

**Linn Sara Furu & Malin Norheim Holm**

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## **To compare or not to care?**

**Studying Knowledge-Sharing Behavior by Exploring the  
Interplay Between SLMX, ELMX, Negative Emotions and  
LMXSC**

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## Abstract

Knowledge is considered one of the most strategic resources for firms, and employees' perception of leader-member exchange (LMX) is significant in predicting knowledge-sharing behavior. However, as knowledge is possessed and shared between employees, individual factors and external conditions may enhance or inhibit knowledge sharing. Our study aims to address this issue by examining the moderating role of negative emotions and leader-member exchange social comparison (LMXSC) on LMX and knowledge-sharing behavior. Conceptualizing social leader-member exchange (SLMX) and economic leader-member exchange (ELMX) as two salient constructs, we postulate a triple interaction model to extend the understanding of when and to which degree negative emotions and LMXSC affect knowledge-sharing behavior. By integrating the principles of social comparison theory on LMX, we argue that LMXSC moderates the moderated effect of negative emotions on the relationship between ELMX, SLMX, and knowledge-sharing behavior.

We obtained cross-sectional data from 201 working individuals in Norway, and a hierarchical moderated regression model was used to test the postulated relationships. This study replicated prior research in the field, confirming that SLMX relates positively to knowledge-sharing behavior. Additionally, the study's significant three-way interaction suggests that LMXSC accentuates the negative relationship between ELMX and knowledge-sharing behavior when employees experience negative emotions. Our research adds new insight into the literature on ELMX and SLMX, and it emphasizes the importance of awareness regarding social comparison, negative emotions, and their effects on knowledge-sharing behavior. We present a critical reflection of our results, and the paper concludes with suggestions for further research and practical implications.

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Linn Sara Furu & Malin Norheim Holm

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# 1. Introduction

Today's business environments are changing rapidly and creating conditions for knowledge sharing separates exceptional organizations from good ones (Weiss, 1999). Knowledge sharing transforms personalized knowledge into a collective good anyone can utilize (Hislop, Bosua & Helms, 2018; Weiss, 1999), and it is desired by organizations due to its direct impact on competitive advantage (Eidizadeh, Salehzadeh & Esfahani, 2017). While knowledge sharing is considered an extra-role behavior (Love & Forret, 2008), knowledge-sharing behavior is a set of individual behaviors regarding the willingness to share work-related knowledge and expertise with coworkers (Yi, 2009). As leaders are often considered central within knowledge sharing processes (Bryant, 2003), researchers have sought to examine the association between leader-member exchange (LMX) and knowledge sharing (Carmeli, Atwater & Levi, 2011; Hao, Shi & Yang, 2019; Kim, Han, Son & Yun, 2017).

LMX can be studied in numerous ways, and there exists a positive relationship between LMX and knowledge-sharing behavior (Hao et al., 2019). Employees tend to adopt a more knowledge-sharing behavior if they believe that their knowledge could improve their relationships (Brock & Kim, 2002; Wang & Noe, 2010). According to Social Exchange Theory (SET), relationships can be social or economic (Blau, 1964) as social behavior is an exchange of material and non-material goods (Homans, 1958). Researchers often separate between social leader-member exchange (SLMX) and economic leader-member exchange (ELMX) (e.g. Buch, Kuvaas, Dysvik & Schyns, 2014). Thus, this thesis will elaborate on the social and economic aspects of LMX.

Despite the relatively new status in the field, a study by Dysvik, Buch, and Kuvaas (2015) found SLMX particularly important for knowledge sharing while suggesting that ELMX may increase knowledge hiding. Thus, there is reason to believe that the two qualities of LMX have different effects on knowledge-sharing behavior, and we intend to study the differences further. However, upon examination of the existing literature on SLMX and ELMX, we discovered deficiencies in the research fields. By applying the two-dimensionality approach to LMX, implementing both the qualities and the quality of the dyadic relationship between managers and their employees (Kuvaas, Buch, Dysvik & Haerem, 2012; Caniëls & Hatak, 2022) in our

research, we avoid losing valuable insight and are better equipped to adumbrate employee outcomes.

Although organizations expect employees to participate in knowledge-sharing activities (Hendriks, 1999), some conditions influence the willingness or eagerness for individuals to share knowledge (Cabrera & Cabrera, 2002). As firms are social entities (Ashkanasy & Daus, 2002) where knowledge sharing mainly occurs between individuals (Yi, 2009), emotions should be considered a vital part of the organization. Emotions play a decisive role when regulating social behavior (Klannert, Campos, Sorce, Emde & Svejda, 1983), and managing emotions in behavioral decision-making is one of the most crucial abilities in a work setting (Salovey & Mayer, 1990, in Ashkanasy & Dorris, 2017).

Over the past decade, negative emotions have become a common research topic on organizational behavior (Zurriaga, González-Navarro & Buunk, 2020). Research emphasizes its crucial role in the workplace, as it could affect LMX (e.g. Herman & Troth, 2013; Kim, Jung & Li, 2013) and the employee's decision-making process (Spender, 2003). Negative emotions are unpleasant emotions aroused in individuals expressing bad reactions (Sam, 2013), and they characterize any state of mind that makes one feel miserable, angry, or sad. Therefore, if employees secure their knowledge as personal secrets and intel as a result of a negative emotional state, firms can not gain a competitive advantage (Teece, 1998). By integrating the moderated effect of emotions in our study, we can examine whether negative emotions represent conditions or affect the associations between ELMX, SLMX, and knowledge-sharing behavior.

People have an inherent drive to evaluate themselves in comparison to others (Festinger, 1954), and social comparison is almost inevitable in social interactions and exchange relationships involving competition and status. Research states that employees often compare themselves to their coworkers (Brickman & Bulman, 1977; Cropanzano & Mitchell, 2005; Festinger, 1954), where comparing one's LMX is called leader-member-exchange social comparison (LMXSC) (Vidyarthi, Liden, Anand, Erdogan & Ghosh, 2010). It has been largely ignored in research on LMX differentiation, and scholars agree that more research is required in this field (Afshan, Serrano-Archimi, Landry & Javed, 2021; Vidyarthi et al., 2010). We acknowledge a research gap, as there exists insufficient research on LMXSC and ELMX/SLMX. However, Kim, O'Neill & Cho (2010) found that employees with low-quality LMX are more likely to experience envy toward coworkers with high-quality LMX. Thus, the proposed two-way

interaction between LMX, knowledge-sharing behavior, and negative emotions should be considered in regard to social comparison. Additionally, as life is more complicated than a linear relationship moderated by a single variable (Dawson, 2014), we want to further study this effect.

In our thesis, the chosen outcome of interest is the sharing aspect of knowledge. As employees face the dilemma of whether to participate in knowledge-enhancing activities or not (De Vries, Van den Hooff & de Ridder, 2006; Hislop et al., 2018), research often links knowledge sharing to knowledge hoarding and knowledge hiding (Bontis, 1999; Webster, Brown, Zweig, Connelly, Brodt & Sitkin, 2008). Thus, we find it unavoidable to implement research on these concepts to emphasize our research and overall strengthen the legitimacy of our discussion.

Although research on negative emotions itself is extensive, we focus for practical reasons on two underlying emotions: envy and jealousy. Theoretically, they align with the definition of negative emotions as they involve other individuals in the emotional state, with envy being dyadic and jealousy triadic (Parrott & Smith, 1993). These emotions conform with LMX being a dyadic relationship (Dansereau, Graen & Haga, 1975; Graen & Cashman, 1975; Kim et al., 2017) and LMXSC focusing on a third-party involvement. Some scholars consider envy and jealousy as two separate sentiments, as they represent distinctive emotional experiences (Smith & Kim, 2007) with differences in their moderating effects (Parrott & Smith, 1993). However, we combine the terms, as done by previous scholars (Bers & Rodin, 1984; Salovey & Rodin, 1984;1986).

Despite previous research building a theoretical understanding of the overall dynamics of knowledge sharing, we propose that LMX, negative emotions, and LMXSC may influence knowledge-sharing behavior not only independently, but interactively. In this study, we thus set out to extend the previous line of research by investigating the interplay between LMX, negative emotions, and LMXSC. By doing so, we increase the originality of the thesis and our contributions likewise. In addition to examining a three-way interaction, we focus on two salient features of LMX: social LMX, and economic LMX. We integrate social exchange theory with theory on LMX and propose a model where we conceptualize SLMX and ELMX as constructs of LMX, with both affecting employees' knowledge-sharing behavior differently. By studying the joint influence of negative emotions and social comparison on the relationship



between LMX and knowledge sharing, we set out to make two main contributions to the literature on knowledge management.

Firstly, as LMX relates positively to knowledge sharing (Kim et al., 2017), we explore how employee knowledge-sharing behavior is affected by the type of LMX they experience (Kuvaas et al., 2012). Responding to previous research, we propose that employees maintaining SLMX and ELMX have different knowledge-sharing behaviors. Thus, we contribute empirically to the immense research on knowledge management as our study strengthens the theoretical base on SLMX and ELMX (e.g. Buch et al., 2014; Dysvik et al., 2015). Secondly, by introducing the concepts of negative emotions and LMXSC, we acknowledge the rising attention to important conditions which affect the relationship between LMX and knowledge-sharing behavior. Thus, our model tests whether upward LMXSC (Festinger, 1954) and negative emotions such as envy and jealousy (Dogan & Vecchio, 2001) subsequently could lower knowledge-sharing behavior.

In what follows, we hypothesize to which extent negative emotions and LMXSC have a moderating effect on the postulated relationship. We analyze our participant's knowledge-sharing behavior, depending on their LMX relationship type, level of negative emotions, and their tendency to compare themselves to their coworkers. We also test whether the qualities of their LMX relationship make them respond differently. In total, we first propose a positive relationship between SLMX and knowledge-sharing behavior and a negative relationship between ELMX and knowledge-sharing behavior. Then, we hypothesize that negative emotions have a negative effect on the postulated relationship, weakening SLMX on knowledge sharing and strengthening the already negative ELMX relationship. Lastly, we test LMXSC's attenuating effect on the SLMX relationship and accentuating effect on the ELMX relationship.

