Shared Leadership and Team Learning Behaviors in Dutch Local Welfare Teams: The Mediating Effect of Psychological Safety

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1. Introduction

"*Team learning is vital because teams, not individuals, are the fundamental learning unit in modern organization. This is where the rubber meets the road; unless teams can learn, the organization cannot learn.*" (Senge, 2006, p. 10).

The increasingly complex and rapidly changing work environment in the public sector makes many tasks require a wide array of knowledge, skills, and abilities to achieve organizational goals. Work in the field of welfare has become more knowledge- and project-based, with a higher need for innovation (Canterino et al., 2020). In order for teams to adapt to change in the environment, organizations must stay fluid, change continuously and seek to generate innovation (Reuveni & Vashdi, 2015). It is therefore vital that the team processes and structures facilitate an environment where learning behaviors are promoted. This paper focuses on team learning behaviors within Dutch welfare teams and studies the relationship between shared leadership and team learning behaviors through the mediating effect of psychological safety.

Team learning behaviors (TLBs) are defined by Argote et al. (1999; as cited by Van Der Vegt & Bunderson, 2005) as "activities by which team members seek to acquire, share, refine, or combine task-relevant knowledge through interaction with one another." These behaviors encompass seeking feedback, discussing activities and tasks, reflecting on performance, etc. TLBs can boost performance through adaptation and improvement of processes (Decuyper et al., 2010), and are arguably a crucial behavior for teams in the public sector.

As mentioned before, the amount of knowledge, skills, abilities, and information required for effective welfare provision is increasing. This increased complexity in the public sector and the relevance of the intra-team environment have been argued to call for new forms of leadership (Denis et al., 2012; Canterino et al., 2020). Traditionally, leadership research has focused on individual leaders and vertical working structures. Leaders are viewed as strategic decision-makers that influence the rest to follow their decisions (Fletcher & Kaufer, 2003; Pearce & Sims, 2000). Over the past decades, however, organizations are viewed as living entities with dynamic systems of influence networks and interconnected relationships. This change in the view of organizations has also changed how leadership is studied. The prominence of these relationships and networks hints at the importance of leadership practices at all levels of the organization instead of relying on the actions of one

individual leader (Fletcher & Kaufer, 2003). As a result of this trend, numerous scholars have examined leadership that moves away from the individual approach and towards a more pluralistic approach, such as shared leadership. Pearce and Conger (2003, p.1) define shared leadership as "a dynamic, interactive influence process among individuals in groups for which the objective is to lead one another to the achievement of group or organizational goals or both." Shared leadership has been highlighted for its potential for successful change implementation, improvement in a team's performance, and an increase in creative problem-solving (Carson et al., 2007; Pearce, 2004; Pearce & Conger, 2003; Wood, 2005). Furthermore, shared leadership aids in the implementation of changes at a larger scale without formal management plans, roles, and structures (Canterino et al., 2020), pointing at a more dynamic way of responding to the environment. Shared leadership has also been argued to have a positive linear relationship with TLBs (Liu et al., 2014).

The access that team members have to information, knowledge, and resources is essential to innovation. The degree and quality of innovations of a team are dependable on team processes (Fay et al., 2006). Edmondson (1999) found that the interpersonal relations that team members have with each other can influence their willingness to incur in learning behaviors such as seeking feedback, sharing information, asking for help, or experiment. This is also supported by Han, Lee and Beyerlein (2019), who state that a positive interpersonal environment enhances team creativity and that relations among members should receive more attention in projects.

This paper employs the concept of psychological safety as described by Edmondson (1999), who notes: "Team psychological safety involves but goes beyond interpersonal trust; it describes a team climate characterized by interpersonal trust and mutual respect in which people are comfortable being themselves." (p. 354). The relevance of psychological safety as a construct to discern learning within teams are highlighted in her papers. In addition, many authors have found psychological safety within teams to be a predictor of team learning (Higgins et al., 2012; Edmondson, 1999; Newman et al., 2017; Burke et al., 2006; Hülsheger et al., 2009). This is because incurring in learning behaviors is often perceived as risk-taking, which may prevent team members from executing these behaviors (Edmondson, 1999; Hirak et al., 2012). Psychological safety has also been studied in relation with shared leadership (Liu et al., 2014; Han, Lee & Beyerlein, 2019; Drescher et al., 2014). Drescher et al. (2014), found that shared leadership facilitated an environment of trust and vulnerability, characteristic of a psychologically safe environment. Lastly, Liu et al. (2014) explore shared leadership and learning in Chinese teams, finding evidence that supports the mediating role of

team psychological safety. In conclusion, these three concepts are closely interrelated through different processes and have been studied in numerous settings. However, there is still an urgency to better grasp team functioning and team leadership in a broad range of contexts (Pearce & Sims, 2000).

