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# **The Buffering Effect of Social Support on Stress: A Study of Public Sector Managers in Sweden**

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## **Abstract**

The primary purpose of this study was to investigate whether variations of social support functions predicted stress using a sample of public sector managers in Sweden. Additionally, the study aimed to contribute to psychological literature due to the scarcity of research on the ill health of managers, and the impact of support functions on occupational stress. Whilst, the aim was also to identify the most influential predictor of reduced stress. Methodologically, a quantitative approach was utilized and data was collected through a digital questionnaire, answered by public sector managers in Sweden ( $N = 172$ ). Seven hypotheses were tested through a hierarchical multiple regression analysis. The results indicated that increased levels of perceived supervisory support, support from a network of managerial colleagues in the organization, and supportive communication climate were all significant predictors of reduced levels of stress. The most influential predictor was support from a network of managerial colleagues in the organization. These findings emphasized the importance of social support in reducing stress among public sector managers, who are statistically overrepresented concerning ill health and sick leave related to mental health issues. The hope is that these findings can be valuable to public sector organizations in Sweden, and contribute to a deeper understanding of how to create sustainable and health-promotive workplaces.

*Keywords:* public sector managers, stress, ill health, managerial support, perceived supervisory support, social support, supportive communication climate, network support

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## **The Buffering Effect of Social Support on Stress: A Study of Public Sector Managers in Sweden**

Ill health among managers in Sweden is a rapidly growing problem, where mental health issues stand for the vast majority of the causes for sick leave. This is particularly concerning as sick leave due to mental health issues increased by 500% between 2014 and 2018 (Previa, 2019). Similarly, mental health issues have been cited as the primary reason for long term sick leave. Reports show that public sector managers are overrepresented in sick leave statistics (Andrén, 2018; Previa, 2019). Accordingly, a recent study presented that public sector managers have reported lower job satisfaction than private sector managers in Sweden. The managers in the public sector also experienced more harassment and greater trouble with sleep due to work, than their counterparts in the private sector (Jobbhälsoindex, 2022).

Despite these high levels of ill health, managers tend to prioritize the well-being of their subordinates, but may not give equal consideration to their own well-being (Byrne et al., 2014). Managers have a complex role with several demanding areas of responsibilities, that often involves challenging tasks, such as difficult decision making, and balancing conflicting demands. Managers are often required to work effectively, which can be highly demanding of mental resources (Wang et al., 2010). Empirically, this was supported by a study that showed that managers experienced greater amounts of stress, and lower levels of well-being, than non-managers (Wallis et al., 2021). This, in turn, has a significant impact on the well-being of their subordinates, and holds consequences concerning the effectiveness of the organization as a whole (Lecours et al., 2022; Stein et al., 2020). Despite this immense impact, there is a noticeable gap in the literature concerning the health and ill health of managers (e.g. Barling & Cloutier, 2017; Pagon et al., 2011).

One area in need of more attention is the relationship between social support and managerial health. Empirical evidence, although scarce, supports the idea that social support has the potential to buffer the negative consequences of the highly demanding job as a manager (Eisenberger et al., 1986; Karasek & Theorell, 1990). However, the subject generally remains unexplored in psychological literature, specifically, which forms of social support that can be used and how effective they are in alleviating managerial ill health.

In the light of these knowledge gaps and the aforementioned findings, the present study will investigate the predictive power of three different types of support functions on stress among public sector managers in Sweden. These functions are a) perceived supervisory support, b) support from managerial colleagues, c) support from subordinates. Beyond that, it

will also be investigated if a supportive communication climate predicts lower levels of stress among managers. The examination of these four different support functions in one study has not been previously explored. This approach enables an identification of the most influential predictor among these support functions in relation to reduced levels of stress, which thereafter could become prudent in fostering healthy managers for public sector organizations. Furthermore, perceived supervisory support, and supportive communication climate are yet to be explored as predictors of the outcome variable stress. The studies done on support from colleagues and subordinates as a predictor of lower levels of stress, are scarce, and thus, in need of further studies. Given the potential extensive consequences of the increasing levels of stress-related ill health among public sector managers in Sweden, it is essential to study which support functions that can prevent managers' stress.

The following section will start off with a theoretical background concerning the significant effects of a managers' health-related behaviors, described as the butterfly effect of managers' ill health. Subsequently, a framework of the population of the present study will be presented; the job as a manager in the public sector. Furthermore, the crucial role of social support in buffering occupational stress will be depicted. Followed by a presentation of three areas of social support from; supervisors; managerial colleagues; and subordinates. Continually, an overall perspective of a supportive communication climate in the organization will be discussed. Lastly, the objectives and contributions of the study will be presented.

### **The Butterfly Effect of Managers' Ill Health**

Lecours and colleagues (2022) proposed that a manager's behavior creates a butterfly effect. Managers' behaviors impact employee behaviors which indirectly can foster mental health, as well as a direct impact on the mental health of employees. The reciprocal behaviors that foster mental health can further impact the whole organization. The study conducted by Lecours and colleagues (2022) is a qualitative study with a relatively small sample size, which limits the generalizability. However, this view has been supported by other studies, one of them being a study that showed that the well-being of managers was positively related to team performance and transformational leadership, and that these relationships are reciprocal over time (Geibel et al., 2022). The authors suggested that these findings highlight the importance of managers' well-being for team performance and transformational leadership, and the need for organizations to invest in interventions that foster the well-being of managers. Geibel's study was based on a self-reported questionnaire, which can entail biases such as social desirability and omitted variable bias. The sample of the study consisted of managers in different industries in Germany. There are plenty of cultural and structural

similarities between Germany and Sweden, which might imply that these findings are relatively comparable to the sample of the current study. Transformational leadership is considered to be a form of constructive leadership, which has been established as having an indirect positive effect on employees' well-being outside of work, job satisfaction, and work performance (Kelloway et al., 2012; Kelloway & Barling, 2010).

Furthermore, a study conducted on a sample of Slovenian police leaders and officers, found that various leadership behaviors, such as; consideration; including subordinates in joint decision making; clarifying the roles of subordinates; and specific goal setting, had a significant impact on subordinates' perceptions of social support and personal control. These perceptions were, in turn, determinants of the subordinates' mental health (Ganster et al., 1996). This implied that the behaviors of managers were determinants of the mental health of their subordinates. The sample of Ganster's study consisted of 96% men, which could have had an impact on the results, and ultimately limit the generalizability. However, this sample and the one of the current study both consist of public sector managers, which might make the results comparable.