## 2. Theory and Hypotheses

### 2.1 LMX and Knowledge-Sharing Behavior

Employees face the dilemma of cost and benefit when determining whether to share their knowledge with their coworkers or not (Casimir, Li & Loon, 2012; De Vries et al., 2006; Moser, 2017). As knowledge sharing often entails communication and information beyond simple everyday conversations (Carmeli et al., 2011), it may cost individuals valuable time they would rather spend on their job-related tasks (Weiss, 1999). Knowledge sharing is commonly defined as circulating information, suggestions, and expertise in organizations to solve problems and introduce new ideas (Wang & Noe, 2010; Hao et al., 2019). Correspondingly, by sharing their knowledge and skills, employees may become less competitive in the workplace (Kim et al., 2017; Moser, 2017). Emerson (1962) also states that the power of one person over the other is determined by the dependence the latter has on the first person's resources and behaviors. Despite its crucial impact on the further development and performance of the organization (Carmeli et al., 2011; Hislop et al., 2018), employees may choose not to share their expertise with others.

In accordance with SET (Blau, 1964), relationships develop over time into rewarding and trusting commitments as a result of actions and the subsequent reactions of others (Cropanzano & Mitchell, 2005). The relationship between the person that seeks knowledge and the knowledge source may affect employees' willingness to share knowledge (Casimir et al., 2012; Ford & Staples, 2006; Weiss, 1999). Thus, leaders can cultivate a social context where employees can be mentored into reasonable knowledge-sharing behavior, improving their overall intentions to share knowledge (Carmeli et al., 2011). One remarkable social context is the theory of LMX, explaining the individual, dyadic exchange relationships formed by the leader and their subordinates based on role-playing in managerial processes (Dansereau et al., 1975; Graen & Cashman, 1975, Kim et al., 2017). LMX builds heavily on SET (Blau, 1964), where leaders tend to adjust their management style depending on each subordinate based on either leadership or supervision (Dansereau et al., 1975; Graen & Cashman, 1975). Thus, they establish two different relationship types with their subordinates, having high-quality relationships with some team members and lower-quality relationships with others. Consequently, in- and out-groups in the workplace are formed (Dansereau et al., 1975; Dulebohn, Bommer, Liden, Brouer & Ferris, 2012; Graen & Cashman, 1975).

At the core of the theory, LMX can influence beneficial behaviors for the organization (Dulebohn et al., 2012), as employees' work-related behaviors and attitudes are influenced by how their leader treats them (Buch, Thompson & Kuvaas, 2016). Kim et al. (2017) state that the relationship between leader and employee determines the possibility for personal benefits, and according to Gerstner and Day (1997), high-quality LMX relationships improve an employee's overall work experience. This concurs with research by Uhl-Bien, Graen, and Scandura (2000), stating that the goal of organizations is building high-quality relationships. However, many leader-member dyads do not exceed the transactional low-quality LMX (Buch et al., 2016).

As social relationships depend on trust (Blau, 1964; Uhl-Bien et al., 2000) and reciprocity (Gouldner, 1960), knowledge is usually shared in personal and long-term relationships based on these particular traits (Wang & Noe, 2010; Weiss, 1999). Employees with a high-quality LMX are also more likely to share their knowledge as they anticipate future returns on their contributions (Kim et al., 2017). Conversely, Holm and Furu (2021) argue that the absence of reciprocity in a workplace relationship could lead to less knowledge sharing. Moser (2017) found that individual status and feedback contributed to employees' overall willingness to share knowledge. By providing feedback, rewards, expectations, and recognition for their employees' success, leaders can significantly affect the quality of the LMX relationship themselves (Dulebohn et al., 2012).

Economic and social exchange are independent aspects of a leader-employer relationship, and employees can engage in both of them jointly or independently (Shore, Tetrick, Lynch & Barksdale, 2006; Kuvaas et al., 2012). Researchers tend to link high-quality LMX relationships to social exchange relationships (Andersen, Buch & Kuvaas, 2020; Bernerth, Armenakis, Feild, Giles & Walker, 2007; Dulebohn et al., 2012), as it aligns well with traditional descriptions of high-quality LMX in terms of promoting personal obligations, mutual trust, and respect (Blau, 1964). Dulebohn et al. (2012) found that low-quality LMX rendered relationships more economic in nature. However, Kuvaas et al. (2012) state that ELMX relationships differ from low-quality LMX and should be treated as a different phenomenon. Additionally, as SLMX and ELMX represent leader-member relationships with different qualities, a single continuum using levels of LMX quality is therefore not assuring (Buch, 2012).

### 2.1.1 SLMX, ELMX, and Knowledge-Sharing Behavior

Employees perceiving a social LMX-relationship is beneficial for organizations (Andersen et al., 2020). Furthermore, Shore et al. (2006) state that a social exchange relationship is crucial for explaining and encouraging employee behavior in line with organizational goals. Social exchange has a longer time frame than economic exchange (Lai, Rousseau & Chang, 2009) and considers employees' needs and preferences (Blau, 1964). According to available research, SLMX relates positively to followers' work effort (Buch et al., 2014; Buch, Kuvaas & Dysvik, 2019) and overall work performance (Kuvaas et al., 2012). Additionally, social exchange is linked to higher levels of affective commitment, as employees believe that their leaders are investing and committing to them (Shore et al., 2006). Employees participating in social exchange will also be more prosocially motivated and engage in several behaviors that exceed the main requirements for their role (Buch, 2012). Moreover, a recent study by Caniëls and Hatak (2022) found that employee resilience will be higher the more SLMX exceeds ELMX, as developing and maintaining trust-based relationships strengthens resilience.

SLMX is necessary for knowledge exchange between leader and employee (Dysvik et al., 2015). Accordingly, research indicates that SLMX relationships can increase knowledge sharing (Dysvik et al., 2015; Waage & Hæstad, 2019). In the literature review by Andersen et al. (2020), interpreting and assessing available research on ELMX and SLMX, social LMX was positively related to employee knowledge donating. Contrarily, Babič, Černe, Connelly, Dysvik, and Škerlavaj (2019) tested the relationship between ELMX, SLMX, and knowledge hiding in teams. Although the hypothesis regarding ELMX on knowledge hiding lacked significant support, the scholars marginally found SLMX to be negatively related to knowledge hiding.

A positive relationship between SLMX and knowledge-sharing behavior would suggest that our findings conform with existing research in the fields, further contributing to its credibility and expanding the limited research on the behavioral perspective. Based on this, we present our first hypothesis:

*Hypothesis 1:* There is a positive relationship between SLMX and knowledge-sharing behavior.

In contrast with social exchange relationships, economic exchange mainly focuses on physical and formally agreed-on elements such as salary, promotions, and obligations following a given task (Blau, 1964). By committing to a more short-term aspect of the relationship (Shore et al., 2006), economic exchange relationships have little personal involvement between leader and employee (Lai et al., 2009). Consequently, and quite the opposite of SLMX, ELMX is almost consistently negatively related to wanted follower behavior (Andersen et al., 2020). Unlike social exchange relationships, economic exchange relationships do not consider employees' needs or preferences (Blau, 1964). In this regard, ELMX and other economic exchange relationships often relate negatively to followers' work effort (Buch et al., 2014; Buch et al., 2019), work performance (Kuvaas et al., 2012), and affective commitment (Buch, Martinsen & Kuvaas, 2015; Buch et al., 2019; Shore, Bommer, Rao & Seo, 2009).

ELMX embodies a more transactional and contractual character, focusing on what one gives and gets (Kuvaas et al., 2012), overall influencing the employee negatively (Andersen et al., 2020). As employees pay more attention to how they are being treated compared to others, an overall intolerance for favoritism between coworkers is fostered (Lai et al., 2009). Moreover, knowing what you give and get assures that the employees are not being exploited in exchanges based on negotiation (Molm, Takahashi & Peterson, 2000).

Dysvik et al. (2015) suggest that employees with ELMX donate knowledge out of contractual obligations or more calculated expectations that they will get something in return. Moreover, employees with ELMX relationships tend to withhold effort due to concerns about their self-interest and possible future returns (Buch et al., 2015), similar to knowledge hiding. Hence, where SLMX relationships increase knowledge sharing, ELMX relationships may increase knowledge hiding (Dysvik et al., 2015). Furthermore, Waage and Hæstad (2019) found that ELMX is not related to knowledge sharing. Considering our theoretical basis, ELMX should not increase employees' knowledge-sharing behavior. Thus, we hypothesize:

*Hypothesis 2:* There is a negative relationship between ELMX and knowledge-sharing behavior.

## 2.2 Negative Emotions

Employees experience different emotional reactions in response to their LMX, and research suggests that employees in high-quality LMX relationships experience less negative emotions in general than those in low-quality LMX relationships (Herman & Troth, 2013). Yet, employees are expected to suppress their negative emotions, as subsequent behavior is considered unacceptable in a workplace setting (Stearns & Stearns, 1989; Tavris, 1989). For instance, previous studies indicate that emotions such as fear, pride, and empathy could inhibit knowledge management initiatives (Hislop et al., 2018; Van den Hooff, Schouten & Simonovski, 2012). Holm and Furu (2021) argue that envy and jealousy contribute to lowering the willingness of employees to share knowledge in the organizational context. Thus, theory and empirical evidence suggest that negative emotions could affect knowledge sharing negatively.

Employee envy happens when another coworker receives something that one desires (Dogan & Vecchio, 2001). Envy occurs naturally in organizations (Menon & Thompson, 2010), and the threshold for generating coworker envy is low (Vecchio, 2005). Further, the experience of envy often leads to a loss of confidence or self-esteem, which results in employees feeling stronger negative emotions (Scherer, Schorr & Johnstone, 2001). The envying person is experiencing injustice because the envied person's advantage is unfair on the subjective and personal level (Smith, 1991). Cohen-Charash and Mueller (2007) found that when the perceived unfairness is high, envy and harmful behavior are positively related. Moreover, research by Kim et al. (2010) shows that employees with low-quality LMX are more likely to show higher levels of envy than their coworkers with a high-quality LMX. This is supported by Shu and Lazatkhan (2017), who found that the quality of LMX is negatively related to employee envy in the workplace. Additionally, the same scholars found that employee envy mediates the relationship between LMX and work engagement negatively.

