that having low levels of perceived feedback behaviour immediacy and frequency, and low level of perceived feedback behaviour constructiveness gives slightly higher mean in master climate than having high perceived feedback behaviour immediacy and frequency and low perceived feedback behaviour constructiveness. It's worth noticing that these slopes are the three-way interaction so LMX is an underlying variable, The figures are an outcome of the Macro in SPSS. To control if this was the case, with LMX being an hidden moderator, we plotted the same with just a two-way interaction, with PFBIF as a moderator to MC. We see that in figure x, and that there is so close to no change between high and low levels of Perceived Feedback Behaviour Immediacy & Frequency, and the slopes are parallel.

For performance climate the plot shows that high level of perceived feedback behaviour immediacy and frequency gives a higher mean in performance climate compared to low level of perceived feedback behaviour immediacy and frequency, for both high and low values of perceived feedback behaviour constructiveness. Also here we plotted the slope without lmx, and the findings were the same as with master climate, that the slopes are parallel and close to each other, and are therefore not included in the thesis as is the same point.

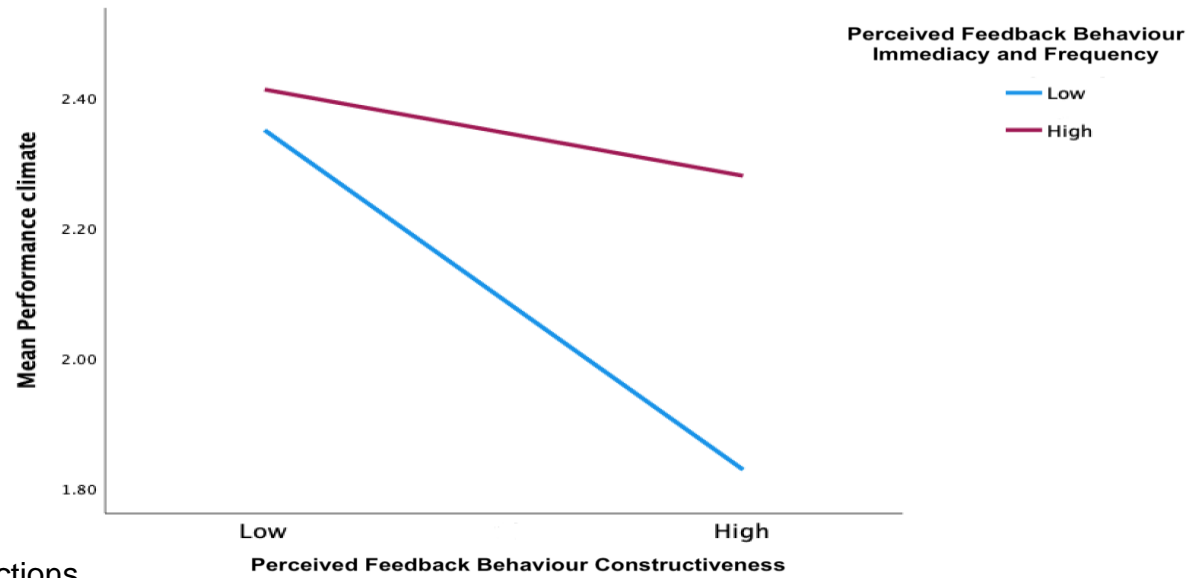
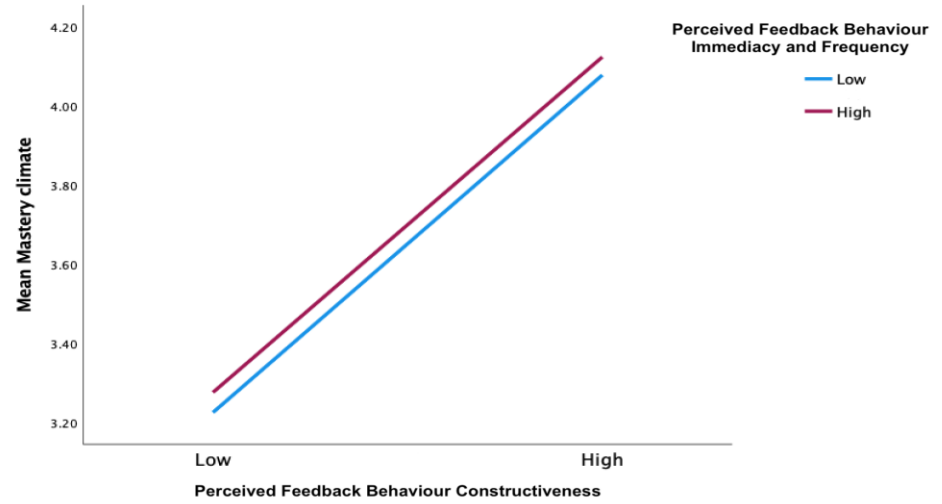
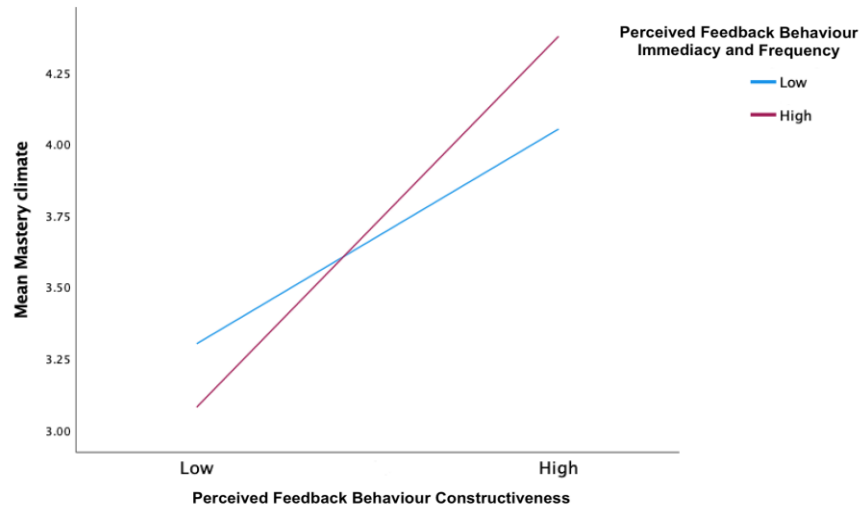


Figure 7. Plotted Interactions.