In accordance with the above mentioned butterfly effect, previous research has suggested that leaders who have a heavy workload may unintentionally lead to emotional exhaustion among their subordinates, resulting in negative outcomes such as reduced job satisfaction and increased burnout rates. Stein and colleagues (2020) posit that this occurs as a consequence of a lack of supportive leadership, which includes emotional support and task-related assistance. Furthermore, the study implied that this relationship was influenced by the prevailing organizational culture and the leader's personal perception of their own workload. The findings emphasized the importance of supportive leadership and the imperative for leaders to recognize the impact of their own workload on their subordinates. The study, by contrast to earlier studies, has the methodological strengths of having multisource data on employees and their leaders. However, the data was cross-sectional, which denotes uncertainty about the causality of effects. The sample of the study consisted of individuals working in day-care centers in Germany, with a vast majority of women, which decreases the generalizability.

Existing research has presented evidence of a strong correlation between the well-being of leaders and their leadership style, which in turn has an impact on their followers, to an extent affirming the central idea behind the butterfly effect (Byrne et al., 2014; Kaluza et al., 2020). Leaders' positive well-being was shown to have a strong correlation with constructive leadership, while negative well-being had a strong correlation

with destructive leadership (Kaluza et al., 2020). Additionally, independent positive correlations were observed between leaders' depressive symptoms, anxiety, and workplace alcohol consumption with abusive supervision, whilst negative correlations were found with transformational leadership (Byrne et al., 2014).

Furthermore, Gilbreath and Karimi (2012) found that the behavior of supervisors had a significant impact on employee presenteeism, which refers to the phenomenon where employees are physically present at work, although mentally absent. This is a consequence of stress caused by the job, such as the organizational climate, ultimately resulting in reduced productivity (Cooper, 1994). Specifically, the study found that supportive supervisor behavior was associated with lower levels of employee presenteeism, whilst negative supervisor behavior was associated with higher levels of presenteeism (Gilbreath & Karimi, 2012).

Abusive supervision is a type of negative supervisor behavior that may lead to negative outcomes for employees. Other than presenteeism, abusive supervision can cause employees to experience reduced job satisfaction, emotional exhaustion, and turnover intentions (Tepper et al., 2017). The antecedents of abusive supervision are complex and include both individual and organizational factors. Furthermore, the mechanisms through which abusive supervision affects employees are diverse and include social undermining, emotional labor, and work-family conflict. Interventions such as training for supervisors, organizational policies and procedures, and employee support programs can help prevent and address abusive supervision in organizations (Tepper et al., 2017). The negative impact of abusive supervision on subordinates was supported by another study by Barnes and colleagues (2015) who found that managers with poor sleeping quality tend to engage in more abusive supervision, consequently, negatively influencing the subordinates' work engagement. The abusive leadership behavior was determined by the daily sleeping quality of managers. Other empirical evidence presented by Byrne and colleagues (2014) demonstrated that personal resources constitute a crucial part of effective leadership. Managers with weakened psychological resources, such as lower self-efficacy, lower resilience, and lower optimism, were more likely to engage in passive leadership behaviors, such as avoiding conflict and delegating tasks, and less likely to engage in transformational leadership behaviors, such as inspiring and empowering their subordinates.

Taken together, these findings strongly indicate that managers' health-related behaviors can create a butterfly effect which has great effects on subordinates' mental health, job satisfaction, as well as the productivity of the organization. A manager with high levels of stress and mental health issues will affect the employees mental health and organizational

outcomes. Previous research highlights the need for managerial support functions in order to improve managers' mental health, and subsequently also improve subordinates' mental health. Conclusively, this emphasizes the importance of further studies on the prevention of stress-related ill health of managers.

### **Managers in the Public Sector**

The public sector is characterized by bureaucracy and hierarchy. In comparison to the private sector, the public sector is often more restricted in terms of resources, concurrently public sector employees also have to abide by a greater amount of directives and regulations as decided by the state. Being a manager in the public sector is often highly demanding, the work can consist of operational responsibilities towards big groups of subordinates, as well as strategic responsibilities towards supervisors and politicians. Additionally, the administrative responsibilities are often highly demanding (Berntson et al., 2012). In accordance with the above mentioned statistics concerning the increasing ill health of managers (Andrén, 2018; Jobbhälsoindex, 2022; Previa, 2019), work situations are seldomly regarded as sustainable, as their workload is characterized by working overtime without compensation, working despite being sick, and constantly having to be available (Berntson et al., 2012).

A study carried out by Pagon and colleagues (2011) compared police managers in the public sector with managers in the private sector in a Central European country. In line with the previously mentioned Swedish study from last year (Jobbhälsoindex, 2022), the police managers perceived more occupational stress and pressure in comparison to the managers in the private sector (Pagon et al., 2011). They experienced greater pressure related to their workload, relationships, work issues, lack of recognition, and a destructive organizational climate. Furthermore, the police managers were less satisfied with their jobs and the organization, which the authors argued were caused by the organizational structure.

Creed and Miles (1996) are also proponents of this view, evident as they suggested that the structure of hierarchical organizations can prohibit the development of trust. Hierarchical organizations with a high degree of centralization and formalization, with a strong focus on efficiency, could inhibit the development of trustworthy behavior. Instead, the organizational structure fosters inefficient communication and inadequate job control. Berntson and colleagues (2012) also highlighted the importance of a well functioning organizational structure, to enable managers to avoid ill health, and for the sake of employees and the organization as a whole.

Scholars have emphasized the importance of improving the psychosocial work conditions for public sector managers in Sweden, like increasing individual and economical



resources, and managerial support (Landstad & Vinberg, 2013). Additionally, Björklund and colleagues (2013) argued that public organizations need to improve the work conditions that allow managers to reduce their levels of stress and enhance their mental health. This was argued to be achieved through strategies that strengthen the support functions for managers.

Conclusively, several studies have continually set forth that the organizational structures and work conditions within the public sector can be highly demanding for individuals in managerial positions. Numerous reports have similarly indicated that the work conditions for public sector managers are unsustainable, and have led to a sharp increase in long term sick leave due to mental health issues. Previous research has underlined the need to improve the psychosocial work conditions for public sector managers, as well as providing managerial support functions in order to help managers navigate their complex role and demanding responsibilities.

### **Social Support Buffering Occupational Stress**

There are numerous theories about the development of occupational stress. One of the most established ones is the demand-control-social support model, proposed by Karasek and Theorell (1990), which suggested that occupational stress is a function of the interaction between job demands and the control that individuals have over their work, moderated by social support. According to the model, high job demands and low job control creates high strain, which is characterized by stress and anxiety that consequently leads to ill health such as fatigue, depression and physical illness. However, social support can buffer the negative effects of job strain by providing resources and assistance to individuals in coping with occupational stress.