Studies on workplace envy have mainly investigated how it affects the organization, arguing its relation to negative outcomes. In a literature review, Zurriaga et al. (2020) found that envy is usually related to dysfunctional results. On counterproductive work behavior, González-Navarro, Zurriaga-Llorens, Olateju, and Linares-Insa (2018) found that the experience of envy relates positively to counterproductive work behavior in the organizational aspect. Similarly, Cohen-Charash and Mueller (2007) suggest the same effect on the interpersonal level. Further

elaborating on negative outcomes, envy leads to social loafing in the workplace (Duffy & Shaw, 2000), knowledge hiding (Peng, Bell & Li, 2020), and lowering group performance (Vecchio, 2005). Studies by Nandedkar and Midha (2014) and Nandedkar (2016) suggest a negative relationship between knowledge sharing and envy, but the researchers emphasize the need for additional research on this very topic.

While envy is wanting what another coworker has, jealousy is the fear of losing something one possesses to a rival (Bryson, 1977; Parrott, 1991). According to Dogan and Vecchio (2001), the perceived threat to a valued relationship arouses the negative emotion of jealousy. As a result of having a high-quality LMX, members of a leader's in-group experience less jealousy than those who are not (Thompson, Buch & Glasø, 2018). Furthermore, depending on the perceived level of workplace competition, jealousy can harm the workgroup and lead to deliberate actions toward coworkers made to reclaim what is at stake (Dogan & Vecchio, 2001). According to Labafi (2017), jealousy is considered the most important reason why employees hide knowledge from their coworkers. As with envy, employee jealousy leads to social loafing in the workplace (Thompson et al., 2018).

A study by Kim et al. (2013) found that envy and jealousy moderates the relationship between low-quality LMX and employee deviant behavior. With knowledge sharing not being obligatory, although desired by organizations to make them more effective, some employees may choose not to share their knowledge (Cabrera, Collins & Salgado, 2006). Furthermore, in organizations where knowledge is considered a competitive advantage, there is little motivation or encouragement among employees to share their knowledge (Coakes, Coakes & Rosenberg, 2008). Based on our theoretical compilation, the experience of negative emotions should be a relevant factor in employee knowledge-sharing behavior. Thus, we posit the third hypothesis for our study:

*Hypothesis 3a:* The relationship between SLMX and knowledge-sharing behavior is moderated by negative emotions - the higher the experience of negative emotions, the less positive the relationship.

*Hypothesis 3b:* The relationship between ELMX and knowledge-sharing behavior is moderated by negative emotions - the higher the experience of negative emotions, the more negative the relationship.

## 2.3 LMX Social Comparison

Thus far, we consider only negative emotions as a moderator on the relationship between SLMX and knowledge-sharing behavior and ELMX and knowledge-sharing behavior. Henceforth, we interpose a moderated moderation effect including social comparison.

There are two types of social comparison: downwards and upwards (Festinger, 1954). Downward social comparison is comparing oneself with other persons as unfortunate or faring worse than oneself. As people like to see other individuals in the same state of mind (Wills, 1981), a downward comparison is a way of making oneself feel better. Wheeler and Miyake (1992) state that such comparisons happen when people feel happy rather than unhappy. Additionally, positive feelings and favorable self-evaluations are more frequently experienced by those who engage in downward social comparison (Lyubomirsky & Ross, 1997; Aspinwall & Taylor, 1993). Conversely, upward social comparison is the act of comparing oneself with someone better off. Although this type of comparison can lead to the experience of negative emotions such as jealousy and envy (Salovey & Rodin, 1984; Smith & Kim, 2007; Schaubroeck & Lam, 2004; Dogan & Vecchio, 2001), people frequently tend to seek upward comparison (Collins, 1996).

Due to hierarchical stratification and social status in organizations, comparison and competition among employees can potentially lead to the experience of envy (Vecchio, 1997, in Sterling, van de Ven & Smith, 2016). Envy is a reaction to the experience of low workplace status (Smith & Kim, 2007), and the motivational goal of envy is to equalize the level of difference between the involved parties (Van de Ven, Zeelenberg & Pieters, 2009). Thus, it potentially leads to a desire to sabotage the comparison target. Moreover, the experience of envy in upward comparison could promote unethical behavior among employees, conceivably resulting in harmful actions towards coworkers (Lee & Gino, 2016; Lam, Van der Vegt, Walter & Huang, 2011). Likewise, jealousy of an existing relationship between others can lead to deliberate action to reclaim the valued friendly connection (Dogan & Vecchio, 2001). On the other hand, the comparison direction can vary based on an employee's relationship with the comparison target (Wheeler & Miyake, 1992).

Upward comparison drives envy (Weng, Latif, Khan, Tariq, Butt, Obaid, & Sarwar, 2020) and individuals with high LMXSC “have greater opportunities for making favorable downward



social comparisons” (Korman, Troester & Giessner, 2020, p. 432). Research suggests a positive link between upward comparison in LMXSC and coworker-directed knowledge-hiding behavior (Weng et al., 2020). Moreover, envious employees are more reluctant to cooperate with coworkers with higher quality LMX, as voluntary helping behavior decreases with envy (Kim et al., 2010). Additionally, social comparisons could be more likely to occur in high-quality LMX relationships than in low ones (Greenberg, Ashton-James & Ashkanasy, 2007).

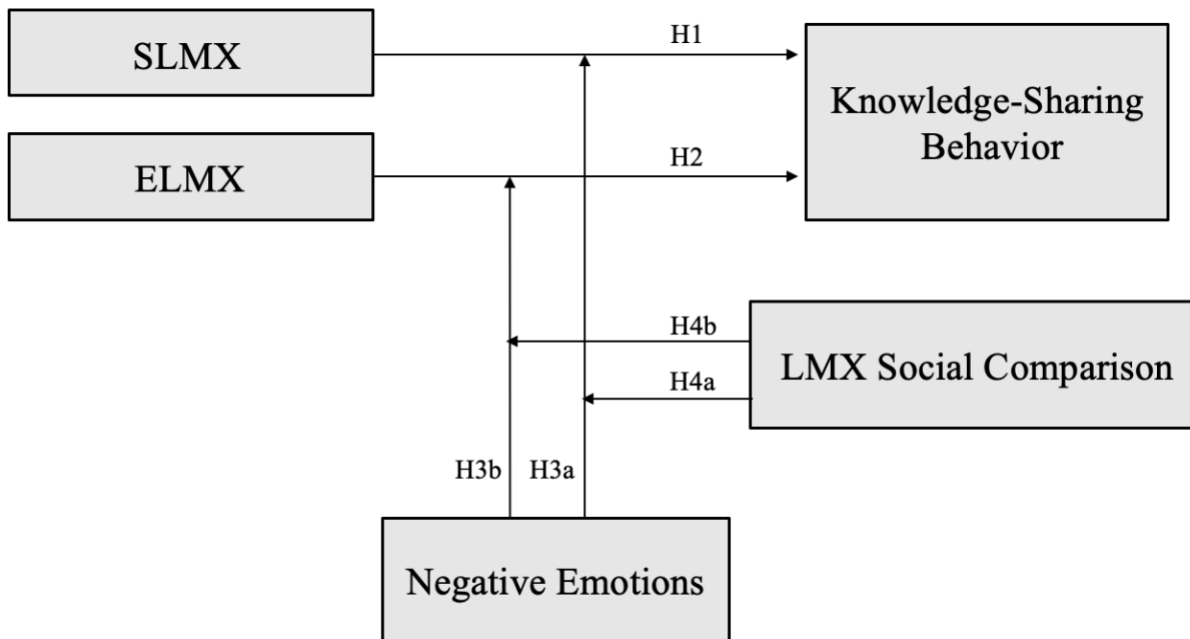
In this study, a high degree of LMXSC equals upward LMXSC. Theory predicts that the level of LMXSC moderates the moderated effect that negative emotions have on knowledge-sharing behavior. In line with the theoretical arguments and empirical results presented above, we predict:

*Hypothesis 4:* The relationship between SLMX/ELMX and knowledge-sharing behavior is moderated by negative emotions and LMXSC. Specifically:

- a) For those with a high level of LMXSC, the positive relationship between SLMX and knowledge-sharing behavior will *attenuate* with higher levels of negative emotions.
- b) For those with a high level of LMXSC, the negative relationship between ELMX and knowledge-sharing behavior will *accentuate* with higher levels of negative emotions.

## 2.4 Conceptual Framework

To facilitate the reader’s understanding of our somewhat complex model, we visually present the composition of our thesis based on our hypotheses:



**Figure 1.** Conceptual Framework

### 3. Methodology

#### 3.1 Sample and Procedure

Quantitative data were collected using a cross-sectional research design intended to collect data from respondents at a single point in time (Campbell & Katona, 1953). These research designs use observations of a large group of subjects to compare differences (Rindfleisch, Malter, Ganesan & Moorman, 2008), henceforth corresponding with the scope of this thesis. Due to the given time frame, we did not advocate the suitability of a longitudinal research design. However, we acknowledge the benefits of collecting data at two different periods, creating an interval between the dependent and the independent variable, thus, avoiding possible method bias (Staw, 1975; Podsakoff, MaKenzie, Lee & Podsakoff, 2003).

In the spring of 2022, we created a web-based questionnaire to collect relevant data for our research. Considering that our hypotheses examine an intricate and somewhat taboo topic regarding negative emotions, we found it favorable to use a quantitative approach to secure our respondents' anonymity throughout the research process (Podsakoff et al., 2003). To ensure a

sufficient sample and further provide anonymity for the participants, the survey was shared via Facebook and LinkedIn. Due to difficulties in measuring both sides of the dyadic relationship that is LMX, although of high importance (Gerstner & Day, 1997), this study focuses on the employee's point of view.