5. Discussion

In this study, our goal was to look at LMX in relation to feedback and motivational climate. We also intended to contribute to the research debate by exploring whether LMX has a moderating or mediating role in this context. Furthermore, we wanted to discuss our hypotheses based on a combination of theoretical perspectives and our findings from the survey.

In our investigation, we observed support for hypothesis 1a, which postulates a positive relationship between Perceived Feedback Behaviour Constructiveness (PFBC) and Mastery Climate. One possible explanation for this observation is that both variables can share common outcomes, indicating a close relationship and mutual influence. Additionally, we observed a high correlation between the two variables in the correlation analysis. Theoretically, PFBC is shown to increase knowledge sharing, learning and development, which is consistent with academic literature that identifies these elements as outcomes of mastery climates. Also, feedback can contribute to increasing the level of mastery climate, and in turn, the mastery climate can enhance the degree of feedback. (Caniëls et al., 2019; Ilgen et al., 1979; Kluger & DeNisi, 1996; Newell et al., 2009).

But how can it be that, if employees perceive feedback as being constructive and useful, that this creates a mastery climate? As described earlier, feedback plays an important role in the employee's knowledge development – the process of being able to use available data, information and experiences (Newell et al. 2009). When a person receives constructive feedback that encourages learning and development, they have the opportunity to adjust and improve their knowledge and skills (Hattie & Timperley, 2007). In other words, the feedback process can help you to identify both strong and weak aspects of your work, something that can lead to an increase in the level of knowledge (Kluger & DeNisi, 1996).

All in all, it can be interpreted from a theoretical point of view, but also based on our survey results, that PFBC and mastery climate are connected in several ways. Therefore, it is reasonable to believe that PFBC and mastery climate have a positive relationship. Based on this, it might be easy to imagine that our results also show

support for hypothesis 1b, but this was not the case. So maybe the relationship between PFBC and mastery climate is not as simple as you might think?

This can be explained by two things in particular. The first is that you can be in both types of climates at the same time. Which means that mastery climate does not in itself automatically reduce performance climate. The other explanation is that feedback does not provide the characteristics as mentioned above if it is not given correctly. Constructive, what does that mean? And what does that mean for different people? A thought that may be useful to take forward is that good feedback also influences and promotes a performance climate, as it depends on how constructive feedback is perceived. If you give constructive feedback that focuses on the task, and not on the relationship as we saw in the managerial grid, this feedback can affect the performance climate, which can also be explained from a theoretical point of view. Since PFBC can go both ways, we believe there are reasons why it is not significant in this data set. We also observe that neither hypothesis 1c nor 1d is significant, stating that perceived feedback behaviour immediacy and frequency are related to motivational climate. This can be explained by the fact that the frequency of feedback in itself does not lead to efficiency. It must be of high quality and tailored to each individual (Black and Wiliam, 1998).

The theory provides significant insight into the relationship between LMX and its underlying effect on feedback and motivational climate. The theory forms the basis for the subsequent hypotheses. Regarding mediation and hypothesis 2a-d, we find support for all but 2b; PFBC in relation to performance climate. This can be explained in the same way as described above. It is also possible that there exists a hidden moderation effect within the regression analysis for hypothesis 2 and the mediating relationships. Which we test for in hypothesis 3. Further the non-existing support for hypothesis 2b can possibly be explained by the fact that the perception of the performance climate is negative for some but motivating for others. When we talk about significance in a regression analysis, we refer to the prediction of an outcome value (Tufte, 2018). A significance level of 5% is often used, which means that if you have 100 participants, 95 of these must show a trend in the same direction to achieve significance. As mentioned in the theory, what motivates people varies and some may be motivated by certain aspects of the performance climate. Therefore,

this variable did not achieve significance in our study, as it can be assumed that the scale was pulled in a different direction for some respondents.

In hypothesis 2a, where we receive support, we see that LMX mediates the positive relationship between PFBC and mastery climate. This can be explained, among other things, by the fact that a high degree of LMX, which is based on mutual trust, results in the perception of fair and correct feedback, as both leader and employee have a common understanding of the employee's competencies. This makes it possible to adapt the feedback to the individual employee. Receiving feedback that doesn't match your perception of yourself and your skills, will not let you internalise the feedback in the same way. The theory also shows that a high degree of LMX leads to increased knowledge sharing. When there is a high degree of LMX, the leader and the employee are on the same wavelength and have a common understanding of the employee's abilities. This enables the leader to provide more specific and constructive feedback with corrective behaviour based on the employee's knowledge. This is in line with both feedback behaviour and mastery climate and supports both of these aspects.

In our study, we have also had an interest in focusing on examining the frequency of feedback. Based on this, we have formulated hypotheses 2c and 2d, and our results have shown support for these hypotheses. Based on our data, we see that LMX plays a substantial role as a mediator in the relationship between PFBIF and motivational climate.

LMX explains the importance of a good relationship between leader and employee can be explained by the fact that the frequency of feedback in itself does not necessarily lead to positive results (Black & William, 1998). For feedback to be effective, it must be of high quality and adapted to the individual recipient. In other words, feedback can be given frequently, but the leader must invest time and effort in tailoring the feedback to each individual employee. Investing time meaning that the leader must ensure that the employee receiving the feedback has a full understanding of the information given. This is important for the feedback to be effective, because as described earlier feedback is dependent on the employee's own perspective and interpretation of the information provided (Hattie & Timperley, 2007). An additional factor that may come into play is the high degree of LMX, which enables a familiarity with the individual employee, making it possible to adjust the

frequency of feedback according to their individual preferences. Since people are different and have varying perceptions and definitions of the concept of "frequency", a high degree of LMX can allow the leader to adjust the frequency of feedback according to the individual.

Again, the results of our study indicate that LMX acts as a mediator for both constructive aspects and frequency of the relationship, providing support for Hypotheses 2a, 2c, and 2d. This can also be explained by the fact that employees who report a high degree of LMX identify to a greater extent with and feel an attachment to their leader and organisation. When there is a high degree of Supervisor's Organizational Embodiment (SOE), employees will experience a more positive exchange relationship with their supervisor (LMX) and generalise this experience to the entire organisation. This can further contribute to an increased affective organisational commitment. One way in which a high SOE can be achieved and thereby strengthen affective organisational commitment is when employees feel an obligation to the organisation as a reason for their superiors' positive treatment of them (Eisenberger et al., 2010).