According to Karasek and Theorell's (1990) theory, many managers in the public sector have reported to work in highly strained job situations. Their working conditions are often characterized by high and conflicting job demands, alongside insufficient job control and inadequate social support (e.g. Landstad & Vinberg, 2013). Public sector managers have described their work to be mentally exhausting combined with a high workload (Andrén, 2018). These high demands have to be balanced with sufficient resources, such as social support from colleagues and supervisors, which has been cited to be a crucial resource for fostering health at work. The support from upper level managers can consist of organizational support structures, whilst support from colleagues and subordinates often is more characterized by interpersonal support (Karasek & Theorell, 1990). The demand-control-social support model provides a perspective on the very complex and

multifaceted work conditions of public sector managers, which has a high risk of leading to ill health if there is inadequate social support.

Regarding the importance of social support, Logan and Ganster (2005) conducted an intervention aimed at enhancing managers' job control. The intervention did increase the perceptions of control, however only for those managers who had supportive supervisors. One could problematize this as job control often is more accessible in the private sector than it is in the public sector, due to the bureaucratic and hierarchical organizations demands coupled with limited resources (Berntson et al., 2012). These findings emphasize the vital role of social support in public sector organizations.

Continually, poor relationships at work, with one's supervisor, subordinates and colleagues, can also be a significant source of stress. These types of poor relationships are characterized by a lack of trust, inadequate support, and insufficient interest in actively listening to and attempting to deal with challenges that the individuals face within their role and the organization itself (French & Caplan, 1972). Findings from previous research showed that individuals who lacked trust in their colleagues were found to be positively correlated with high levels of role ambiguity, which in turn leads to insufficient communication between colleagues. Subsequently, this contributed to reduced job satisfaction and a greater risk of ill health (French & Caplan, 1970; Kahn et al., 1964).

On the contrary, Colbert and colleagues (2016) emphasized the vital role of positive workplace relationships for fostering the well-being of employees. The study found that positive workplace relationships were associated with increased satisfaction of life, positive emotions and psychological well-being for employees. Positive workplace relationships provided functions such as task assistance and emotional support. The authors suggested that managers can promote positive workplace relationships by creating a supportive work environment, and encouraging social connections among employees. The sample of this study was a wide range of individuals, working in different industries, both public and private sector, in the United States. The population is not mentioned, meaning that the representativeness is vague. Nevertheless, the findings of this study are in line with other research.

Furthermore, high quality workplace relationships have been proven to be directly, and indirectly through psychological safety, associated with learning behaviors (Carmeli et al., 2009). These findings indicated that managers can foster high quality workplace relationships in order to facilitate learning, and in turn, increase productivity. This study used

a convenience sample of students working part or full time, which decreased the generalization of the findings.

### **Functions of Social Support**

The above presented findings emphasize the positive effects that can be yielded from social support. Yet, to move this research field further, it is beneficial to consider different functions of social support and its effect on managerial ill health. One way of doing this is to focus on how social support relates to different hierarchical levels in the organization. In the current study, three such levels are investigated with one additional overall level. First, on a supervisory level, perceived supervisory support is focused on. Second, on a managerial support level, support from co-managers and managerial networks are of interest. Third, on a subordinate level, the degree of support from employees below in the work hierarchy are of interest. Finally, on an overall organizational level, the effect of the supportive communication climate is of interest. A literature review of each level will now be presented.

### **Supervisory Support**

The definition of supervisory support is the extent to which employees perceive that their supervisors value and recognize their contributions, are concerned about their well-being, and provide encouragement and assistance (Eisenberger et al., 2002). This definition is based upon organizational support theory, which denotes that supervisors serve as representatives of the organization, in which employees tend to interpret their supervisor's positive or negative attitude towards them as reflective of the organization's overall support (Eisenberger et al., 1986). The level of perceived support from one's organization has been proven to be important for the well-being of employees. High levels of perceived organizational support implies to foster vitality, and to engender obligations in employees to reciprocate the organization with contributions that go beyond what their job requires (Eisenberger et al., 2001; Settoon et al., 1996). In line with these findings, previous research have identified positive correlations between perceived organizational support and thriving at work (Abid et al., 2015; Riaz et al., 2018), which denotes a positive psychological state defined by vitality and learning (Kleine et al., 2019). One could reasonably argue that these findings regarding perceived organizational support could be similar to perceived supervisory support.

When supervisors have a strong desire to benefit others, also termed prosocial motivation, their subordinates tend to experience high levels of psychological safety at work. Resulting in thriving employees, who have been proven to be more prone to engage in supportive behaviors toward their colleagues. A culture of prosocial motivation among

supervisors can yield favorable outcomes for employee well-being and cooperation in the workplace (Frazier & Tupper, 2016). The collected data of Frazier and Tupper's study was cross-sectional, which gives a description of the population at a particular time, and thus, limits the generalizability.

However, these findings were supported by a study conducted by Cregård and Corin (2019), who examined the reasons behind voluntary turnover among managers who had worked in the public sector in Sweden. The presence or absence of task support, supervisory support, and coworker support were, among other factors, determinants for staying in or leaving a managerial job. A similar study conducted on public sector managers in Sweden identified that support from colleagues, subordinates, and supervisors were important for their job satisfaction. Furthermore, insufficient support and feedback were found to be reasons to leave their work (Skytt et al., 2007). Additionally, supervisory support has been proven to channel good communication, which ultimately ended up being one of the primary reasons for managers to stay at a job in the public sector in Sweden (Cregård & Corin, 2019).

Conclusively, these previous findings indicate that support from one's supervisor is important for the mental health of managers. Based on the aforementioned findings, the first hypothesis is as stated below:

*Hypothesis 1: Higher levels of perceived supervisory support predicts lower levels of stress among public sector managers in Sweden.*

### **Collegial Support**

Social support offered by colleagues has the potential to be especially beneficial, considering that it is usually the most accessible form of daily support, in comparison with other sources of support from the organization (Baethge et al., 2020; Kim et al., 2017). This view is also supported by findings that emphasized that individuals who share similarities tend to provide the most effective social support during times of stress and difficulties (Lively, 2008; Sloan, 2012). Furthermore, social support from colleagues has been proven to have a positive impact for the psychological well-being of employees, along with increased job satisfaction (Cregård & Corin, 2019; Lively, 2008; Skytt et al., 2007; Sloan, 2012). Coworker support has also been established to play an important role in improving resilience to occupational stress, as well as fostering well-being (Baethge et al., 2020).