In the survey, the participants were assured anonymity to reduce the possible presence of response distortion (Ong & Weiss, 2000; Podsakoff et al., 2003). They received this information when entering the questionnaire, explaining that their participation would be non-identifiable in any matter. Participation was voluntary, and the respondents could stop answering questions at any time during the survey. Moreover, the survey was done in compliance with guidelines for anonymity by Norwegian Centre for Research Data. To further reduce distortion, the respondents were not informed about the exact purpose of the study and were encouraged to answer as honestly as possible (Podsakoff et al., 2003).

The final sample consists of a unique dataset with 201 complete responses. Of these, 62% were women, and 38% were men. The participants were steadily distributed across the three age categories, with 42% in the group 34 years or younger, 26% in the group 35-49 years, and 32% in the group 50 years or older. 63% had a higher education of five years or more, whereas the participants representing up to three years of higher education and no higher education were respectively 25% and 12%.

## 3.2 Measurements

The questionnaire consisted of items measuring the variables SLMX, ELMX, knowledge-sharing behavior, negative emotions, and LMXSC. Each variable was separated in the questionnaire and measured using a 5-point Likert scale, scoring 1 (*strongly disagree*) to 5 (*strongly agree*), as this format suits the measurement of attitudes and values (Ringdal, 2018). Although the measurements for negative emotions initially used a 7-point Likert scale, we found a 5-point formatting more applicable as similar scales provide a standardized format that requires less cognitive processing for the respondents (Podsakoff et al., 2003). Furthermore, it can reduce frustration among the participants, thus potentially increasing the response rate and response quality (Babakus & Mangold, 1992).

While all measurements originally were stated in English, we found it necessary to conduct the survey in Norwegian, as it is the official language of the population. We ensured that the statements were translated accurately by consulting fellow master students, as well as using a back-translation conversion process. This was done to reduce the risk of misunderstanding or misconception and to ensure equivalence of item meaning (Brislin, Lonner & Thorndike, 1973; Cavusgil & Das, 1997). We received a translated version of the measurements for ELMX and SLMX from our supervisor in the fall course Leadership. Thus, we did not find it necessary to consider those items further. To enhance the overall continuity of the questionnaire, we changed the order of some of the questions. All items are presented in Appendix A.

### 3.2.1 ELMX and SLMX

To measure the independent variables, we used Buch, Kuvaas, and Dysviks (2011) 8-item scale for ELMX and 8-item scale for SLMX. These measures are based on SET (Blau, 1964) and already developed measures on social and economic organizational exchange (Shore et al., 2006). A sample item for the measurement of ELMX is: "I only want to do more for my immediate supervisor when I know in advance what I will get in return", and a sample item for SLMX is: "I don't mind working hard today - I know I will eventually be somehow rewarded by my immediate supervisor."

### 3.2.2 Knowledge-Sharing Behavior

The dependent variable, knowledge-sharing behavior, was measured using Van den Hooff and Hendrix's (2004) 8-item scale. The scholars focused on two knowledge-sharing behaviors: knowledge collecting and knowledge donating. For this paper, we applied the 4-item scale regarding knowledge donating, as we assessed these to be the most relevant considering our thesis. An example of a scale item is: "When I've learned something new, I tell my colleagues about it."

### 3.2.3 Negative Emotions

To measure the moderating variable negative emotions, we applied Vecchio's (2000) 5-item scale for envy and the 6-item scale for jealousy. These measurements have been applied in other relevant research papers on similar topics (Duffy & Shaw, 2000; Kim et al., 2010; Thompson et al., 2018; Weng et al., 2020). A sample item of envy is: "Most of my coworkers have it better than I do," whereas a sample item of jealousy is: "I feel depressed when my

supervisor speaks favorably about another employee.” The questions related to envy and jealousy were presented in a given order, starting with all questions regarding envy before presenting the scale on jealousy. Hence, not disrupting the flow of answering for the participants (Podsakoff et al., 2003). A 9-item scale regarding envy, created by Cohen-Charash and Mueller (2007), was considered for this paper but was ultimately discarded as it did not fit our research objective.

### 3.2.4 LMXSC

To measure LMXSC’s moderating effect on negative emotions, we assessed the study on employee work behaviors by Vidyarthi et al. (2010). The instrument of *upwards* LMXSC consists of 6 items and has later been used in other relevant studies (Lee, Gerbasi, Schwarz & Newman, 2019; Weng et al., 2020; Afshan et al., 2021). A sample item for the measurement of LMXSC is: “I have a better relationship with my manager than most others in my workgroup.”

### 3.2.5 Control Variables

We aimed to enhance the internal validity of our results by including some extrinsic variables to eliminate the possibility that existing differences, such as sociodemographic factors, could explain the observed associations (Buch, Kuvaas & Dysvik, 2010). Thus, gender, age, and education level were selected as control variables for our research, as they represent standard demographic factors (Berneth & Aguinis, 2016). However, to ensure anonymity, all questions regarding the control variables were made optional in the survey.

Gender was coded into male (0) and female (1). Previous studies suggest that males are more likely to develop ELMX relationships than females (Kuvaas et al., 2012) and that males tend to be more envious of wealth (Salovey & Rindin, 1991). Moreover, research suggests that females experience more negative emotions than men (Ross & Mirowsky, 2008), and that age among females is also negatively related to jealousy (Seiffge-Krenke & Burk, 2013). Age was measured in three intervals (0 = *34 years or younger*, 1 = *35-49 years old*, 2 = *50 years or older*). Education level was divided into three intervals (0 = *High school, certificate of apprenticeship, or lower*, 1 = *Higher education up to three years [e.g. B.Sc or less]*, 2 = *Higher education more than three years [e.g. M.Sc or more]*). This is a commonly used control

variable in research on SLMX and ELMX (e.g. Buch et al., 2014; 2016), and workplace deviant behavior decreases with the level of education (Ogungbamila, 2013).

### 3.3 Analysis

The three-way interaction was analyzed by conducting a hierarchical moderated OLS regression using SPSS 27 and a confirmatory factor analysis (CFA) using Mplus. To examine whether there existed casual connections between the variables or not and to determine the sufficiency of our measurement model (Hurley, Scandura, Schriesheim, Brannick, Seers, Vandenberg & Williams, 1997), we conducted a CFA at the beginning of the analyzing process. Before conducting the analysis, we reverse-scored some of our items so that the numeric scores corresponded with the other measurements. Furthermore, as previously discussed, some scholars do not distinguish between envy and jealousy. Thus, we decided to conduct the CFA twice to examine if the measures on envy and jealousy were convergent or discriminant (Campbell & Fiske, 1959). By doing so, we aimed to achieve construct validity (Cronbach & Meehl, 1955).

Furthermore, we created descriptive statistics, correlations, and reliability scores. We conducted a correlation analysis to examine the correlation coefficients to report the degree of association between the chosen variables for this study (Taylor, 1990). As a lack of independence among the explanatory variables often makes it hard to distinguish between the dependency relationships of each variable (Farrar & Glauber, 1967), we examined if multicollinearity exists in our data. Then, we accounted for Pearson's product-moment ( $r$ ), the most commonly used correlation coefficient (Akoglu, 2018). For interpretation, we followed Taylors' (1990) recommendation of low correlations under .35, moderate correlations between .36 and .67, and high correlations above .68.

We used McDonald's omega ( $\omega$ ) (McDonald, 1999) to measure internal consistency reliability. Researchers argue that it is the preferred, more general, and more accurate measure of reliability relative to Cronbach's alpha (e.g. Hayes & Coutts, 2020; Ravinder & Saraswathi, 2020; Revelle & Zinbarg, 2009). Moreover, when using omega, the risk of over-and underestimating reliability is lower (Dunn, Baguley & Brunnsden, 2014). The coefficient was measured using the OMEGA macro for SPSS created by Hayes and Coutts (2020) and calculated using the item loadings and error variances by conducting a maximum likelihood

factor analysis of the correlation matrix of our scale items. Omega varies from 0 to 1 and is computed as the "ratio of the variance due to the common attribute to the total variance" (Ravinder & Saraswathi, 2020, p. 2945). An acceptable omega coefficient must be between .70 and .90 (Campo-Arias & Oviedo, 2008).

We conducted a hierarchical moderated regression model to test for moderation in our hypothesized three-way interactions (Cohen, West & Aiken, 2014) and to define the overall pattern for the relationship between the variables (Taylor, 1990). As interaction terms often create multicollinearity problems due to their strong correlation with the main effect, we main-centered our scale variables before we multiplied them with each other (Dawson, 2014). Thus, we avoided nonessential multicollinearity (Jaccard, Wan & Turrisi, 1990; Cohen et al., 2014), increasing discriminant validity (Campbell & Fiske, 1959). Dawson (2014) states that one should use a hierarchical entry of predictor variables to observe the change in R-square due to the implementation of the interaction. Therefore, the final regression included all independent variables, moderators, and all of the interaction terms. By doing so, we were able to calculate the effect of the interaction and our independent variables' effect on our dependent variable linearly with our moderators (Hayes & Montoya, 2017).

Lastly, we plotted the significant interaction term to interpret it separately and examine the interaction form (Dawson & Richter, 2006; Dawson, 2014). We followed Aiken and West's (1991) procedure by looking at high and low values of our dependent and independent variables, with our independent variable being one standard deviation above and below the mean. Per the authors' suggestion, we centered the variables before plotting them.

## 4. Results

In the CFA analysis, we found convergence between envy and jealousy. There were also insignificant differences between the model containing the measures as separate scales and the model combining them into one scale. Therefore, and due to the complexity of our moderated moderation model, we found it beneficial to combine the two into a joint variable of negative emotions. The results of the CFA performed on the multi-item measures (knowledge-sharing behavior, SLMX, ELMX, negative emotions [envy and jealousy], and LMXSC) achieved an acceptable model fit ( $\chi^2 [619] = 1073,967, p < 0.01$ ; Root Mean Square Error of Approximation (RMSEA) = 0.054; Comparative Fit Index (CFI) = 0.935; Tucker Lewis Index/Non-Normed

Fit Index (TLI/NNFI) = 0,930). However, some of the factor loadings scored less than .5, which resulted in the removal of three items (Matsunaga, 2010; Nunnally & Bernstein, 1994): ELMX4, ELMX7, and JE5R. The remaining factor loadings ranged from .519 to .92, giving further support for discriminant validity (Hurley et al., 1997; Matsunga, 2010). The items in the final scale are presented in Appendix A.