In our investigation of hypothesis 3a, where we tested whether LMX moderates the positive relationship between PFBC and mastery climate, we found no significant results. This could mean that LMX does not moderate the effect between these two variables. Because there may be other mediating factors between constructive feedback and mastery climate that were not included in this regression. However, these factors which were not included in the regression may help to explain the absence of a significance. As we have also shown in hypotheses 2a. However, we observed support for hypothesis 3b, where LMX moderates the negative relationship between PFBC and performance climate.

In our analysis of hypotheses 4a and 4b, no significant results were found, which means that we did not find support for these hypotheses. This lack of statistical support for the hypotheses has several possible explanations. High variability in the data can make it difficult to detect a three-way interaction. Furthermore, it can be debated whether we used appropriate statistical methods and thereby did not consider potential factors in the analysis. Even though our results were not

significant, we still want to emphasise that the absence of a three-way interaction does not necessarily exclude the possibility that this interaction is not found in the underlying population. There may be an identical explanation here, as previously mentioned, regarding LMX potentially not acting as a moderator, but rather as a mediator. This is further supported when we analyse the plot of the data. As the result suggests, PFBIF has no significant impact when LMX is not present. By plotting the three-way interaction, a trend is observed where a high level of PFBC correlates with a higher mean mastery climate when both PFBIF and LMX is present. On the other hand, it is seen that when PFBC is low, the mean of the mastery climate is lower than at high frequency. This can be explained by the fact that the leader must focus on giving constructive feedback before focusing on the frequency (Black & William 1998).

According to Øiestad (2019), feedback that is given at the right time and in an appropriate way can contribute to a feeling of recognition, belonging, autonomy and mastery. This can help create a positive spiral where employees feel valued and experience a climate that encourages them for personal growth and development. In this way, it can be interpreted that, if the employee perceives that their feedback contributes to their own development, they become more motivated to stretch themselves and explore new areas of knowledge. Another important factor is that feedback can strengthen relationships between colleagues. When knowledge is shared openly and collaboration is promoted, the organisation can benefit from a richer learning culture and better performance (Øiestad, 2019). LMX also increase psychological safety, which means that employees dare to speak their mind without being afraid of being judged. This is essential for giving feedback. This explanation shows how the three variables, LMX, feedback and motivational climate, are closely linked and have an impact on each other.

In the theory section, the mastery climate appears as the work climate with the highest quality – the climate that is superior (Buch et al., 2017; Liem et al., 2008; Nerstad et al., 2013). At the same time, it is illustrated, through the previous emphasis on leadership styles and 'managerial grid', that emphasis is placed on the fact that a leader should have a strong focus on individual people and human development. This is not something we will stand in opposition to, but rather question whether there is the only truth; that the mastery climate and the leadership style

within this climate is the only right approach? If a leader has a leadership style or leadership behaviour, where the feedback is based on personal correction and the leader seeks the mastery climate, you can end up in the 'country club' situation (Yukl & Gardner, 2020). This can be problematic, as there is a risk of missing efficacy for the organisation. One should remember that the motivational climate can be a combination of both mastery and performance climates (Ames & Archer, 1989; Nerstad et al., 2013). In other words, motivation can be a possible factor in both types of climates. As seen in the 'managerial grid', it is important to focus on both sides of the motivational climate, and the feedback must also address both sides of the climate, as a leader should have a high focus on both the task and the individual. This is most effective for the organisation when the leadership style is in the 'team leader quadrant' (Yukl & Gardner, 2020). If a leader only directs the feedback towards development, i.e. if you focus exclusively on the individual and find yourself in the 'country club' area, the employee will experience a surprise when results are suddenly expected, as they are not used to being exposed to demands, but only used to praise (Hattie & Timperley, 2007).

5.1 Strengths, Limitations, and Research Opportunities

Even though our study may have the potential to contribute to the research field, come with good insights, descriptions and topics for discussion, our study has its limitations. By pointing out our limitations, we will in this context address potential ways to conduct similar studies in future research (Podsakoff, 2003).

As described in the theory, LMX has been conceptualized in SLMX and ELMX, which can provide a clearer explanation of our hypotheses. But we have chosen to use LMX-7 by Graen & Uhl-Blen (1995), as this is still the most used way of measuring LMX (Hanasono, 2017). Since we both feedback and climate is divided into two variables each, we have narrowed it down to just LMX. By narrowing the scope of the study to LMX and not including too many variables, it gives us a greater opportunity to do a more in-depth study of the specific dynamics and implications of this relationship for the feedback-work relationship.

We see the limitations associated with our choice of method for collecting responses. As mentioned earlier we collected our data primarily through Facebook and LinkedIn. In doing so we are not able to have complete control over the nationality of the

respondents, which means that it is not guaranteed that all answers come from Norwegians only. This lack of control is a limitation, as the questionnaire is written in Norwegian, therefore there is a risk that people from other countries have not fully understood the questions that have been asked. Furthermore, this method of collecting responses means that we cannot be completely sure whether the same person has answered the questionnaire multiple times, resulting in a lack of unique individual responses.

An important limitation of our study is linked to the age distribution among our respondents. Based on the results, it was clear that the most prominent age category was between 21 and 40 years, followed by candidates between 41 and 60 years. If the age category had been more evenly distributed between all age groups, it would have been possible to obtain results that are more generalizable. In other words, the age distribution, where most respondents are young, can lead to a skewed age representation of the workforce. Younger respondents, especially those under the age of 21, do not have the same degree of work experience as older respondents. Which means that they may be unconsciously engaged in knowledge hiding, as they probably do not have the same understanding of the industry as the older people who have been in the business longer. This is again based on the degree of LMX and psychological safety. This does not mean that the young people's responses are worthless or irrelevant, but it may be necessary to consider their relative experience level when interpreting the results. Another limitation in answering the questionnaire, which can help make our results less generalisable, is when the respondent had to answer the questions regarding motivational climate. In our dataset, there is a stronger pull towards mastery climate (Mean 3.68, SD .91) than performance climate (Mean 2.19, SD .85), this is a limitation, and may possibly explain that you do not get enough variation in the dataset to explain and find support for the hypotheses. Another challenge with the questions regarding motivational climate is that all the questions start as follows: "In my department/work group...". This can create confusion regarding the group and individual level. It is possible that you do not always identify with the group level, or that you do not feel equipped and find it uncomfortable to answer on behalf of others, if you do not feel that you have a broad overview of colleagues from the same department and work group. With the other questionnaires regarding LMX and feedback, the questions contain many adjectives

such as "...how **satisfied** your leader...", "...how **well** does your leader...", "I **seldom** receive..." or "...**immediately** after I have done the work". All these examples of adjectives can seem problematic because they can be perceived differently from person to person, as there is not necessarily a clear definition or description of the words. So, it is up to the individual's assessment and interpretation of these words, which are expressed in their answers.