Consequently, the following hypothesis was formulated based on these findings.

*Hypothesis 2: Higher levels of social support from managerial colleagues predicts lower levels of stress among public sector managers in Sweden.*

### **Network of Managerial Colleagues**

The leading company of corporate health in Sweden, Falck (2023), recently published a press statement, in which they emphasized the importance for managers to build a network of managerial colleagues, with whom they can exchange ideas and seek support from, in order to prevent mental ill health among managers. As mentioned above, support from colleagues can create a buffering effect against the negative consequences of the highly demanding job as a manager.

Granovetter (1973) explored the connection between micro level experiences and macro level social structures, and concluded that individual experiences of interpersonal networks are closely connected to broader social structures that are beyond the control of individuals. Granovetter provided a sociological perspective of networks and their antecedents, and highlighted the bigger context in which the interpersonal networks are developed. These findings can be seen from an organizational perspective, that the extent to which managers perceive support from their network of peers, will be determined depending on the organizational structure and culture. In the light of the context of this current study, a supportive communication climate is crucial in order to develop networks of managerial colleagues, who can provide support. However, the current study focuses on the effects of having interpersonal networks with peers from a psychological perspective.

There hardly exists any research on the support from networks of managerial colleagues in relation to occupational stress. However, the potential benefits it might have to buffer managers' stress indicates a need for further research. The following hypotheses are based on the above mentioned statement and the research on collegial support.

*Hypothesis 3: Higher levels of support from a network of managerial colleagues at the workplace predicts lower levels of stress among public sector managers in Sweden.*

*Hypothesis 4: Higher levels of support from a network of managerial colleagues in the organization predicts lower levels of stress among public sector managers in Sweden.*

*Hypothesis 5: Higher levels of support from a network of external managerial colleagues predicts lower levels of stress among public sector managers in Sweden.*

### **Support from Subordinates**

Based on the theory of reciprocity, subordinates' behavior can have a great impact on their managers' behavior. Despite the reciprocity and the dynamic process between subordinates and managers, the research done on subordinates' impact on their managers is scarce. The results of a qualitative study conducted by St-Hilarie and colleagues (2019), provided evidence that subordinates' behavior at work can reduce managers' occupational stress, by supporting them through conveying satisfaction and by task-assistance. Regarding

the dynamic process between managers and subordinates, Zheng and colleagues (2023) conducted a study in which they examined the effects of servant leadership, which refers to a leader that prioritizes the subordinates and focuses on their personal growth and development. The findings showed that servant leadership impacted job demands and job resources of subordinates, which in turn, impacted team characteristics such as taking responsibility and leader dependency. Thus, these aspects predicted the manager's job demands as well as their job resources, which in turn, had an impact on the manager's emotional exhaustion.

Furthermore, based on these previous findings, the following hypothesis was formulated.

*Hypothesis 6: Higher levels of social support from subordinates predicts lower levels of stress among public sector managers in Sweden.*

### **Supportive Communication Climate**

As previously mentioned, a supportive communication climate can be essential in developing interpersonal networks of colleagues, who in turn, can provide support to each other (Granovetter, 1973). An organizational culture consists of collective, implicit norms and values that shape the members' behavior (Schein & Schein, 2017). Communication is an important aspect of the organizational culture, because communication can promote managerial trustworthy behavior. Cultures that value interpersonal aspects, such as open communication, will reward managers and employees for sharing information, explaining decisions, and discussing issues openly (Whitener et al., 1998). A supportive communication climate that encourages open dialogue about mental health has been proven to foster mental health at work. Additionally, active listening and access to physical places for informal interpersonal exchanges was found to foster workplace relationships and in turn, mental health at work (Lecours et al., 2022). Regarding active listening, Jonsdottir and Fridriksdottir (2019) have provided evidence that it is an important management tool, both for the organization and as an instrument for increased well-being at work. Active listening has the potential to amplify understanding and foster relationships, trust and support.

Furthermore, effective communication has been argued to play a crucial role in fostering well-being at work for both employees and managers (Ala-Kortesmaa & Isotalus, 2015). Effective communication in the workplace also has the potential to mitigate the high job demands and workload experienced by public sector managers. Managers who perceived the communication climate to be supportive, experienced higher levels of job satisfaction (Schad, 2019).

Conclusively, the following hypothesis is formulated based on the above mentioned findings that indicated that a supportive communication climate at work is beneficial for the mental health of managers. Therefore, it is reasonable to anticipate that a supportive communication climate might also reduce levels of stress.

*Hypothesis 7: Higher levels of supportive communication climate predicts lower levels of stress among public sector managers in Sweden.*

### **The Present Study**

Per the previous sections, the objectives and contributions of this thesis are multi-pronged. Starting off, the main objective of the present study is to investigate if four different support functions predict reduced levels of stress among public sector managers in Sweden. Specifically, if perceived supervisory support, support from managerial colleagues, support from subordinates, and a supportive communication climate predict reduced levels of stress. Furthermore, the study aims to fill multiple knowledge gaps in the psychological literature, concerning the scarcity of research on the ill health of public sector managers (e.g. Barling & Cloutier, 2017; Pagon et al., 2011). One way this study aims to bridge this gap is by utilizing a unique approach in the sense that an examination of the four different levels of support functions in one study has not previously been done. This enables an identification of the most influential predictor among these support functions in relation to reduced levels of stress, which has yet to be previously examined whilst allowing for a more in-depth multi-layered analysis. Furthermore, perceived supervisory support, and a supportive communication climate has not yet been explored as predictors of the outcome variable stress. The studies done on social support from colleagues and subordinates as a predictor of lower levels of stress, are scarce, and thus, equally in need of further studies.

The present study was developed in consultation with other ongoing research on managers' ill health and how managers can support each other, which enabled a deeper understanding of the population and the problems in question. The choice of studying public sector managers is based upon reports and statistics, which revealed that they are overrepresented in sick leave and ill health due to mental health issues (Andrén, 2018; Previa, 2019). Additionally, public sector managers suffer from higher levels of stress, and lower levels of job satisfaction, in comparison to their private sector counterparts (Jobbhälsoindex, 2022). These statistical findings were strong indicators that significant structural issues exist within the domain of public sector managers, and that further studies on preventing ill health among public sector managers are necessary. Therefore, the current study aims to identify

which support functions that can prevent managers' stress. Ultimately, the hope is to contribute to enabling healthier work conditions for public sector managers.