Descriptive statistics with means and standard deviations, bivariate correlations, and McDonald's Omega for all multiple-item scales are reported in Table 1. The correlation analysis showed that our data had no high correlations. Hence, our variables alone, not counted for our interaction terms, should not exhibit multicollinearity. Furthermore, the correlation between SLMX and knowledge-sharing behavior ( $r = .26, p < .01$ ) was significant and positive, giving preliminary support for hypothesis 1. The correlation between ELMX and knowledge-sharing behavior ( $r = -.14, p < .05$ ) was likewise significant and negative, giving preliminary support for hypothesis 2. Although the conducted correlation analysis measured only associations between variables and not the explanation (Taylor, 1990), the findings from this analysis provided a beneficial base for the further upcoming analysis.

When counting for the reliability scores of our data, SLMX computed a higher omega score ( $\omega = .93$ ) than the recommended interval for acceptable omega scores. Yet, considering the overall coveted omega values as being under .90 (Campo-Arias & Oviedo, 2008), our model proves a good fit, with a highly reliable composition. Considering the mean scoring, the experience of negative emotions ( $M = 1.82, SD = .56$ ) and the degree of ELMX ( $M = 1.91, SD = .69$ ) were low. Knowledge-sharing behavior had the highest average score of all the variables ( $M = 4.04, SD = .58$ ), followed closely by SLMX ( $M = 3.72, SD = .85$ ) and LMXSC ( $M = 3.60, SD = .73$ )

We present the results from the multiple regression analysis in Table 2, displaying the relationship between the independent variables (SLMX and ELMX), the dependent variable (Knowledge-Sharing Behavior), and the moderating variables (Negative Emotions and LMXSC) and their interactions. Following theory and recommendations alike (Tuftte, 2018), we conducted the analysis with and without the control variables. The control variables were not significant, and the results did not differ substantially when excluding or including the three variables. Therefore, the outcome did not indicate a spurious correlation between the variables (Tuftte, 2018). Hence, to maximize statistical power and offer interpretable results (Bernerth & Aguinis, 2016) we report our results without the control variables.



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

Variables	Mean	SD	1	2	3	4	5	6	7	8
1 Age <sup>a</sup>	0.90	0.85	-							
2 Gender <sup>b</sup>	0.62	0.49	.49	-						
3 Education <sup>c</sup>	1.51	0.71	.14*	.07	-					
4 SLMX (8)	3.72	0.85	-.00	-.17**	-.13*	(.93)				
5 ELMX (6)	1.91	0.69	-.30**	.08	.02	-.42**	(.83)			
6 Negative Emotions (5+5) <sup>d</sup>	1.82	0.56	-.20**	.09	.00	-.52**	.51**	(.88)		
7 LMXSC (6)	3.60	0.73	-.03	.11	.07	-.28**	.12*	.13*	(.87)	
8 Knowledge-Sharing Behavior (4)	4.04	0.58	.10	.07	.11	.26**	-.14*	-.20**	-.04	(.72)

N = 201

McDonald's omegas are displayed on the diagonal. The number of items included in the final scales is in parenthesis.

<sup>a</sup>Age: 0 = 34 years or younger, 1 = 35-49 years old, 2 = 50 years or older

<sup>b</sup>Gender: 0 = male, 1 = female

<sup>c</sup>Education: 0 = High school, certificate of apprenticeship, or lower, 1 = Higher education up to three years [e.g. B.Sc or less], 2 = Higher education more than three years [e.g. M.Sc or more]

<sup>d</sup>Negative Emotions: Envy (5) and jealousy (5) combined to the joint term "Negative Emotions"

\* $p < 0.05$

\*\* $p < 0.01$

**Table 2.** Results of hierarchical moderated regression analysis

Variables	Knowledge-Sharing Behavior		
	Step 1	Step 2	Step 3
SLMX	<b>.15**</b>	<b>.18**</b>	<b>.18**</b>
ELMX	-.01	.00	.02
Negative Emotions	-.09	-.19*	-.21*
LMXSC	.03	.01	.03
<i>Two-way interactions</i>			
SLMX x Negative Emotions		-.11	-.06
ELMX x Negative Emotions		.06	.12
SLMX x LMXSC		-.02	-.01
ELMX x LMXSC		-.04	-.06
Negative Emotions x LMXSC		.18	.18
<i>Three-way interactions</i>			
SLMX x Negative Emotions x LMXSC			-.12
ELMX x Negative Emotions x LMXSC			<b>-.26*</b>
$R^2$	.07	.12	.14
$\Delta R^2$		.05	.02

N = 201. Non-standardized coefficients are displayed.

Values in bold are relevant for our hypothesis-testing.

\* $p < 0.05$

\*\* $p < 0.01$

In step 1, we entered all independent variables. Results indicated that SLMX relates significantly and positively to knowledge-sharing behavior ( $\beta = .15$ ,  $p < .01$ ). Hypothesis 1, which states a positive relationship between SLMX and knowledge-sharing behavior, was supported. It means that employees' SLMX relationships with their leaders predict a significant contribution to their knowledge-sharing behavior. The analysis has an R-square, a predicted variance (Christophersen, 2009) of .07, meaning that the dependent variables in the model explain 7% of the variance in employee knowledge-sharing behavior. Hypothesis 2, stating a

negative relationship between ELMX and knowledge-sharing behavior ( $\beta = -.01$ , n.s), was not statistically significant and therefore not supported.

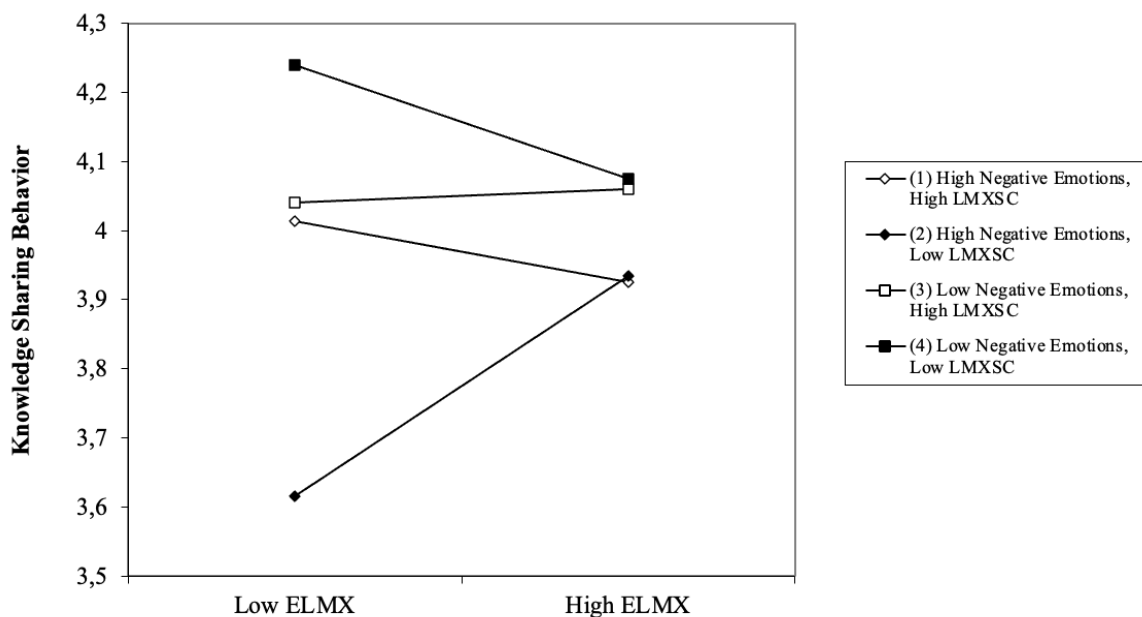
Next, in step 2, we entered all two-way interactions. We included all two-way interactions for both the independent and moderating variables, as it is crucial for interpreting the results correctly (Dawson, 2014). Results indicated that SLMX still relates significantly and more positively to knowledge-sharing behavior ( $\beta = .18$ ,  $p < .01$ ), increasing the support for hypothesis 1. Interestingly, we see now that negative emotions controlled for the independent variables, and their two-way interaction terms relate significantly and negatively to knowledge-sharing behavior ( $\beta = -.19$ ,  $p < .05$ ). Additionally, the linear regression shows an R-square of .12, suggesting that SLMX and negative emotions explain 12% of the variance of knowledge-sharing behavior. The model also had an  $\Delta R$ -square of .05, meaning that the predicted model explains 5% more of the variance in knowledge-sharing behavior due to the implementation of the interaction terms. However, none of our two-way interaction terms were statistically significant (see Table 2), and hypotheses 3a and 3b are not supported. Thus, our analysis does not support the moderating role of negative emotions on the relationship between both independent variables (SLMX and ELMX) and the dependent variable (knowledge-sharing behavior).

In step 3, we entered the three-way interactions. By including and controlling for all independent variables and interaction terms, the coefficient for SLMX still relates significantly and positively to knowledge-sharing behavior ( $\beta = .18$ ,  $p < .01$ ). Hence, hypothesis 1 is fully supported, and we conclude that SLMX relates positively to knowledge-sharing behavior. See Figure 3. Similar to what we encountered in step 2, negative emotions still relate significantly and more negatively to knowledge sharing ( $\beta = -.21$ ,  $p < .05$ ). Thus, negative emotions relate negatively to knowledge-sharing behavior when controlled for all independent variables, two-way interactions, and three-way interactions. See Figure 4 for illustration.