Another limitation of our study can be seen in the time and attention that the respondent spent on answering the survey. The problem with this is that the respondent may have read and answered the questions, but at the same time not been fully aware of the survey or its content, which can potentially lead to bias in the response style (Suarez-Alvarez et al 2018). One way this happens could be that the 5-point likert scale is the only alternative to answer in the survey, which means that these answers may not accurately reflect the correct opinions or characteristics of the individual. It can therefore be a limitation that one does not pay enough attention or rushes through the examination. Given this, responses completed under 3 minutes and 30 seconds were removed. In addition to this, there are factors beyond our control. We cannot know whether the individuals have responded with complete honesty or not. Individuals may respond based on what they think is "correct" or what is socially preferable, rather than the truth, which is referred to as response sets (Suarez-Alvarez et al., 2018). Individuals may choose the easier answer rather than the right or honest one. For example, choosing number 3 (middle) on a 5-point likert scale. It can be perceived as an easy, safe and neutral option, but not necessarily a correct (reflecting the individual) or honest answer.

When it comes to the research design, cross-sectional methods also have limitations. This study was conducted using cross-sectional data, meaning that data were collected at only one point in time and with one sample. The disadvantage of this method is that it is difficult to explain causal relationships or other causal explanations from the results (Podsakoff et al., 2003; Rindfleisch et al., 2008). Therefore, longitudinal data are suggested to be a better option. When conducting interaction studies using multiple regression, it is important to consider the potential impact of measurement errors (Jaccard et al., 1990). Measurement errors are often influenced by common method biases, which can have implications for the validity of

our findings (Podsakoff, 2003). To enhance the interpretation of significant interactions and minimize multicollinearity, Dawson (2014) suggests excluding non-significant interactions from the model. However, in our analysis, retaining the non-significant interactions in the final regression did not significantly alter the results.

We also used the macro Process v4.2 by Hayes (2018). This gives us some benefits, that's its easy to use, and the complicated regressions are done correctly and automatically. On the other hand, it also brings some limitations. One is that we can't include more two-way interactions at the same time in the model, as we wanted to do in step 2. On the other hand, these are automatically included in the three-way interaction, which we did in step 3 and shown in model 3. The downside with this, is that it's harder to explain the ΔR^2 this way. (Dawson, 2014). Which can explain why we do not see any change in R^2 in the MC model, and only 0.1 in the PC model.

For future research, longitudinal studies would enable causal explanations and allow us to evaluate and look at outcomes over time. Besides that, we also pointed out that we have used a random sample, without intending to investigate any specific groups or categories of individuals. An idea for further research is therefore to examine LMX's relationship to feedback and motivational climate in more specific categories or groups. It could be interesting to investigate this relationship in different industries, areas, companies or countries in order to compare the results with each other. Our study is based on Norwegian individuals, which makes it difficult to generalize our data and results. It also prevents us from drawing conclusions about this relationship in specific countries, groups and industries.

5.2 Practical Implications

Despite the demonstrated limitations in our study, several implications can be identified. First of all, it is crucial for organisations and leaders to recognize the strength of LMX as an independent variable. It should also be recognized that LMX also plays an important mediating and moderating role, not only in the relationship between feedback and motivational climate, but also in relation to other variables. It is therefore recommended to invest resources in facilitating and training in strengthening the LMX relationship, so that the leader can develop personal adaptation to each individual employee and achieve a stronger effect of feedback.

We have also observed that feedback and motivational climate play a crucial role in the working environment, and it is important to understand how these factors affect employee motivation to ensure the success of the organisation. In this context, leaders must be aware of the relationship between constructive feedback and the motivating climate and be able to adapt the feedback to the individual employee by varying between person-oriented and task-oriented feedback. In other words, it is argued that leaders should have a balance between both types of feedback. The leader must adapt the strategies to the specific context or culture of the organisation, which will contribute to optimal efficiency.

This knowledge can be obtained through the degree of LMX, as previously described. It is important, however, that the responsibility for facilitating good employee relations does not lie solely with the leader, but rather is distributed at several levels. There is a strong argument that organisations should implement training or continuing education programs, or even offer various courses that focus on building solid LMX relationships. This will help the leader feel better equipped and more committed to their role, as it may be extremely unfortunate if the leader feels uncomfortable or unsure of their responsibilities. Such a feeling can easily affect the employees negatively, which is not desirable since it is the leader who has to lead the way. The leader will experience increased motivation if he or she feels comfortable in his or her role, and this motivation will hopefully rub off on the employees. By implementing such initiatives, organisations can create a positive motivational climate that contributes to increased productivity, employee satisfaction and reduced staff turnover.

6. Conclusion

We have investigated the relationship between feedback, LMX and motivational climate. Through the presentation of key concepts and theories, it has been investigated how a positive relationship between leaders and employees can promote an effective feedback culture and a motivational climate.

The thesis has also investigated whether LMX has a moderating and/or mediating role in the relationship between feedback and motivational climate. The results show that LMX mediates the positive relationship between perceived feedback behaviour

constructiveness and mastery climate. A high degree of LMX can result in the perception of constructive feedback and increased knowledge sharing. Moreover, the results show that LMX acts as a mediator for both constructive aspects of feedback in relation to mastery climate.

Our results indicate that LMX functions as both a mediator and a moderator in the relationship between feedback and motivational climate. It is essential for leaders to establish a solid relationship with their employees and provide frequent constructive feedback to reinforce the impact of the feedback and create a motivational climate. For organisations, it is important to focus on building trusting relationships and to adapt the feedback to the individual employee. By understanding and applying these findings, organisations can improve their management practices and create a positive work environment that promotes employee well-being and performance.