## **Method**

### **Design**

The methodological approach used in this study was quantitative, and the data was conducted through a digital questionnaire. This was arguably the most appropriate method considering that the study was designed as a prediction study, which implies a need for a larger number of respondents. An online questionnaire was the most adequate method in terms of time efficiency, minimal use of financial resources, and the potential to reach a greater number of people, in comparison to a physical paper and pen survey (Shaughnessy et al., 2012). Answering an online questionnaire is also time efficient for the participants, which is of the essence due to the current population being managers, who often have a heavy workload and experience higher levels of stress than non-managers (e.g. Wallis et al., 2021).

### **Participants**

The population for this study were managers working in the public sector in Sweden. The sample consisted of a total of 172 participants (age  $M = 52.8$ ,  $SD = 7.01$ ). 133 (77.3%) of them were women, and 37 (21.5%) were men, whilst two (1.2%) preferred not to declare their gender identity. The number of years that the participants had been working as managers varied from half a year to 40 years ( $M = 11.3$ ,  $SD = 8.12$ ). The number of subordinates that the participants had varied from four to 360 ( $M = 43.6$ ,  $SD = 44$ ).

### **Procedure**

The questionnaire was created in Google Forms, it was written in Swedish, on the basis of it being the main language used in the occupational context of the population. A digital link to the questionnaire was attached in an email together with a letter explaining the purpose of the study, ethical aspects of participation and asking them to participate, alongside asking them to share the questionnaire with their managerial colleagues, if it was possible and if they were willing to do so. The link lead them to an introductory page of information, similar to the letter in the email. The participants were obligated to accept informed consent to start filling out the survey. There was no reward offered in exchange for participation.

The procedure of selecting and recruiting participants consisted of collecting email addresses of individuals from the population, through websites and personal connections. This was arguably the most appropriate way of recruiting, considering limited time resources and accessibility to contact details. The sampling method for the current study consisted of a non-probability sampling method, primarily voluntary response sampling, which entails that



individuals voluntarily participate in the study. The sampling procedure also consisted of snowball sampling, which implies that some participants were recruited through other participants (Shaughnessy et al., 2012). As mentioned above, the ones who received an email were asked to share the questionnaire with their leader colleagues. The confidentiality and anonymity of the participants prevents the possibility of distinguishing what amount of participants were recruited by snowball sampling.

## **Materials**

The first section of the questionnaire consisted of demographic items including gender, age, number of years as a manager, and number of subordinates. The rest of the questionnaire measured the different support functions and stress. Starting off, the variable measured at supervisory level was perceived supervisory support. The variables measured at managerial colleagues level were social support from managerial colleagues, and support from three different networks of managerial colleagues. Continually, the variable measured at subordinates level was social support from subordinates. Furthermore, the variable measured at organizational level was supportive communication climate. And lastly, the ill health variable measured was stress.

### ***Perceived Supervisory Support***

Ten items selected from the Survey of Perceived Organizational Support (SPOS) (Eisenberger et al., 1986) were used to measure the participants' beliefs regarding the extent to which their supervisors value their contributions and are concerned about their well-being. The items were slightly reformulated to specify from whom the perceived support derived, *my supervisor* was substituted for *the organization*. Other studies have used the same formulation of the items, which resulted in high internal consistency reliability (e.g. Hutchison, 1997; Kottke & Sharafinski, 1988). Examples of these items were “My supervisor really cares about my well-being”, and “My supervisor fails to appreciate any extra effort from me”. These items were measured on a Likert-type scale ranging from (1) Strongly disagree, to (5) Strongly agree. Previous research has proven a correlation between high levels of perceived organizational support with decreased levels of stress (Rhoades & Eisenberger, 2002). These findings support that SPOS was an appropriate instrument for the purpose of the current thesis. The survey is well established and widely used in organizational research (Hellman et al., 2006), and there is evidence for the construct validity of SPOS (Hutchison, 1997). Internal consistency reliability analysis estimated that Cronbach's alpha for perceived supervisory support was  $\alpha = .91$ .

### ***Social Support and Stress***

Selected parts of Copenhagen Psychosocial Questionnaire (COPSOQ) III (Berthelsen et al., 2020) were used to measure the variables; social support from managerial colleagues; social support from subordinates; and stress. COPSOQ is one of the most established instruments to measure risks among the psychosocial and health related conditions at work. The tool is generally viewed as applicable for any occupation or field of work, as well as size of workplace, and both private and public sector (Berthelsen et al., 2020). Two items were used to measure social support from managerial colleagues, which resulted in Cronbach's alpha of  $\alpha = .95$ . These items were “How often do you get help and support from your managerial colleagues, if needed?”, and “How often are your managerial colleagues willing to listen to your problems at work, if needed?”. The same items, except *subordinates*, instead of *managerial colleagues*, were used to measure social support from subordinates, which resulted in Cronbach's alpha of  $\alpha = .85$ . These social support variables were measured on a Likert-type scale ranging from (1) Always, to (5) Never.

Furthermore, three items were used to measure stress, which had Cronbach's alpha of  $\alpha = .85$ . Examples of these items were “How often have you been tense?”, and “How often have you had problems relaxing?”. The stress variable was measured on a Likert-type scale ranging from (1) All the time, to (5) Not at all.

### ***Support from a Network of Managerial Colleagues***

Together with researchers affiliated with Centrum för ledning i offentliga organisationer (CLOO) [Center of management in public organizations] at Lund University, three items were constructed in order to measure the extent to which the participants perceived support from their network of managerial colleagues. Three items were formulated in three different ways, and directed towards each of the three networks; at the workplace; in the organization; and external network. Examples of these items were “I can count on my network of managerial colleagues in the organization if something goes wrong”, and “I have managerial colleagues in my network in the organization with whom I can share joys and sorrows”. These variables were measured on a Likert-type scale ranging from (1) Strongly disagree, to (5) Strongly agree. The Cronbach's alpha for the different network variables were;  $\alpha = .87$  for the workplace,  $\alpha = .87$  for the organization, and  $\alpha = .96$  for the external network.

### ***Supportive Communication Climate***

Seven items were used to measure supportive communication climate, which had Cronbach's alpha of  $\alpha = .83$ . Four of the items were selected from a questionnaire constituted by Schad (2019) in the context of the public sector in Sweden, which strengthens the

relevance of using the items in the current study. Examples of these items were “At my workplace, the communication between people is open and honest”, and “People are keen on bringing forth their ideas”. These items were measured on a Likert-type scale ranging from (1) Strongly disagree, to (5) Strongly agree. The remaining three items were based on one item selected from a questionnaire composed by Guzley (1992). The items concerned the supervisor, managerial colleagues, and subordinates respectively, and read as follows “To what extent does your supervisor encourage you to let them know when problems occur on the job?”. These items were measured on a Likert-type scale ranging from (1) To a very small extent, to (5) To a very large extent.