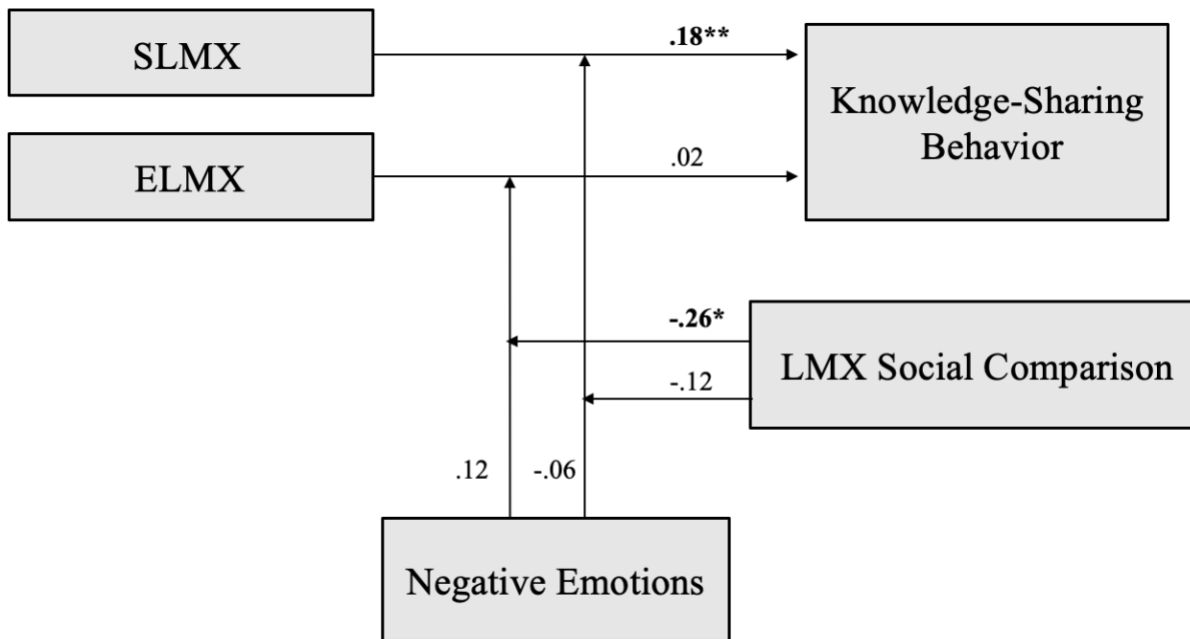
Furthermore, when testing for hypotheses 4a and 4b using our three-way interactions, results indicated that only one of the three-way interaction terms was statistically significant (see Table 2). The three-way interaction term for Hypothesis 4a, which states that negative emotions and LMXSC moderate the positive relationship between SLMX and knowledge sharing ( $\beta = -.12$ , n.s), is not statistically significant and thus not supported. However, the three-way interaction term for Hypothesis 4b was statistically significant ( $\beta = -.26$ ,  $p < .05$ ).

To investigate whether the significant three-way interaction of ELMX, negative emotions and LMXSC to knowledge-sharing behavior supports hypothesis 4b, we constructed four combinations of ELMX and knowledge-sharing behavior and plotted one slope for each sequence. Every combination followed Aiken and West's (1991) procedure. As illustrated in Figure 2, both negative emotions and LMXSC moderate the negative relationship between ELMX and knowledge-sharing behavior. Slope 1 shows that the higher the levels of negative emotions and the higher the levels of LMXSC, the more negative the relationship is. That gives support for Hypothesis 4b, see Figure 3. Moreover, as illustrated in Figure 2, the negative relationship between ELMX and knowledge-sharing behavior is also accentuated by low levels of negative emotions and low levels of LMXSC, as seen in slope 4. Although the slopes are almost parallel, slope 1 with high levels of negative emotions and LMXSC coincides with a lower value of knowledge-sharing behavior overall.

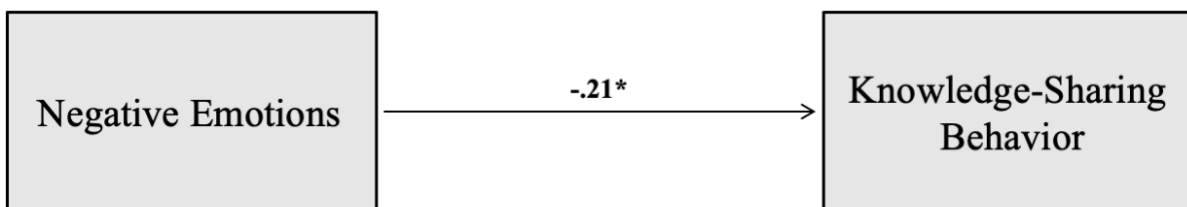
Dawson (2014) suggests that if a three-way interaction is not significant, you can interpret the two-way interactions separately. However, as the final analysis with all interaction terms had a  $\Delta R$ -square of .02 and the highest R-square score of .14, the model demonstrates that the three-way interactions add significantly to the explained variance of knowledge-sharing behavior.



**Figure 2.** The moderating roles of LMXSC and negative emotions on the relationship between ELMX and knowledge-sharing behavior.



**Figure 3.** Conceptual Framework after testing the hypotheses.



**Figure 4.** Illustration of the significant negative relationship between negative emotions and knowledge-sharing behavior.

## 5. Discussion

During this study, we sought to improve the understanding of different LMX relationships on employees' knowledge-sharing behavior. The overall purpose was to explore the combined influence of negative emotions and LMX social comparison in this relationship. We will deliberate the hypotheses with the theoretical basis of the thesis, and we will review and examine why some of our hypotheses gained support and others not.

As expected, the first hypothesis regarding the positive relationship between SLMX and knowledge-sharing behavior was supported by our findings. This finding concurs with previous research on SLMX and knowledge sharing (Dysvik et al., 2015; Waage & Hæstad, 2019), contributing to the existing field of study. We draw parallels between this discovery and SLMX's positive effect on knowledge donating (Andersen et al., 2020). The supported hypothesis underscores the importance of how leaders can affect employees' work-related behaviors (Buch et al., 2016) through personal obligation, trust, and respect (Blau, 1994). Moreover, the result is consistent with studies on related topics, as it links to research by Babič et al. (2019) on the negative effect SLMX has on knowledge hiding. It further enhances the association between SLMX with employee extra-role behavior, motivation, work effort, and work performance (Buch, 2012; Buch et al., 2014; Buch et al., 2019; Kuvaas et al., 2012; Shore et al., 2006).

According to our dataset, we did not find support for the second hypothesis. Therefore, ELMX does not affect knowledge-sharing behavior negatively in this study. Although the lack of support contradicts the presented theoretical framework (e.g. Dysvik et al., 2015), several factors could explain the result. First, although economic relationships involve little personal engagement between leader and employee (Lai et al., 2009), the negative aspects of ELMX might not influence coworker affiliations. Specifically, participants perceiving a high degree of ELMX do not necessarily maintain a non-social relationship with their coworkers. Thus, the knowledge-sharing behavior could be unaffected by the type of relationship one has with their leader. The suggestion that ELMX employees donate knowledge due to hopes of receiving something in return (Dysvik et al., 2015) can be a strengthening effect in this regard, as they expect that their coworkers will reciprocate.

Second, as high-quality LMX promotes knowledge sharing (Kim et al., 2017), it is reasonable to believe that low-quality LMX has a contradictory effect. Nevertheless, since ELMX does not equal low-quality LMX (Kuvaas et al., 2012), it does not mean that employees who experience an ELMX relationship have a poor relationship with their leader. Due to a non-existing expectation or desire for something more than a transaction-based relationship (Buch et al., 2016; Kuvaas et al., 2012), ELMX could be tolerated or even preferred by the employee. Therefore, knowledge sharing could be considered a workplace obligation (Blau, 1964) and perhaps not regarded as an extra-role behavior (Carmeli et al., 2011). Moreover, Caniëls & Hatak (2022) argue that having some aspects of ELMX ensures that employees perform in line

with organizational goals. As clear obligations and rewards motivate positive outcomes, they emphasize the need to focus on more than just social bonding. Consequently, employee knowledge-sharing behavior may not be affected by ELMX.

Lastly, firms with high knowledge circulation perform better (Eidizadeh et al., 2017; Weiss, 1999), and incentives increase accordingly. Although facing the dilemma of cost and benefit (Casimir et al., 2012, De Vries et al., 2006), an employee with ELMX could benefit economically from sharing knowledge with their coworkers. By focusing on what one gives and gets (Kuvaas et al., 2012), knowledge sharing can be considered a form of economic reciprocity (Gouldner, 1960), which ultimately increases the behavior itself. Moreover, as employees in Norwegian organizations do not depend exclusively on commission-based salaries, sharing knowledge does not necessarily equal a loss of competitive advantage (Kim et al., 2017). That could also explain the low degree of ELMX among the participants in this study.

Based on our dataset, both hypotheses regarding negative emotions' moderating effect lacked support. In other words, negative emotions will neither decrease the positive relationship between SLMX and knowledge-sharing behavior nor strengthen the negative relationship between ELMX and knowledge-sharing behavior. Further examinations are necessary, as the theoretical framework indicates a basis for support.

Despite experiencing negative emotions, an explanation to why knowledge sharing still occurs in both SLMX and ELMX can be people's need for social desirability (Crowne & Marlowe, 1964). The employee may share knowledge due to expectations that it will improve their relationships with others (Brock & Kim, 2002; Wang & Noe, 2010), especially with their leader. Feedback increases knowledge sharing (Moser, 2017), indicating that praise and recognition are motivating factors (Lin, 2007). Showing a lower degree of knowledge-sharing behavior could therefore be considered petty by their leader and coworkers, and the employee could lose face. As a result, the employee will still share knowledge, despite experiencing negative emotions. Even though the concept of losing face is not commonly associated with Scandinavian culture, it is still worth considering.

Regardless of coworkers' opinions and recognition, sharing knowledge could also increase self-esteem (Bao, Xu & Zhang, 2016) and individual status (Moser, 2017). Nonetheless, in the

dilemma of whether to share knowledge or not (Moser, 2017; Cabrera & Cabrera, 2002), the participants of this study favor contributing to the greater good. Additionally, as LMX itself is considered crucial for knowledge sharing (Carmeli et al., 2011; Kim et al., 2017), it is likely that conditions for knowledge sharing in the workplace already exist and that employees are expected to participate (Hendriks, 1999). In such contexts, the employee may feel obliged to suppress their negative emotions as the resulting behavior is considered unacceptable (Stearns & Stearns, 1989; Tavis, 1989). With this in mind, the moderating effect of negative emotions may not be as prominent as theory indicates.