References

- Acemoglu, D., & Robinson, J. A. (2019). *The Narrow Corridor: States, Societies, and the Fate of Liberty* (Illustrated edition). Penguin Press.
- Afshan, G., Serrano-Archimi, C., Landry, G., & Javed, U. (2022). Am I worthy to my leader? Role of leader-based self-esteem and social comparison in the LMX-performance relationship. *Human Systems Management, 41*(3), 341–356.
<https://doi.org/10.3233/HSM-211226>
- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. SAGE.
- Akhtar, W., Karatepe, O., Syed, F., & Husnain, M. (2022). Leader knowledge hiding, feedback avoidance and hotel employee outcomes: A moderated mediation model. *International Journal of Contemporary Hospitality Management, 34*, 578–600.
- Akoglu, H. (2018). User's guide to correlation coefficients. *Turkish Journal of Emergency Medicine, 18*(3), 91–93. <https://doi.org/10.1016/j.tjem.2018.08.001>
- Albæk, M. (2021). Ett liv: Hvordan vi glemte å leve et meningsfullt liv. In B. Knudsen (Trans.), *Norbok*. Hegnar Media. https://urn.nb.no/URN:NBN:no-nb_pliktmonografi_000000253
- Ames, C. (1992). Classrooms: Goals, structures, and student motivation. *Journal of Educational Psychology, 84*(3), 261. <https://doi.org/10.1037/0022-0663.84.3.261>
- Ames, C., & Archer, J. (1989). Achievement goals in the classroom: Students' learning strategies and motivation processes. *Journal of Educational Psychology, 80*(3), 260. <https://doi.org/10.1037/0022-0663.80.3.260>
- Andersen, I., Buch, R., & Kuvaas, B. (2020). A Literature Review of Social and Economic Leader–Member Exchange. *Frontiers in Psychology, 11*, 1474. <https://doi.org/10.3389/fpsyg.2020.01474>

- Baloch, Z., Iqbal, M. Z., Ikramullah, M., van Prooijen, J.-W., & Khan, T. (2021). Getting Rates to Accept Performance Feedback: A Relational Approach. *Social Justice Research, 34*(3), 285–316. <https://doi.org/10.1007/s11211-021-00370-3>
- Beersma, B., Homan, A. C., Van Kleef, G. A., & De Dreu, C. K. W. (2013). Outcome interdependence shapes the effects of prevention focus on team processes and performance. *Organizational Behavior and Human Decision Processes, 121*(2), 194–203. <https://doi.org/10.1016/j.obhdp.2013.02.003>
- Bernerth, J., & Aguinis, H. (2016). A Critical Review and Best-Practice Recommendations for Control Variable Usage. *Personnel Psychology*.
<https://doi.org/10.1111/peps.12103>
- Bernerth, J. B., Armenakis, A. A., Feild, H. S., Giles, W. F., & Walker, H. J. (2007). Leader–member social exchange (LMSX): Development and validation of a scale. *Journal of Organizational Behavior, 28*(8), 979–1003. <https://doi.org/10.1002/job.443>
- Black, P., & Wiliam, D. (1998). Assessment and Classroom Learning. *Assessment in Education: Principles, Policy & Practice, 5*(1), 7–74.
<https://doi.org/10.1080/0969595980050102>
- Blake, R. R., & Mouton, J. S. (1985). *The managerial grid III : a new look at the classic that has boosted productivity and profits for thousands of corporations worldwide*. Gulf Publishing Company.
- Buch, R. (2015). Leader–member exchange as a moderator of the relationship between employee–organization exchange and affective commitment. *The International Journal of Human Resource Management, 26*(1), 59–79.
<https://doi.org/10.1080/09585192.2014.934897>
- Buch, R., Kuvaas, B., & Dysvik, A. (2010). Dual support in contract workers’ triangular employment relationships. *Journal of Vocational Behavior, 77*(1), 93–103.

<https://doi.org/10.1016/j.jvb.2010.02.009>

- Buch, R., Nerstad, C. G. L., & Säfvenbom, R. (2017). The interactive roles of mastery climate and performance climate in predicting intrinsic motivation. *Scandinavian Journal of Medicine & Science in Sports*, 27(2), 245–253. <https://doi.org/10.1111/sms.12634>
- Buch, R., Säfvenbom, R., & Boe, O. (2015). The relationships between academic self-efficacy, intrinsic motivation, and perceived competence. *Journal of Military Studies*, 6(1), 19–35. <https://doi.org/10.1515/jms-2016-0195>
- Campbell, A., & Katona, G. (1953). *The Sample Survey: A Technique for Social-Science Research*. <https://www.semanticscholar.org/paper/The-Sample-Survey%3A-A-Technique-for-Social-Science-Campbell-Katona/e5c97eee2dbb27fcd6ff066195105c222e4bf727>
- Campo-Arias, A., & Oviedo, H. C. (2008). Propiedades Psicométricas de una Escala: La Consistencia Interna. *Revista de Salud Pública*, 10(5). <https://doi.org/10.1590/S0124-00642008000500015>
- Caniëls, M. C. J., Chiocchio, F., & Van Loon, N. P. A. A. (2019). Collaboration in project teams: The role of mastery and performance climates. *International Journal of Project Management*, 37(1), 1–13. <https://doi.org/10.1016/j.ijproman.2018.09.006>
- Carless, D. (2006). Differing perceptions in the feedback process. *Studies in Higher Education*, 31(2), 219–233. <https://doi.org/10.1080/03075070600572132>
- Carmeli, A., & Gittell, J. H. (2009). High-quality relationships, psychological safety, and learning from failures in work organizations. *Journal of Organizational Behavior*, 30(6), 709–729. <https://doi.org/10.1002/job.565>
- Černe, M., Nerstad, C. G. L., Dysvik, A., & Škerlavaj, M. (2014). What Goes Around Comes Around: Knowledge Hiding, Perceived Motivational Climate, and Creativity. *The Academy of Management Journal*, 57(1), 172–192.

- Chun, J. U., Choi, B. K., & Moon, H. K. (2014). Subordinates' feedback-seeking behavior in supervisory relationships: A moderated mediation model of supervisor, subordinate, and dyadic characteristics. *Journal of Management & Organization*, 20, 463–484. <https://doi.org/10.1017/jmo.2014.39>
- Cohen, J., Cohen, P., West, S. G., Aiken, L. S., West, S. G., & Aiken, L. S. (2014). *Applied Multiple Regression/Correlation Analysis for the Behavioral Sciences*. United Kingdom: Taylor & Francis Group.
- Cui, Y., & Yu, G. (2021). A cross-level examination of team-directed empowering leadership and subordinates' innovative performance: An AMO theory perspective. *International Journal of Manpower*, 42(7), 1257–1278.
- Dansereau, F., Graen, G., & Haga, W. J. (1975). A vertical dyad linkage approach to leadership within formal organizations: A longitudinal investigation of the role making process. *Organizational Behavior and Human Performance*, 13(1), 46–78. [https://doi.org/10.1016/0030-5073\(75\)90005-7](https://doi.org/10.1016/0030-5073(75)90005-7)
- Dawson, J. F. (2014). Moderation in Management Research: What, Why, When, and How. *Journal of Business and Psychology*, 29(1), 1–19.
- Dawson, J. F., & Richter, A. W. (2006). Probing three-way interactions in moderated multiple regression: Development and application of a slope difference test. *Journal of Applied Psychology*, 91(4), 917. <https://doi.org/10.1037/0021-9010.91.4.917>
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic Motivation and Self-Determination in Human Behavior*.
- Dunn, T. J., Baguley, T., & Brunsden, V. (2014). From alpha to omega: A practical solution to the pervasive problem of internal consistency estimation. *British Journal of Psychology*, 105(3), 399–412. <https://doi.org/10.1111/bjop.12046>
- Dysvik, A., Buch, R., & Kuvaas, B. (2015). Knowledge donating and knowledge collecting:

- The moderating roles of social and economic LMX. *Leadership & Organization Development Journal*, 36(1), 35–53. <https://doi.org/10.1108/LODJ-11-2012-0145>
- Edmondson, A. C. (2004). Psychological Safety, Trust, and Learning in Organizations: A Group-Level Lens. In *Trust and distrust in organizations: Dilemmas and approaches* (pp. 239–272). Russell Sage Foundation.
- Edmondson, A., & Lei, Z. (2014). Psychological Safety: The History, Renaissance, and Future of an Interpersonal Construct. *Annual Review of Organizational Psychology and Organizational Behavior*, 1, 23–43. <https://doi.org/10.1146/annurev-orgpsych-031413-091305>
- Eisenberger, R., Karagonlar, G., Stinglhamber, F., Neves, P., Becker, T., González-Morales, M. G., & Steiger-Mueller, M. (2010). Leader-Member Exchange and Affective Organizational Commitment: The Contribution of Supervisor's Organizational Embodiment. *The Journal of Applied Psychology*, 95, 1085–1103. <https://doi.org/10.1037/a0020858>
- Erdfelder, E., Faul, F., & Buchner, A. (1996). GPOWER: A general power analysis program. *Behavior Research Methods, Instruments, & Computers*, 28(1), 1–11. <https://doi.org/10.3758/BF03203630>
- Evans, T. R., & Dobrosielska, A. (2021). Feedback-seeking culture moderates the relationship between positive feedback and task performance. *Current Psychology*, 40(7), 3401–3408. <https://doi.org/10.1007/s12144-019-00248-3>
- Farrar, D. E., & Glauber, R. R. (1967). Multicollinearity in Regression Analysis: The Problem Revisited. *The Review of Economics and Statistics*, 49(1), 92–107. <https://doi.org/10.2307/1937887>
- Gerstner, C. R., & Day, D. V. (1997). Meta-Analytic review of leader–member exchange theory: Correlates and construct issues. *Journal of Applied Psychology*, 82(6), 827.

<https://doi.org/10.1037/0021-9010.82.6.827>

Gottfredson, R. K., & Aguinis, H. (2017). Leadership behaviors and follower performance:

Deductive and inductive examination of theoretical rationales and underlying mechanisms. *Journal of Organizational Behavior*, 38(4), 558–591.

<https://doi.org/10.1002/job.2152>

Gouldner, A. W. (1960). The Norm of Reciprocity: A Preliminary Statement. *American*

Sociological Review, 25(2), 161–178. <https://doi.org/10.2307/2092623>

Graen, G. B., & Uhl-Bien, M. (1995). Relationship-based approach to leadership:

Development of leader-member exchange (LMX) theory of leadership over 25 years:

Applying a multi-level multi-domain perspective. *The Leadership Quarterly*, 6(2), 219–247. [https://doi.org/10.1016/1048-9843\(95\)90036-5](https://doi.org/10.1016/1048-9843(95)90036-5)

Graen, G., & Cashman, J. (1975). A Role-Making Model of Leadership in Formal

Organizations: A Developmental Approach. *Organization and Administrative Sciences*, 6.

Graves, L. M., & Luciano, M. M. (2013). Self-determination at work: Understanding the role of leader-member exchange. *Motivation and Emotion*, 37, 518–536.

<https://doi.org/10.1007/s11031-012-9336-z>

Hair, J. (2009). Multivariate Data Analysis. *Faculty and Research Publications*.

<https://digitalcommons.kennesaw.edu/facpubs/2925>

Hanasono, L. (2017). *Leader-Member Exchange 7 Questionnaire (LMX-7)* (pp. 354–360).

<https://doi.org/10.1002/9781119102991.ch36>

Hanser, L. M., & Muchinsky, P. M. (1978). Work as an information environment.

Organizational Behavior and Human Performance, 21(1), 47–60.

[https://doi.org/10.1016/0030-5073\(78\)90038-7](https://doi.org/10.1016/0030-5073(78)90038-7)

Harris, K. J., Wheeler, A. R., & Kacmar, K. M. (2011). The mediating role of organizational

- job embeddedness in the LMX–outcomes relationships. *The Leadership Quarterly*, 22(2), 271–281. <https://doi.org/10.1016/j.leaqua.2011.02.003>
- Hattie, J., & Timperley, H. (2007). The Power of Feedback. *Review of Educational Research*, 77(1), 81–112. <https://doi.org/10.3102/003465430298487>
- Hayes, A. F. (2018). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (Second edition.). The Guilford Press.
- Hayes, A. F., & Coutts, J. J. (2020). Use Omega Rather than Cronbach’s Alpha for Estimating Reliability. But.... *Communication Methods and Measures*, 14(1), 1–24. <https://doi.org/10.1080/19312458.2020.1718629>
- Hu, Y., Zhu, L., Zhou, M., Li, J., Maguire, P., Sun, H., & Wang, D. (2018). Exploring the Influence of Ethical Leadership on Voice Behavior: How Leader-Member Exchange, Psychological Safety and Psychological Empowerment Influence Employees’ Willingness to Speak Out. *Frontiers in Psychology*, 9. <https://www.frontiersin.org/articles/10.3389/fpsyg.2018.01718>
- Hurley, A., Scandura, T., Schriesheim, C., Brannick, M., Seers, A., Vandenberg, R., & Williams, L. (1997). Exploratory and Confirmatory Factor Analysis: Guidelines, Issues, and Alternatives. *Journal of Organizational Behavior - J ORGAN BEHAV*, 18, 667–683. [https://doi.org/10.1002/\(SICI\)1099-1379\(199711\)18:63.0.CO;2-T](https://doi.org/10.1002/(SICI)1099-1379(199711)18:63.0.CO;2-T)
- Ilgén, D. R., Fisher, C. D., & Taylor, M. S. (1979). Consequences of individual feedback on behavior in organizations. *Journal of Applied Psychology*, 64(4), 349. <https://doi.org/10.1037/0021-9010.64.4.349>
- Jaccard, J., Wan, C. K., & Turrisi, R. (1990). The Detection and Interpretation of Interaction Effects Between Continuous Variables in Multiple Regression. *Multivariate Behavioral Research*, 25(4), 467–478. https://doi.org/10.1207/s15327906mbr2504_4
- Karatepe, O., Uludag, O., Menevis, I., Dizdarević, L., & Baddar, L. (2006). The effects of