1.1 Research Question

This paper tests the relationship between shared leadership with TLBs in Dutch welfare teams, exploring and accounting for the mediating variable of psychological safety. The research is constructed around the following research question:

How does the shared leadership influence team learning in Dutch welfare teams, and to what extent is this relationship mediated by psychological safety?

The research question is examined within social welfare teams with team members from various public and non-profit stakeholders that work together. To adhere to the size and goal of this paper, shared leadership is narrowed to a specific leadership behavior as defined by Yukl (2012), namely, encouraging innovation. Therefore, the encouragement of innovation within team members among each other is the independent variable. Carson et al. (2007) state the relevance of studying respondents' specific behaviors instead of a general concept such as shared leadership, as this can be confused with other factors (eg. engagement, cooperation, respect). TLBs are studied as four behaviors as defined by Savelsbergh, van der Heijden and Poell (2009), which are presented and explained in chapter two. Savelsbergh et al., (2009) developed a measurement instrument for TLBs based on former validated measures. This instrument provides a good framework for survey studies onTLBs. Lastly, the aspect of psychological safety is utilized and measured as defined by Edmondson (1999). All measures are explored as perceptions at the group level.

A quantitative analysis is provided of 70 newly formed Dutch social welfare teams through online surveys of team members and their leaders. Based on the strong quantitative data, an empirical test of how shared leadership, more specifically, shared encouraging innovation, affects TLBs that lead to innovation. Psychological safety is expected to be a mediator in the relationship. This study employs behavior specific measures of shared leadership and learning behaviors in teams.

This chapter continues by providing background information on the case and domain in order to highlight the relevance of the research question.

1.2 Background Information on the Domain

1.2.1 Decentralization of Welfare in the Netherlands

Public sector organizations in the Netherlands are increasingly decentralizing processes and teams, blurring the line between the private and public sectors (Vermeulen, 2015; Dijkhof, 2014). At the beginning of the twentieth century, a majority of social tasks were the responsibilities of local governments. This changed during the development of the welfare state, and it became more and more centralized until the 1980's (Becker, 2000). The welfare system of the Netherlands is still one of the most equitable and exhaustive ones in the world (Becker, 2000). However, in 1982, when a new coalition took office, the focus started to be on reducing the budget deficit and improving the competitiveness of the Dutch economy (Dijkhof, 2014). This meant a more liberal welfare state, where the public resources are limited and there is a focus on individual responsibility, as well as the transition back to the local level approach of governance.

The Dutch government decentralized social and healthcare responsibilities to local municipalities through the new Youth Law (Jeugdwet), Participation Law (participatiewet), and the Social Support Act (Wet maatschappelijke ondersteuning) 2015 (Dijkhoff, 2014; SCP, 2015). Prior to this, the sector was fragmented and very discipline-oriented (Dijkhoff, 2014). The policy changes had the goal of unifying the sector and increasing efficiency. One of the goals of this transition was to focus on the capacity of local communities to decide their own direction, to utilize social networks and offer help that is adapted to individual needs (Vermeulen, 2015). Furthermore, the policy program had the goal of unifying professionals from different disciplines to share responsibilities and knowledge. The program encouraged the implementation of multidisciplinary teams in municipalities (SCP, 2015; as cited by van Zijl et al., 2019). This meant an important transition for welfare provision.