Further elaborating on LMX-type, hypothesis 1 emphasizes the positive relationship between SLMX and knowledge sharing. Herman and Troth (2013), Kim et al. (2010), and Thompson et al. (2018) found that employees in high-quality LMX experience fewer negative emotions, and as researchers link high LMX and SLMX (e.g. Andersen et al., 2020), it can be adjacent to draw lines between the two. Additionally, having an SLMX relationship enables employees to show emotions, both positive and negative (Berg, Grimstad, Škerlavaj & Černe, 2017). As the employees can discuss their negative thoughts and emotions instead of suppressing them, the potential consequences of having negative emotions might not be as severe as theory suggests. Although suggestive, it could explain the lack of support for negative emotions' attenuating effect on the positive relationship between SLMX and knowledge sharing. However, ELMX often influences the employee negatively (e.g. Buch et al., 2014; Buch et al., 2019; Kuvaas et al., 2012) as it does not consider employees' needs and preferences (Blau, 1964). Additionally, having more ELMX than SLMX will make the employee less resilient (Caniëls & Hatak, 2022), considering mental strength. Research also insinuates that negative emotions have an accentuating effect on ELMX and knowledge sharing (Nandedkar & Midha, 2014; Nandedkar, 2016). Therefore, we find it surprising that negative emotions do not have the anticipated effect as first hypothesized. Nevertheless, it is somewhat logical, considering the unsupported second hypothesis.

Albeit not a hypothesis, negative emotions alone affect knowledge-sharing behavior negatively. The finding concurs with previous research on negative emotions' effect on knowledge hiding in the workplace (Labafi, 2017; Peng et al., 2020). Moreover, negative emotions are positively related to unacceptable work behavior (González-Navarro et al., 2018; Kim et al., 2013; Shu & Lazatkhan, 2017), thus strengthening the relevant theoretical basis. Knowledge is power (Emerson, 1962), and by sharing their expertise, the employee might lose



a competitive advantage (Kim et al., 2017). As there is little motivation among employees to share knowledge when it is considered a competitive advantage (Coakes et al., 2008), negative emotions could strengthen the effect on the fear of losing knowledge to a rival (Bryson, 1977; Parrott, 1991). We find it necessary to consider this viewpoint, although it somewhat contradicts previous arguments concerning ELMX and knowledge-sharing behavior.

On the other hand, the overall experience of negative emotions in our study is low. While high perceived unfairness in organizations leads to envy and harmful behavior (Cohen-Charash & Mueller, 2007; Dogan & Vecchio, 2001), the degree of unfairness in Norwegian companies should be low. As employees are protected by various employment acts (e.g. Norwegian Labor Law, 2005), there is reason to believe that favoritism, exploitation, and negotiation (Lai et al., 2009; Molm et al., 2000) infrequently take place among Norwegian workers. Thus, the threshold for the occurrence of envy and jealousy could be high among our Norwegian participants. Interestingly, this contradicts the theoretical framework (Cohen-Charash & Mueller, 2007; Menon & Thompson, 2010; Smith, 1991; Smith & Kim, 2007; Vecchio, 2005).

A key finding of our study is that negative emotions and LMXSC moderate the negative relationship between ELMX and knowledge-sharing behavior. Interestingly, knowledge-sharing behavior will be negatively affected when all the given criteria are met. In other words, employees with ELMX who experience upward LMXSC will have a lower knowledge-sharing behavior if negative emotions are high. Researchers have previously linked negative emotions and LMXSC to social loafing (Duffy & Shaw, 2000; Thompson et al., 2018) and harmful behaviors toward others (Lee & Gino, 2016; Lam et al., 2011). Likewise, when comparing oneself to coworkers, negative emotions motivate actions to reclaim the valued connection (Dogan & Vecchio, 2001; Van de Van et al., 2009). Thus, as upwards social comparison relates positively to negative emotions (Salovey & Rodin, 1984; Smith & Kim, 2007; Schaubroeck & Lam, 2004; Dogan & Vecchio, 2001), our supported hypothesis corresponds with the theoretical framework.

Additionally, Andersen et al. (2020) state that ELMX almost consistently relates negatively to wanted follower behavior, and we can draw parallels between the experience of negative emotions, LMXSC, and employees with ELMX-relationships with their leader. As knowledge hiding and the following behavior are positively related to ELMX (Dysvik et al., 2015) and LMXSC (Weng et al., 2020), our findings correspond with previous research on the tendency

to withhold effort due to concerns about own self-interest (Buch et al., 2015). We emphasize that knowledge sharing and knowledge hiding are not the same concepts, but we still find similarities in the two concepts regarding knowledge behaviors.

We did not receive support for a three-way interaction of SLMX, negative emotions, and LMXSC. As social comparisons could be more likely to occur in high-quality LMX relationships than in low ones (Greenberg et al., 2007), our theoretical framework implies that the moderating effect of LMXSC should have an attenuating effect. A possible explanation why LMXSC did not matter is the strong positive relationship SLMX has with knowledge-sharing behavior. Although suggestive, SLMX could make the employees satisfied with their work situation as social exchange acknowledges employees' needs and preferences (Blau, 1964). In such a context, people tend to compare themselves with someone worse off than themselves (Wheeler & Miyake, 1992), making employees feel better (Lyubomirsky & Ross, 1997; Aspinwall & Taylor, 1993). This observation underscores the importance of leaders committing to their employees (Shore et al., 2006), as it enhances individual behaviors beyond the normal expectations (Buch, 2012).

## 5.1 Strengths, Limitations, and Research Opportunities

While our research has provided new insight into the field of knowledge management, there are some limitations to our study. Thus, the findings must be interpreted with caution. The limitations of our study do, however, open up the discussion to further research on different areas of the literature, as cross-sectional studies can often lead to and discover future research needs (Podsakoff, 2003).

When designing interaction studies using multiple regression, the potential effects of measurement errors should be considered (Jaccard et al., 1990). Common method biases are the most common determinant for measurement errors and could potentially affect our findings (Podsakoff, 2003). Dawson (2014) suggests that non-significant interactions can be removed from the model to allow for optimal interpretation of the significant interactions and also reduce multicollinearity. However, the results did not differ substantially after doing so, and the non-significant interactions were retained in the final regression. Additionally, as the measurements were translated from English to Norwegian, the intended meaning of the

questions could have been lost in translation (Temple & Young, 2004). Still, we took precautions by using external consulting and back-translation.

Several problems can also occur when using the Likert scale. Only using one response format could increase the motivation to produce streamlined answers, creating a response style bias (Suárez-Álvarez, Pedrosa, Lozano, García-Cueto, Cuesta & Muñiz, 2018). Standardized answer options also invite the participants to give simplified answers, such as responding “Disagree” on all questions of an identical nature (Podsakoff, 2003; Ringdal, 2018). As the Likert scale was used for both the independent and dependent variables, decreasing the methodological separation of the measurements (Podsakoff et al., 2003), biases are potentially created as the responses are affected by a similar context. While meticulously examining all individual responses is not attainable, we sporadically and randomly examined answers to see whether they contained recurring patterns. This was done to increase internal validity.

Additional control variables could have been added to our measurements to improve internal validity and avoid spurious correlations (Tufté, 2018). On tenure, research by Watson and Hewett (2006) implies that employees with a longer work tenure are more likely to have a positive attitude towards knowledge sharing due to an increase in trust and commitment. On the other hand, studies by Carmeli et al. (2011) and Sarti (2018) respectively show a negative correlation and a negative relationship between tenure and knowledge sharing. Job sector or industry type could have been significant in understanding what exchange relationship the participants have at work (Shore et al., 2006). Thus, the sector of employment could be considered an essential control variable for future research. Still, Berneth and Aguinis (2016) advise in depth that control variables should only be included when it appropriately emphasizes the theoretical framework, as it has important consequences for research conclusions.

External factors and personal circumstances could have affected the survey answers. As the survey was a cross-sectional study, our research could be prone to context effects (Jacobsen, 2015). For instance, jealousy is often situation-bounded (Parrott & Smith, 1993), and the answers could have been influenced by an incident moments before the survey took place. This could have been avoided by conducting a longitudinal survey (Rindfleisch et al., 2008; Podsakoff, 2003). Disturbing elements could have affected the responses and response rate, as we could not control the participant's environments during the survey (Jacobsen, 2015). Moreover, even though the survey was anonymous, the participant's need for social desirability

could have affected the answers, as individuals want to present themselves approvingly, regardless of their true feelings about an issue or topic (Crowne & Marlowe, 1964; Podsakoff et al., 2003). When asked about feeling envious, participants of a study by Parrott (1991) answered that others would disapprove of them, if they knew what the participant was feeling. Thus, for employees to appear culturally appropriate, a response set bias can occur, hiding the actual relationship between the variables (Ganster et al., 1983, in Podsakoff et al., 2003).

Considering the inadequate research on negative emotions and LMXSC's effect in the workplace, with limited support from confirmatory data, we are exposed to a possible search bias. Our ability to offer a critical reflection on preceding research determines the overall quality of our theoretical basis. Thus, we have applied measures to ensure research quality, hereunder being cautious in our literature search (Jesson, Matheson & Lacey, 2011). Without exception, we have located the primary sources and double-checked the data. The thesis also includes both quantitative and qualitative research to substantiate the theoretical framework.

As LMX is best assessed from the employee's perspective (Gerstner & Day, 1997), this study does not consider the leader's perspective of LMX. Yet, LMX consists of exchanges in a dyadic relationship and it is therefore substantial to measure both parties' perspectives (Liden & Maslyn, 1998). As leaders tend to have a more positive view of the relationship (Sin, Nahrgang & Morgeson, 2009), it could have been relevant to include the leader's viewpoint and gain insight into their perception of the LMX. Further research should therefore include LMX agreement, if both views are taken into account (Sin et al., 2009). Moreover, as employees can have aspects of both social and economic exchange in their relationship with their leader (Shore et al., 2006), further research could consider SLMX and ELMX as moderating effects on the positive relationship between LMX and knowledge-sharing behavior.