### **Analysis**

The statistical analysis and data processing were done in Jamovi (version 2.3.21.0) and Excel. The processing mostly consisted of compiling the collected data, to then export the data to Jamovi. The purpose of the demographic items in the questionnaire were to get a perception of the sample. The rest of the items were measured on a 5-point Likert-type scale. The majority of the items were formulated in such a way that a higher score indicated a more favorable response, while a lower score indicated a less favorable one. However, a small number of items were formulated in the opposite direction, and thus were subsequently reversed to ensure comparability of responses. To make the statistical analysis easier, the different items of each variable were summed into summarized scores. Internal consistency reliability analyses were conducted for each variable, except the demographic questions, to estimate Cronbach's alpha.

A variance inflation factor (VIF) analysis was conducted to analyze multicollinearity. It would create statistical problems, if the predictor variables in the regression model were too highly correlated with each other. The lower the VIF-value, the more reliable are the results. There are different opinions regarding the limit where the value of VIF causes statistical problems, a general threshold within psychological research is that a VIF-value higher than 10 denotes statistical problems (Everitt & Skrondal, 2010). The VIF-values of the current study were between 1.74 and 2.77, which is arguably low enough for the statistical conclusions to be drawn.

Descriptive statistical analyses were conducted in order to obtain the means and standard deviations of all the variables and the demographic data. A bivariate correlation analysis was carried out between all of the variables for the purpose of determining and acquiring an overview of the relationships between all of the variables. A hierarchical multiple regression analysis was conducted in order to test the hypotheses.

The alpha level for the current study was set at  $p < 0.05$ . The rationale for selecting this particular level of statistical significance was that it is a commonly accepted threshold within psychological research. The chosen alpha level is also considered adequate to avoid Type I error, which refers to making a false positive conclusion, to reject the null hypothesis when it is actually true. In contrast, using a more stringent alpha level, such as  $p < 0.01$ , increases the likelihood of Type II error, which denotes making a false negative conclusion, not rejecting the null hypothesis when it is actually false (Shaughnessy et al., 2012).

### **Ethical Aspects**

The study has followed the ethical principles outlined in the Swedish Ethical Review Act (SFS 2003:460) and the Regulation (EU) 2016/679 (General Data Protection Regulation) along with supplementary Swedish personal data protection laws (e.g. SFS 2018:218; SFS 2022:482). Participating in the study was entirely voluntary, and the participants were free to withdraw from the study at any time without any obligation of providing a reason or enduring any negative repercussions. The study did not intend to influence or cause any harm to the respondents. To guarantee confidentiality and anonymity, no personal data of sensitive nature nor any information that could identify individual participants were collected. The only data collected about the participants were gender identity, age, number of years as managers and number of subordinates that they had. This information was collected to create a perception of the sample. The gathered data was only analyzed at group level, and no individual respondent's data was presented in any context. To ensure informed consent, participants were required to read information about the purpose of the thesis, their participation, how the results of the study would be processed and presented, as well as ethical aspects. Subsequently, they had to actively assent to their participation before proceeding to complete the questionnaire.

### **Results**

The following section will consist of a presentation of the results of the current study, divided into three parts. Firstly, the descriptive statistics will be presented, followed by a bivariate correlation analysis, and lastly, a hierarchical multiple regression analysis.

#### **Descriptive Statistics**

*Table I* provides an overview of the mean and standard deviation of all variables in the study. The mean refers to the scale 1-5 for the items within each variable.

**Table I.** Mean (*M*) and standard deviation (*SD*) for all variables.

Variable	<i>M</i>	<i>SD</i>
Supervisory level		
Perceived supervisory support	4.07	.73
Managerial colleagues level		
Social support from managerial colleagues	3.56	1.41
Support from a network of managerial colleagues at the workplace	4.1	.94
Support from a network of managerial colleagues in the organization	2.46	.77
Support from a network of external managerial colleagues	3.33	1.28
Subordinates level		
Social support from subordinates	3.49	1.11
Organizational level		
Supportive communication climate	3.96	.62
Ill health outcome		
Stress	2.65	.95

### **Bivariate Correlation Analysis**

In *Table II*, bivariate correlations between all of the variables are presented. As predicted, all of the independent variables were negatively correlated to stress. Although some were non-significant, the correlations implied that the support functions buffered stress to a certain extent. Supportive communication climate was significantly and positively correlated to all of the other independent variables, denoting that a supportive communication climate might foster other types of support functions, as discussed above.

**Table II.** *Bivariate correlations between all of the variables.*

Variable	1	2	3	4	5	6	7	8
1. Perceived supervisory support	-							
2. Social support from managerial colleagues	.11	-						
3. Support from a network of managerial colleagues at the workplace	.46***	.24**	-					
4. Support from a network of managerial colleagues in the organization	.46***	.16*	.62***	-				
5. Support from a network of external managerial colleagues	.23**	.19*	.36***	.66***	-			
6. Social support from subordinates	.14	.64***	.15	.20**	.23**	-		
7. Supportive communication climate	.69***	.30***	.57***	.55***	.34***	.26***	-	
8. Stress	-.56***	-.57***	-.13	-.36***	-.47***	-.31***	-.05	-

*Note.* \* =  $p < .05$ , \*\* =  $p < .01$ , \*\*\*  $p < .001$ .

### Predictors of Ill Health

A hierarchical multiple regression analysis predicting stress was conducted, and is presented in *Table III*. The four blocks represent support on four different levels. Block I, supervisory level, consists of the perceived supervisory support. Block II, managerial colleagues level, consists of social support from managerial colleagues, and support from three networks of managerial colleagues; at the workplace; in the organization; and external network. Block III, subordinates level, consists of social support from subordinates. Block IV, organizational level, consists of the overall supportive communication climate in the organization.