1.2.2 The Introduction of Multidisciplinary Teams in Dutch Local Welfare

After the municipalities transitioned on 1 January 2015, they started to carry out all the administrative tasks that were before carried out by the central government or provinces (Nooteboom et al., 2020). The Dutch municipalities decide on the local level what structure they are going to follow to carry out social responsibilities. A lot of them quickly employed professionals in neighborhood teams (Movisie, 2016), such as social workers, community psychiatric nurses, psychologists, or youth workers. The decentralized organizational arrangement and diversity between team members allow for a variety of perspectives,

experiences, and disciplines to come together. This is a setup that is often linked to innovation (Thayer et al., 2018). However, even though these types of arrangements have great innovative potential, they present barriers to learning and innovation such as contradictory goals, values, and interests of members, making them challenging to organize (Kivleniece and Quelin, 2012). Because of this, they often need a lot of management support in order to prosper (Øvretveit, 1993; Movisie, 2016; Axelsson & Axelsson, 2006). Multidisciplinary teams require extensive collaboration within and outside of the team (Hartley, Sørensen, & Torfing, 2013; as cited by van der Voet & Steijn, 2020). As the activities that are carried out by the different organizations or departments have to be integrated and coordinated, it is interesting to look at organization theory. Organization theory states that the relations within inter-organizational teams will often be more "loosely coupled" (Axelsson & Axelsson, 2006). This often leads to a replacement of hierarchical coordination with networks and less deliberate forms of cooperation (Hannan and Freeman, 1989; as cited by Axelsson and Axelsson, 2006). In some teams, there may even be a rotation of the leader position among the members of the team (Øvretveit, 1993).

In sum, there are three main qualities of the teams which make them interesting for the study of TLBs, shared leadership, and psychological safety. First is the *multidisciplinarity* of the teams. Second is the *autonomy* of the teams. Third is the *newness* of the teams. These will be elaborated on in the social relevance section.

1.3 Relevance

The research aims to bridge several gaps in existing knowledge. In this section, the gaps will be explained in order to highlight the relevance of this paper on an academic level by contributing to theory, and on a social level by providing insights into the public domain, specifically that of the Dutch welfare teams.

1.3.1 Academic Relevance

Shared leadership has been increasingly researched in the last decennia (Pearce & Conger, 2003; Pearce, 2004; Wood, 2005; Bligh, Pearce & Kohles, 2006; Carson et al., 2007; D'Innocenzo et al., 2016; Canterino et al., 2020). However, research has often focused on the relationship between shared leadership and performance (Mehra et al., 2006; Carson et al., 2007; D'Innocenzo et al., 2016). There is a gap in knowledge regarding specific behaviors that it produces, specifically, the relation with TLBs. TLBs have been linked to diverse forms

of leadership (e.g. transformational leadership, Laissez-Faire Leadership), but shared leadership remains widely understudied. Shared leadership offers great potential for learning, as it is linked to an increase in shared information (Carson et al., 2007), creativity (Han, Lee & Beyerlein, 2019) and communication (Friedrich et al., 2016) on behalf of team members. This makes it expected that shared leadership is linked to learning behaviors at the team level. Furthermore, the desire to increase TLBs is there, but research is still lacking on the ways in which teams can actually do so (Decuyper et al., 2010). Arguably, it is relevant to bridge the gap and develop our understanding of TLBs and the specific conditions in which they thrive.

Scholars have found that psychological safety is a concept that requires more study. Han, Lee and Beyerlein (2019) found a very high correlation between shared leadership and psychological safety. They emphasized that the ways in which teams are learning should be tailored to the flexibility of modern-day learning systems. Wang et al. (2017), inquired future researchers to measure the potential mediating variable of psychological safety between shared leadership and team learning. This gap has been bridged by Liu et al. (2014), who found that psychological safety was indeed a mediator in the relationship, but it was based on evidence from China. Therefore, this study will build on the findings of Liu et al. (2014) and expand them in the context of Dutch welfare teams.

This leads us to another gap in knowledge: the situational context in which shared leadership is studied. Pearce and Sims (2000) highlight the need for understanding team leadership in a broad array of contexts. The need for analysis across different sectors has been highlighted by multiple authors (Wang et al., 2017; Higgins et al., 2012; Widmann & Mulder, 2020) and posts a sound argument for the academic relevance of this paper. The concept of shared leadership has been developed in the United States, with only some studies carried out in other cultural and organizational settings. This study will therefore enhance the external validity of existing theory on the grounds of cultural diversification.

Moreover, several scholars have studied shared leadership and TLBs in the public sector. However, they have often utilized data from academic settings such as master students or teacher groups (Carson et al., 2007; Wang et al., 2017; Han, Lee & Beyerlein, 2019). By studying the relationships within different domains, there is an increase of the generalizability of theory.