Due to a lack of heuristic value and qualitative differences in distinguishing envy and jealousy, some scholars consider the concepts identically (Bers & Rodin, 1984; Salovey & Rodin, 1984; 1986). As both emotional states are used interchangeably in everyday life, the participants might not know the distinction between them when answering the survey questions (Parrott, 1991; Salovey & Rodin, 1984). Thus, data could be imprecise due to a lack of understanding of what was asked. As we decided in a later stage to combine the two emotions into one variable, this does not concern our study. However, future research should consider this.

Although this thesis only focuses on the envying individual, it would also be interesting to study the experiences of employees being envied (Lee, Duffy, Scott & Schippers, 2018; Vecchio, 2005). As having a high-quality LMX relationship is positively related to being envied by other team members (Wang & Li, 2018), this perspective could cause other negative emotions. Moreover, envied employees “experience negative moods and feel anxious about the relational damage that being envied may bring” (Lee et al., 2018 in Zurriaga et al., 2020, p. 1253). Further research should therefore examine envied employees' knowledge-sharing behavior. Furthermore, considering the proposition as to whether benign envy even leads to negative emotions at all (Van de Veen et al., 2009; Van de Veen, 2016), an interesting topic for further research could be how knowledge-sharing behavior is differently affected by benign and malicious envy.

Most of the theoretical foundation of this thesis is based on North American and East Asian research. Due to cultural differences in behaviors across nations (Hofstede, 2001), the literature may not apply to Norwegian employees. Thus, our findings could be different if we were to examine other cultures or countries. A closer examination of Norway's cultural dimensions compared to other countries (Hofstede, Hofstede & Minkov, 2005) could explain why some of our hypotheses lacked support. For instance, the low masculinity of Norwegian organizational culture could be a relevant factor. As self-centeredness, power, materialism, and individual achievements are typical high masculine traits (Hofstede et al., 2005), the opposite aspects in Norwegian organizations can potentially explain the low experience of negative emotions and low degree of ELMX among the participants. It could also explain the high degree of knowledge-sharing behavior in our study. Additionally, the low power distance in Norwegian firms is relevant considering the low ELMX and high SLMX in our study. The gap between leader and employee is not as prominent in Norway, compared to high power distance cultures. However, we acknowledge the need for future studies on these deliberations.

Our initial intent was to cooperate with a specific knowledge-intensive organization or industry. Gathering data from employees working in the same firm would have been adjacent considering our theoretical framework on workplace relationships. Yet, throughout the process, we noticed a low response rate. Albeit speculative, the negative angle of the thesis may be a reason why our aforementioned companies lacked interest in participating. Moreover, companies could be less enthusiastic about discovering and investigating employees' negative emotions, considering its unacceptable position (Tavris, 1989). Thus, our only choice was to collect data

from the general working population in Norway. We acknowledge that by doing so, we are unable to fully generalize our findings. Thus, further research should investigate the effect negative emotions and LMXSC have on the employees of a specific firm and compare the findings to this particular study.

## 5.2 Practical Implications

Despite our study's limitations, our research and findings hold interesting implications for practice on how to promote knowledge-sharing behavior among employees. First, by acknowledging that SLMX is crucial for encouraging employee behavior in line with organizational goals (Buch, 2012; Shore et al., 2006), top managers should provide tools for leaders to give feedback and support to their employees. Organizations benefit from showing commitment and support toward employees (e.g. Kuvaas et al., 2012). However, leaders should recognize the individual employees' need for aspects of an ELMX relationship, as some contexts may benefit from having a combination of SLMX and ELMX (Kuvaas et al., 2012; Shore et al., 2006). Thus, leaders should pay attention to both social and economic aspects of LMX relationships.

Second, leaders must consider that employees share less knowledge when experiencing negative emotions, regardless of LMX. To decrease the taboo on negative emotions at work, leaders should encourage open communication (Dogan & Vecchio, 2000). Creating a work environment where talking about emotions is considered comfortable could increase employee well-being and lower negative emotions. On the other hand, coworker conflicts and frictions created by negative emotions can increase knowledge creation (Nonaka & Takeuchi, 1995) and enhance work motivation (Van de Ven et al., 2009). Some degree of negative emotions could therefore be desired. However, the risk of stimulating and creating a more hostile workplace through conflict encouragement could potentially lead to severe long-term repercussions. Thus, leaders should contemplate any advantages and disadvantages in this regard.

Lastly, leaders and organizations should aspire to acknowledge any employees who experience ELMX, have negative emotions, and partake in upward comparison. Although ELMX employees represent only a minority in this study ( $M = 1.19$ ,  $SD = .69$ ), leaders need to draw on this finding nonetheless. It requires organizational interventions to move attention toward creating a culture nurturing employee welfare. By increasing overall well-being, knowledge-

sharing behavior among employees will increase with time (Chung, Seaton, Cook & Ding, 2016). In this regard, the comprehensive responsibility lies with leaders, as they are considered vital motivators in knowledge-sharing processes (Bryant, 2003).

## 6. Conclusion

Our thesis aimed to investigate the interplay between SLMX, ELMX, and knowledge-sharing behavior while studying the moderating effects of negative emotions and LMXSC on the postulated relationships. Overall, we present an original aspect of leadership and knowledge-sharing behavior while contributing to the growing field of research on LMXSC and negative emotions. Moreover, we strengthen the theoretical basis of SLMX and ELMX, shedding nuanced light on relevant interplays.

In line with our expectations, we see that SLMX affects knowledge-sharing behavior positively. Thus, leaders may draw on this finding by committing socially to their employees. Yet, considering its dyadic nature, the decision on relationship type does not solely lie with the leaders, and employees could desire some elements of ELMX. Leaders should therefore deliberate on how much to invest in economic and social LMX when considering the individual employee.

Furthermore, employees with ELMX relationships have a lower degree of knowledge-sharing behavior when experiencing negative emotions and comparing themselves to more fortunate coworkers. Thus, leaders should encourage employee openness regarding well-being and emotions, such as envy and jealousy. As our study shows that negative emotions impact knowledge-sharing behavior negatively regardless of LMX, successfully dealing with interpersonal relationships and workplace emotions could be the key to developing an exceptional organization in a rapidly changing business environment.

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# Appendix

## Appendix 1. CFA/Measurements

Item No.	Measurement	Factor loadings				
		SLMX	ELMX	KSB	N.E	LMXSC
<b>Social LMX</b>						
SLMX5	My relationship with my immediate supervisor is based on mutual trust	.885				
SLMX1	I don't mind working hard today - I know I will eventually be somehow rewarded by my immediate supervisor	.850				
SLMX6	My immediate supervisor has made a significant investment in me	.717				
SLMX8	The things I do on the job today will benefit my standing with my immediate supervisor in the long run	.777				
SLMX7	I try to look out for the best interest of my immediate supervisor because I can rely on my immediate supervisor to take care of me	.887				
SLMX4	Even though I may not always receive the recognition from my supervisor I deserve, I know that he or she will take good care of me in the future	.816				
SLMX2	My immediate supervisor and I don't need to specify our arrangements in order for me to be certain that he or she will provide something in return for my efforts	.874				
SLMX3	My relationship with my supervisor is about mutual sacrifice; sometimes I give more than I receive and sometimes I receive more than I give	.779				
<b>Economic LMX</b>						
ELMX4*	I watch very carefully what I get from my immediate supervisor, relative to what I contribute		.245*			
ELMX3	I only want to do more for my immediate supervisor when I know in advance what I will get in return		.772			

ELMX5	I usually negotiate with my immediate supervisor how I will be rewarded for performing a given task	.731
ELMX2	In order for me to feel certain that I will receive something in return for a favor, my supervisor and I have to specify the return in advance	.876
ELMX1	I am only willing to exert extra effort for the benefit of my immediate supervisor if I believe it will increase my chances of achieving personal benefits such as more attractive work assignments or a promotion	.653
ELMX7*	When I repay my immediate supervisor for a favor, it is usually not because I feel grateful, or because I feel I should, but rather because it can have negative consequences for me if I fail to do so	.467*
ELMX6	I rarely or never do a favor for my immediate supervisor without having a clear expectation that the favor will be repaid within a short period of time	.768
ELMX8	I do what my immediate supervisor demands of me, mainly because he or she is my formal boss	.745
<b>Knowledge-Sharing Behavior</b>		
KS2	I share the information I have with my colleagues	.702
KS3	I think it is important that my colleagues know what I am doing	.801
KS4	I regularly tell my colleagues what I am doing	.685
KS1	When I've learned something new, I tell my colleagues about it	.661
<b>Negative Emotions</b>		
EN1	Most of my coworkers have it better than I do	.615
EN3	My supervisor values the efforts of coworkers more than he/she values my efforts	.779
EN2	It is somewhat annoying to see coworkers have all the luck in getting the best assignments	.766

EN4	I don't imagine I'll ever have a job as good as coworkers that I have seen.	.791
EN5	I do not know why, but I seem to be the underdog at work	.720
JE6	I sometimes worry that my supervisor will feel that another employee is more competent than I am	.709
JE2	I feel depressed when my supervisor speaks favorably about another employee	.771
JE5R*	If my supervisor were to single out another employee for recognition, it would make me feel good	.424*
JE3	When my supervisor pays attention to other employees, I feel irritated	.886
JE1	When I see my supervisor praising someone else, my stomach knots up	.902
JE4	I would be resentful if my supervisor asked one of my coworkers for help with a problem	.707

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#### **LMX Social Comparison**

LMXSC1R	I have a better relationship with my manager than most others in my workgroup	.920
LMXSC3R	Relative to the others in my workgroup, I receive more support from my manager	.828
LMXSC5R	My manager is more loyal to me compared to my coworkers	.744
LMXSC2R	When my manager cannot make it to an important meeting, it is likely that she/he will ask me to fill in	.519
LMXSC6R	My manager enjoys my company more than he/she enjoys the company of other group members	.829
LMXSC4R	The working relationship I have with my manager is more effective than the relationships most members of my group have with my manager	.849

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\* Measurements with Factor Loadings  $>.5$  was discarded from the final analysis.

Items ending with the letter R are reversed scored.