- individual characteristics on frontline employee performance and job satisfaction. *Tourism Management*, 27, 547–560. <https://doi.org/10.1016/j.tourman.2005.02.009>
- Kluger, A. N., & DeNisi, A. (1996). The effects of feedback interventions on performance: A historical review, a meta-analysis, and a preliminary feedback intervention theory. *Psychological Bulletin*, 119(2), 254. <https://doi.org/10.1037/0033-2909.119.2.254>
- Kuvaas, B. (2006). Work performance, affective commitment, and work motivation: The roles of pay administration and pay level. *Journal of Organizational Behavior*, 27(3), 365–385. <https://doi.org/10.1002/job.377>
- Kuvaas, B., Buch, R., & Dysvik, A. (2017). Constructive Supervisor Feedback is not Sufficient: Immediacy and Frequency is Essential. *Human Resource Management*, 56(3), 519–531. <https://doi.org/10.1002/hrm.21785>
- Kuvaas, B., Buch, R., Dysvik, A., & Haerem, T. (2012). Economic and social leader–member exchange relationships and follower performance. *The Leadership Quarterly*, 23(5), 756–765. <https://doi.org/10.1016/j.leaqua.2011.12.013>
- Lam, L. W., Peng, K. Z., Wong, C.-S., & Lau, D. C. (2017). Is More Feedback Seeking Always Better? Leader-Member Exchange Moderates the Relationship Between Feedback-Seeking Behavior and Performance. *Journal of Management*, 43(7), 2195–2217. <https://doi.org/10.1177/0149206315581661>
- Lam, W., Huang, X., & Snape, E. (2007). Feedback-Seeking Behavior and Leader-Member Exchange: Do Supervisor-Attributed Motives Matter? *The Academy of Management Journal*, 50(2), 348–363.
- Liem, A. D., Lau, S., & Nie, Y. (2008). The role of self-efficacy, task value, and achievement goals in predicting learning strategies, task disengagement, peer relationship, and achievement outcome. *Contemporary Educational Psychology*, 33, 486–512. <https://doi.org/10.1016/j.cedpsych.2007.08.001>

- Loi, R., Ngo, H.-Y., Zhang, L., & Lau, V. P. (2011). The interaction between leader–member exchange and perceived job security in predicting employee altruism and work performance. *Journal of Occupational and Organizational Psychology*, 84(4), 669–685. <https://doi.org/10.1348/096317910X510468>
- Malik, M., Wan, D., Ahmad, M. I., Naseem, M. A., & Rehman, R. ur. (2015). The Role Of LMX In Employees Job Motivation, Satisfaction, Empowerment, Stress And Turnover: Cross Country Analysis. *Journal of Applied Business Research (JABR)*, 31(5), Article 5. <https://doi.org/10.19030/jabr.v31i5.9413>
- Mao, J., & Tian, K. (2022). Psychological safety mediates the relationship between leader–member exchange and employees’ work engagement. *Social Behavior and Personality: An International Journal*, 50, 31–39. <https://doi.org/10.2224/sbp.11266>
- McDonald, R. P. (1999). *Test Theory: A Unified Treatment*. Psychology Press. <https://doi.org/10.4324/9781410601087>
- Nembhard, I. M., & Edmondson, A. C. (2011). Psychological Safety: A Foundation for Speaking Up, Collaboration, and Experimentation in Organizations. In G. M. Spreitzer & K. S. Cameron (Eds.), *The Oxford Handbook of Positive Organizational Scholarship* (p. 0). Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780199734610.013.0037>
- Nerstad, C. G. L., Dysvik, A., Kuvaas, B., & Buch, R. (2018). Negative and positive synergies: On employee development practices, motivational climate, and employee outcomes. *Human Resource Management*, 57(5), 1285–1302. <https://doi.org/10.1002/hrm.21904>
- Nerstad, C. G. L., Roberts, G. C., & Richardsen, A. M. (2013). Achieving success at work: Development and validation of the Motivational Climate at Work Questionnaire (MCWQ). *Journal of Applied Social Psychology*, 43(11), 2231–2250.

<https://doi.org/10.1111/jasp.12174>

Newell, S., Scarbrough, H., & Swan, J. (2009). *Managing Knowledge Work and Innovation* (2nd edition). Red Globe Press.

Øiestad, G. (2004). Feedback. In *Norbok*. Gyldendal akademisk.

https://urn.nb.no/URN:NBN:no-nb_digibok_2011062108188

Øiestad, G. (2019). *Gi og motta tilbakemeldinger: Om å bygge hverandre* (1. utgave.). Gyldendal.

Opoku, M. A., Choi, S. B., & Kang, S.-W. (2020). Psychological Safety in Ghana: Empirical Analyses of Antecedents and Consequences. *International Journal of Environmental Research and Public Health*, 17(1), 214. <https://doi.org/10.3390/ijerph17010214>

Rath, T., & Clifton, P. D. D. O. (2005). *How Full Is Your Bucket? Positive Strategies for Work and Life*. Gallup Press.

Ravinder, E. B., & Saraswathi, D. A. B. (2020). Literature Review Of Cronbachalphacoefficient (A) And Mcdonald's Omega Coefficient (Ω). *European Journal of Molecular & Clinical Medicine*, 7(6), 2943–2949.

Revelle, W., & Zinbarg, R. E. (2009). Coefficients Alpha, Beta, Omega, and the glb: Comments on Sijtsma. *Psychometrika*, 74(1), 145–154. <https://doi.org/10.1007/s11336-008-9102-z>

Ringdal, K. (2018). *Enhet og mangfold: Samfunnsvitenskapelig forskning og kvantitativ metode* (4. utg.). Fagbokforl.

Ryan, R. M., & Deci, E. L. (2000). Self-Determination Theory and the Facilitation of Intrinsic Motivation, Social Development, and Well-Being. *American Psychologist*.