1.3.2 Practical Relevance

In this chapter, it has been highlighted that there is an increased environmental complexity and a demand for flexibility in public organizations when it comes to carrying out

welfare tasks, among others. As mentioned before, the teams under study have three main characteristics that emphasize their relevance in practice.

Firstly, the *multidisciplinarity* of the teams. The wide array of knowledge, skills, and abilities required to achieve goals has given rise to the introduction of multidisciplinary teams to carry out social activities within municipalities (Movisie, 2016). Compared to traditional workgroups, multidisciplinary teams present a high interdependence between workers to accomplish tasks and complementing skills (van der Voet and Steijn, 2020). This can be seen as a response to the external environment of public organizations, which has increasingly become more dynamic and complex. However, it also presents an increase in complexity within teams themselves. Teams will often encounter barriers to learning and the multidisciplinarity within them can generate clashes of culture, values, goals or interests (Axelsson & Axelsson, 2006; Kivleniece & Quelin, 2012). It is crucial for teams to overcome these barriers (Raes et al., 2013). This study aims to uncover mechanisms through which teams may facilitate an environment of team learning, and overcome barriers to learning.

Second, the *newness* of the teams. To achieve their tasks, the members of multidisciplinary teams must collaborate and learn on a team level (Widmann & Mulder, 2020). In this study, newly formed Dutch welfare teams with multidisciplinary members are studied. Learning is even more important within new teams than older teams (Wang et al., 2017); the newly formed teams must learn how to take on the tasks and what norms and behaviors are going to shape their work. Furthermore, the longer the teams collaborate, the more successful they become at carrying out public welfare responsibilities (Myles, 1996). The learning curve of newly formed teams is deterministic in their present and their future performance.

Lastly, the *autonomy* of the teams. The teams are self-managed, which means they are to work effectively without a hierarchical form of coordination. This presents great opportunities for learning and for exploring new forms of leadership. Therefore, the study of shared leadership and TLBs is not only a topical and current one in the context of public welfare, but it is one that will serve to improve the existing teams. This will be done by measuring the amount of shared leadership that is present and the amount that it increases critical behaviors of team members in order to provide better services.

1.4 Structure of the Paper

This chapter has introduced the research concepts and described the problem facing public organizations in the modern world. The research question has been presented and explained, followed by a description of the domain in which the variables are to be studied. Lastly, the theoretical and social relevance of the research has been presented to highlight the urgency of the topic. In the next chapter, the paper proceeds to conceptualize the variables and provide a theory that leads to a formulation of hypotheses. In the third chapter, an extensive overview of the employed methodology is presented, along with the limitations of the research methods. After these are explained, the results of the quantitative analysis are conferred. In chapter five, the reader can encounter an interpretation and analysis of the data, which culminates in a concluding chapter with recommendations and practical implications.

2. Theory

This chapter presents a variety of literature on multidisciplinary teams, shared leadership, TLBs, and psychological safety. The concepts are defined based on recent definitions and developments, and the relationships are explored based on findings of other researchers. This leads to the formulation of hypotheses that will be tested in chapter 4. The chapter concludes with a theoretical framework based on the analysed literature.

2.1 Defining Teams

Teams can be defined as "a collection of individuals who are interdependent in their tasks, share responsibility for outcomes, see themselves and are seen by others as an intact social entity embedded in one or more larger social systems, and manage their relationship across organisational boundaries" (Cohen & Bailey, 1997, p. 241).

Governments in countries such as the Netherlands foster cross-professional collaboration in different sectors because of their effectiveness in innovation and knowledge generation (Schenke et al., 2016). This type of collaboration is most effective not across different teams, but in single, cross-professional teams where multidisciplinary professionals unite to work towards a shared goal (Jones et al., 2013).

Multidisciplinary teams can be described as groups of people with a variety of professions and specializations who collaborate across formal organizational boundaries with the goal of providing a certain service (Øvretveit, 1993; as cited by Axelsson & Axelsson, 2006). Multidisciplinarity refers to "the extent to which a team consists of members from different educational specializations" (Shin & Zhou, 2007; p.1709). Multidisciplinary teams are often implemented in public health. These teams provide horizontal integration between different sectors by uniting different specialized professionals (Øvretveit, 1993).