**Table III.** *Summary of hierarchical multiple regression predicting stress.*

Independent variables	Stress	95% Confidence Interval	
		Lower	Upper
Block I: Supervisory level			
Perceived supervisory support	-.13***	-.20***	-.07***
$R^2$	.32***		
$F$	79.9***		
Block II: Managerial colleagues level			
Social support from managerial colleagues	-.11	-.27	.05
Support from a network of managerial colleagues at the workplace	.09	-.08	.25
Support from a network of managerial colleagues in the organization	-.26*	-.50*	-.01*
Support from a network of external managerial colleagues	-.05	-.16	.07
$R^2$	.38***		
$\Delta R^2$	.06**		
$\Delta F$	3.9**		
Block III: Subordinates level			
Social support from subordinates	.22*	.02*	.42*
$R^2$	.39***		
$\Delta R^2$	.02*		
$\Delta F$	4.33*		
Block IV: Organizational level			
Supportive communication climate	-.17**	-.29**	-.04**
$R^2$	.42***		
$\Delta R^2$	.03**		
$\Delta F$	7.11**		

*Note.* \* =  $p < .05$ , \*\* =  $p < .01$ , \*\*\*  $p < .001$ .

**Supervisory Level.** Hypothesis 1, implied that higher levels of perceived supervisory support should predict lower levels of stress. As presented in the first row in *Table III*, the predictor variable perceived supervisory support was significant in relation to stress, which supports hypothesis 1.

**Managerial Colleagues Level.** Hypothesis 2, was that higher levels of social support from managerial colleagues should predict lower levels of stress. As shown in *Table III*, social support from managerial colleagues turned out to be non-significant in predicting stress. The hypotheses 3, 4, and 5, concerning that higher levels of support from a network of managerial colleagues should predict lower levels of stress, were partly supported. As seen in *Table III*, hypothesis 4 was supported, that higher levels of support from a network of managerial colleagues in the organization significantly predicted lower levels of stress. Whereas support from a network of managerial colleagues at the workplace, and support from a network of external managerial colleagues, turned out to be non-significant predictors of stress.

**Subordinates Level.** Hypothesis 6, denoted that higher levels of social support from subordinates should predict lower levels of stress. The predictor variable social support from subordinates turned out to be significant, although the direction of the prediction was positively related to stress. Meaning that the hypothesis was not supported, and that higher levels of social support from subordinates predicted higher levels of stress among managers.

**Organizational Level.** As seen in *Table III*, hypothesis 7 was supported, meaning that higher levels of supportive communication climate significantly predicted lower levels of stress.

**Identifying the Most Influential Predictor.** Out of the significant predictor variables, the most influential predictor in relation to reduced levels of stress was support from a network of managerial colleagues in the organization. As seen in *Table III*, it predicted reduced stress with  $\beta = -.26$ . The second most influential predictor in relation to reduced levels of stress was supportive communication climate, which predicted reduced stress with  $\beta = -.17$ . Followed by perceived supervisory support, which predicted reduced levels of stress with  $\beta = -.13$ . Finally, social support from subordinates also turned out to be a significant predictor of stress. On the contrary, as mentioned above, it predicted increased levels of stress with  $\beta = .22$ .

## Discussion

### Theoretical Implications



The main objective of the present study was to investigate if various social support functions on four different levels predicted stress in a sample of public sector managers in Sweden. Specifically, if perceived supervisory support, support from managerial colleagues, support from subordinates, and supportive communication climate predicted lower levels of subjective stress. This was examined through seven hypotheses, tested through a hierarchical multiple regression analysis.

**Supervisory Level.** The findings of the study show that higher levels of perceived supervisory support predicted lower levels of subjective stress. As expected, the previous findings on perceived organizational support are in accordance with the findings of the current study regarding perceived supervisory support. The current study found that perceived supervisory support reduced levels of stress, whilst previous research have found that perceived organizational support increased levels of positive psychological state (Abid et al., 2015; Eisenberger et al., 2001; Riaz et al., 2018; Settoon et al., 1996). Furthermore, the results of the current study are also in line with aforementioned research showing that supervisors with a strong desire to benefit others, tend to have subordinates with higher levels of psychological safety at work (Frazier & Tupper, 2016). The important role of supervisory support has previously been emphasized as a determinant for staying in a managerial job in the public sector in Sweden (Cregård & Corin, 2019; Skytt et al., 2007). The previous findings and the current findings are in accordance with one another, however the current study investigated perceived supervisory support in relation to stress, which was an outcome variable that had not been explored previously. These findings highlight the positive effects of high levels of perceived supervisory support on stress among public sector managers.

**Managerial Colleagues Level.** The predictor variable social support from managerial colleagues turned out to be a non-significant predictor of stress. This might be explained by the instrument used to measure the variable, only two items were used, which might have been too few in order to properly measure the variable. However, more precise items were used to measure support from a network of managerial colleagues, which were partially a significant predictor of reduced stress. Only the support from a network of managerial colleagues in the organization that turned out to be a significant predictor of reduced levels of stress. This result corresponds with previous research that emphasized support from colleagues as a particularly beneficial form of support due to the accessibility and the fact that colleagues often share many similarities and, thus might easier relate to and understand one another (Baethge et al., 2020; Kim et al., 2017; Lively, 2008; Sloan, 2012). The findings are also in line with previous findings that identified that coworker support played a crucial

role in improving resilience to occupational stress (Baethge et al., 2020). The result of the current study also supports the statement made by Falck (2023), in which they emphasized the importance for managers to build a network of managerial colleagues, with whom they can exchange ideas and seek support from, in order to prevent mental ill health.

Support from a network of managerial colleagues at the workplace and support from a network of external managerial colleagues were non-significant predictors of stress. The reasons behind these results might be explained by the organizational structure of many public sector organizations. As previously mentioned, the characteristic hierarchical and bureaucratic organizational structure of the public sector affects the work conditions (Berntson et al., 2012; Creed & Miles, 1996; Pagon et al., 2011). If the external managerial colleagues are working in the private sector, they might not be able to support their public sector counterparts in a successful way, due to the organizational differences that could create a barrier between the public and private sector. However, the network of managerial colleagues can also consist of managers who work in other municipalities, regions or other public organizations. Despite the fact that they also work in a public organization, there are often several differences from one organization to the other, such as the supervisors and the organizational culture.

Regarding the managerial colleagues at the workplace, an explanation might, again, be the hierarchical organizational structure. It might be easier to find managerial colleagues with similar work related issues in the organization as a whole, instead of just at the workplace. To exemplify, a principal at a school might perceive better support from another principal who's working in the same municipality, instead of managerial colleagues at their own workplace. In this case, the principal is at the top of the hierarchy at the workplace, and might therefore find support from others in equivalent positions within the hierarchical structure to be more valuable.