Tabachnick, B. G., & Fidell, L. S. (2012). *Using Multivariate Statistics* (6th edition). Pearson.

Taylor, R. (1990). Interpretation of the Correlation Coefficient: A Basic Review. *Journal of Diagnostic Medical Sonography*, 6(1), 35–39.

<https://doi.org/10.1177/875647939000600106>

Thrane, C. (2018). *Kvantitativ metode: En praktisk tilnærming*. Cappelen Damm akademisk.

https://urn.nb.no/URN:NBN:no-nb_digibok_2020112548547

Tsui, A. S., Pearce, J. L., Porter, L. W., & Tripoli, A. M. (1997). Alternative Approaches to the Employee-Organization Relationship: Does Investment in Employees Pay off? *The Academy of Management Journal*, 40(5), 1089–1121. <https://doi.org/10.2307/256928>

Tufte, P. A. (2018). *Hvordan lese kvantitativ forskning?* Cappelen Damm akademisk.

Vance, R. J. (2006). *Employee Engagement and Commitment: A Guide to Understanding, Measuring and Increasing Engagement in Your Organization*. SHRM Foundation.

Yukl, G. A., & Gardner, W. L. (2020). *Leadership in organizations* (Ninth edition.). Pearson Education, Inc.

Zhou, F., & Jiang, C. (2015). Leader-member Exchange and Employees' Safety Behavior: The Moderating Effect of Safety Climate. *Procedia Manufacturing*, 3, 5014–5021. <https://doi.org/10.1016/j.promfg.2015.07.671>

Appendix

Perceived feedback behaviour constructiveness, immediacy and frequency questionnaire. (Kuvaas et al., 2017)

PFBC9: The performance feedback I receive from my immediate supervisor is concerned with how I do my job and not whether I'm better or worse than my colleagues.

PFBC3: If I do something wrong at work my immediate supervisor provides feedback that focuses on the task and not me as a person.

PFBC8: If there is discrepancy between my own and my immediate supervisor's evaluation of my performance we come to an agreement after having discussed the matter.

PFBC1: My immediate supervisor provides feedback that is more concerned with what I'm good at in my job than with I'm not so good at.

PFBC4: If I do something wrong at work my immediate supervisor provides feedback that helps me doing the task better the next time.

PFBC7: The performance feedback I receive from my immediate supervisor agrees with how I evaluate my own performance.

PFBC2: When I receive correcting performance feedback from my immediate supervisor (s)he always follows up with good advice about how I can do things better.

PFBIF1: I often receive performance feedback from my immediate supervisor.

PFBIF4: I seldom receive performance feedback from my immediate supervisor (reversed).

PFBC5: My immediate supervisor provides clear and specific feedback on how I perform my tasks at work.

PFBIF3: I receive performance feedback from my immediate supervisor immediately after I have done the work.

PFBC6: The performance feedback I receive from my immediate supervisor is easy to understand.

PFBIF2: The performance feedback I receive from my immediate supervisor is provided far too long after I have done the work (reversed).

The LMX-7 (Graen & Uhl-Blen, 1995)

Source: Graen and Uhl-Blen (1995). Reproduced with permission of Elsevier.

Instructions: This questionnaire contains items that ask you to describe your relationship with either your leader or one of your subordinates. For each of the items, indicate the degree to which you think the item is true for you by circling one of the responses that appear below the item.

- 1) Do you know where you stand with your leader (follower) ... [and] do you usually know how satisfied your leader (follower) is with what you do?

<i>Rarely</i>	<i>Occasionally</i>	<i>Sometimes</i>	<i>Fairly often</i>	<i>Very often</i>
1	2	3	4	5

- 2) How well does your leader (follower) understand your job problems and needs?

<i>Not a bit</i>	<i>A little</i>	<i>A fair amount</i>	<i>Quite a bit</i>	<i>A great deal</i>
1	2	3	4	5

- 3) How well does your leader (follower) recognize your potential?

<i>Not at all</i>	<i>A little</i>	<i>Moderately</i>	<i>Mostly</i>	<i>Fully</i>
1	2	3	4	5

- 4) Regardless of how much formal authority your leader (follower) has built into his or her position, what are the chances that your leader (follower) would use his or her power to help you solve problems in your work?

<i>None</i>	<i>Small</i>	<i>Moderate</i>	<i>High</i>	<i>Very high</i>
1	2	3	4	5

- 5) Again, regardless of the amount of formal authority your leader (follower) has, what are the chances that he or she would "bail you out" at his or her expense?

<i>None</i>	<i>Small</i>	<i>Moderate</i>	<i>High</i>	<i>Very high</i>
1	2	3	4	5

- 6) I have enough confidence in my leader (follower) that I would defend and justify his or her decision if he or she were not present to do so.

<i>Strongly disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly agree</i>
1	2	3	4	5

- 7) How would you characterize your working relationship with your leader (follower)?

<i>Extremely ineffective</i>	<i>Worse than average</i>	<i>Average</i>	<i>Better than average</i>	<i>Extremely effective</i>
1	2	3	4	5

Motivational Climate and Work Questionnaire (MCWQ) (Nerstad et al., 2013)

Items

Performance climate

- PC8: In my department/work group, it is important to achieve better than others.
- PC2: In my department/work group, work accomplishments are measured based on comparisons with the accomplishments of coworkers.
- PC7: In my department/work group, an individual's accomplishments are compared with those of other colleagues.
- PC3: In my department/work group, rivalry between employees is encouraged.
- PC6: In my department/work group, one is encouraged to perform optimally to achieve monetary rewards.
- PC5: In my department/work group, only those employees who achieve the best results/accomplishments are set up as examples.
- PC4: In my department/work group, internal competition is encouraged to attain the best possible results.
- PC1: In my department/work group, there exists a competitive rivalry among the employees.

Mastery climate

- MC1: In my department/work group, one is encouraged to cooperate and exchange thoughts and ideas mutually.
- MC2: In my department/work group, each individual's learning and development is emphasized.
- MC3: In my department/work group, cooperation and mutual exchange of knowledge are encouraged.
- MC4: In my department/work group, employees are encouraged to try new solution methods throughout the work process.
- MC5: In my department/work group, one of the goals is to make each individual feel that he/she has an important role in the work process.
- MC6: In my department/work group, everybody has an important and clear task throughout the work process.

Eigenvalues

% of variance

Note. PC = performance climate, MC = mastery climate.