**Subordinates Level.** The variable social support from subordinates, turned out to be a significant predictor of stress. However, the prediction was positively related to stress, which meant that higher levels of social support from subordinates predicted higher levels of stress. A possible explanation of this result might be that the relationship is reversed, that higher levels of stress, predicts higher levels of social support from subordinates. If the manager is suffering from high levels of stress, they might be in a greater need of social support from their subordinates, who are probably the ones who can assist them with task-related support. Contrary to the current findings, previous research found that subordinates' behavior at work can reduce managers' occupational stress (St-Hilarie et al., 2019).

**Organizational Level.** The study found that higher levels of a supportive communication climate predicted lower levels of stress, which confirmed the last hypothesis. These findings are in line with previous research that found that a supportive communication climate, and effective communication fostered mental health at work and increased levels of job satisfaction (Ala-Kortesmaa & Isotalus, 2015; Jonsdottir & Fridriksdottir, 2019; Lecours et al., 2022; Schad, 2019). The previous findings and the current findings emphasize the positive effects of a supportive communication climate. However, the current study investigated a supportive communication climate in relation to stress, which is an outcome variable that had not been explored previously.

Taken together, the main objective of the study has been achieved. The findings show that higher levels of support from one's supervisor and managerial colleagues in the organization, and a supportive communication climate have predicted lower levels of stress among public sector managers in Sweden.

### **Practical Implications**

The implications of the current thesis are that support from supervisors and managerial colleagues in the organization are important instruments in order to enable managers to perceive lower levels of stress. Supervisors should practice supportive behaviors, such as recognizing contributions, show concern about their well-being, and encourage and assist their subordinates. These are powerful management tools that foster healthy managers, and subsequently, healthy subordinates and a health-promotive and productive organization. It would also be beneficial for public organizations to systematically develop support functions for managers, such as creating opportunities for managers to create a network of managerial colleagues in the organization, with whom they can seek support from. Another implication of the study is that public sector organizations should focus on developing a supportive communication climate that evidently has the potential to reduce levels of stress among managers. More specifically, managers ought to engage in supportive behaviors such as active listening and striving to create an environment where every individual's voice is acknowledged and given consideration, thus fostering a supportive communication climate. Taken together, the results of this study indicate that support from supervisors and managerial colleagues in the organization, as well as a supportive communication climate has a buffering effect on occupational stress.

### **Methodological Limitations**

#### ***Cross-sectional Study Design***

The study was designed as a cross-sectional study, and thus the presented relationships between the independent and dependent variables, cannot be definitively claimed to a specific direction with complete certainty. It is possible that the presented predictions go in the opposite direction, suggesting that it would be lower levels of stress that predicts higher levels of a supportive communication climate, rather than the asserted direction made in the current study. Despite this risk, the results concerning support from one's supervisor and managerial colleagues in the organization, and a supportive communication climate are supported by the aforementioned research. There is also another risk, regarding that these relationships could have been influenced by a third unknown variable. The primary reason for using a cross-sectional design was the limited timeframe in which this study had to be completed.

### ***Sample and Sampling Methods***

The current population as a whole is substantial, and there is no publicly accessible list of contact details to all the managers in the public sector in Sweden. This made it practically impossible to contact everyone in the population, which prohibited the use of a probability sampling method, meaning that all individuals of the population have the same opportunity of being selected to participate (Shaughnessy et al., 2012). Instead, the sampling methods used in the study were non-probability sampling methods, specifically voluntary response sampling and snowball sampling. Voluntary response sampling creates a risk of self-selection bias, denoting that certain individuals are inherently more likely to voluntarily participate than others, which prohibits a completely generalizable result. This may have excluded individuals who, for example, suffer from high levels of stress or exhaustion, and thus, do not have enough energy or capacity to participate. Snowball sampling can lead to sampling bias, meaning that some members of the population are systematically more likely to be selected than others. Consequently, it creates uncertainty of the representativeness of the sample, which is a threat to the external validity, and limits the generalizability (Shaughnessy et al., 2012).

The sampling procedures also created selection bias, denoting that the current sample resulted in overrepresentation of women, in comparison to the characteristics of the population. 77.3% of the participants in the current study were women, whilst approximately 65% of the managers in the public sector in Sweden are women (Statistikmyndigheten, 2021). It was a conscious decision to include a limited number of demographic items in the questionnaire, in order to keep the confidentiality and anonymity of the participants.

Nonetheless, it prevents the ability of distinguishing other characteristics of the sample, and subsequently obstructs the assessment of its representativeness in relation to the population.

Furthermore, the current study was based on self-reports, which can entail biases such as social desirability or mood at the time of reporting. Social desirability denotes that people have a tendency to answer according to how they want to appear, and thus, do not answer truthfully (Shaughnessy et al., 2012). If a participant was particularly happy at the time of responding to the questionnaire, they might have answered more positively than they would have in general. There is a risk that these aspects might have affected the results of the study.

### **Future Research**

The findings of the present study have raised new questions that require further investigation to gain deeper understanding. The results indicated that support from one's supervisor and from a network of managerial colleagues in the organization, predict lower levels of stress. It would be interesting to examine, more specifically, which particular supportive behaviors that reduce stress. Furthermore, the findings showed that support from a network of managerial colleagues in the organization was the only significant predictor of stress, out of the three network variables. One approach could be to investigate the reasons behind why the other two networks did not significantly predict stress. Another interesting approach would be to examine how to practically create a supportive communication climate, in order to prevent high levels of stress among managers. Lastly, it would be interesting to conduct a longitudinal study, to avoid the methodological limitations caused by the cross-sectional design. A longitudinal design with repeated measurements, could eliminate sources of errors such as individual differences. This would create a more reliable result, and a deeper understanding of the results.

### **Conclusion**

To conclude, this study has generated unique findings regarding how the four different levels of support functions predicted stress among public sector managers in Sweden. Support from a network of managerial colleagues in the organization turned out to be the most influential predictor of reduced levels of stress. Followed by supportive communication climate, and then, perceived supervisory support. Lastly, social support from subordinates appeared to predict increased levels of stress among managers. Notably, this could in reality be a reversed relationship, denoting that higher levels of stress among managers predicts higher levels of social support from subordinates. Furthermore, the results emphasize the notable benefits from the support from individuals whom they share similar work conditions with, and have equivalent positions within the hierarchical structure. This study suggests that

the structural support functions and the interpersonal support functions are valuable for managers in stressful times. As the levels of ill health due to mental health issues among managers in Sweden is a rapidly growing problem, the presented support functions that buffer stress should be prioritized and strengthened in public sector organizations. Hopefully, these findings can be of value to the organizations in the public sector in Sweden, and contribute to the understanding of how to create health-promotive workplaces with healthy managers.

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