According to Myles (1996), multidisciplinary teams that are established and maintained over longer periods of time are often the most successful at carrying out public health responsibilities. The diversity of team members accommodates a range of perspectives and knowledge resources (Kearny & Gebert, 2009). It has long been recognized that a variety of knowledge and expertise is a great contributor to collective and individual learning (Van der Vegt & Bunderson, 2005). According to the cognitive diversity paradigm (Horwitz & Horwitz, 2007), the access to different sources of information and perspectives leads to an increase in intellectual stimulation, cognitive processing, and maximum information use

(Shin & Zhou, 2007; as cited by van Zijl, 2019). Some barriers to this form of cooperation are different professional cultures, values, interests, and commitment (Axelsson & Axelsson, 2006).

2.3 Dependent Variable: Team Learning Behaviors

As mentioned in chapter 1, TLBs are defined by Argote et al. (1999; as cited by Van Der Vegt & Bunderson, 2005) as "activities by which team members seek to acquire, share, refine, or combine task-relevant knowledge through interaction with one another." Decuyper et al. (2010) define team learning as "a compilation of team-level processes that circularly generate change or improvement for teams, team members, organizations, etc."

Very often, learning is conceptualized and measured by the outcome it provides. However, the *behavior* of learning is the concept that is measured in this paper. This is because the focus is not on performance outcomes, but on the collaboration and learning process in highly interdependent teams such as the subject of this study. In order to do so, different behaviors are classified and studied. Several authors have studied learning behaviors within teams. They often do so by utilizing specific dimensions to measure TLBs. This is because learning is not one single behavior but instead consists of various, interdependent team actions that can be differentiated (Gibson and Vermeulen, 2003). For the sake of empirical study, it is relevant to classify them and study them independently and interdependently.

A reiteratively used model is that of Decuyper et al. (2010) (e.g. Kyndt, et al., 2013; Widmann & Mulder, 2020; Raes et al., 2013), which distinguishes between communicative behaviors such as "sharing" and "constructive conflict", and other process variables such as "team reflexivity" or "boundary-crossing." Another commonly used framework for measuring TLBs is that of Edmondson (1999) (e.g. Savelsbergh et al., 2009; Gibson & Vermeulen, 2003), who developed several items to measure TLBs. They are conceptualized as a combination of asking questions, seeking feedback, reflecting on results, discussing errors, and experimenting.

Savelsbergh et al. (2009) study the effect of several TLBs as defined by Edmondson (1999). These are categorized into groups which are conceptualized below:

The first category is *exploring and co-constructing meaning*, referring to the process of creating shared mental models through the exchange of opinions and information on behalf of team members.

The next one is *collective reflection*, which is the extent to which the team reflects on their actions, performance, goals, etc. Reflecting on performance is key to selecting important knowledge for future task accomplishment, keeping goals in mind, and analyzing the best ways of achieving the goals. Team reflexivity has also been linked to an increase in flexibility by team members when confronted with new challenges (Widmann & Mulder, 2020). When reflections are grasped, they can be digested as implications for action. Team members can then experiment with the information and create new experiences to reflect on (Savelsbergh et al., 2009).

Next, *error management* is defined as the communication and analysis of errors in order to avoid them in the future. Error management can be divided into error communication, which is the act of sharing the mistakes that were made; and error analysis, which is the act of discussing them and finding ways to avoid them in the future (Savelsbergh et al., 2009). Hirak et al. (2012) state the importance of training employees in error management in order to reduce the occurrence and severity of errors in the future. The capacity to learn from mistakes improves performance outcomes and innovation, flexibility and crisis-preparedness (Carmeli & Schaubroeck, 2008; Cannon & Edmondson, 2005). Error management is most effective when the error is being addressed in a way that looks at the causes and explores ways for future improvement (Tucker & Edmondson, 2003; as cited by Hirak et al., 2012).

Another category is *feedback behavior*, defined by seeking and analyzing feedback from team members and external parties and utilizing it to adapt goals, assumptions, or actions. Utilizing feedback can be helpful to adapt processes and to improve strategies, and seeking feedback is related to team success (Hirak et al., 2012; Ancona & Caldwell, 1992). In addition, feedback is linked to increased individual performance through motivating and adding confidence to team members through positive feedback and giving them direction to adapt their actions through negative feedback (Ashford & Tsui, 1991). Edmondson (1999) states that groups that seek feedback are more likely to learn.

Feedback behavior is related to reflexivity in the way that the behavior of seeking feedback can serve to attain information that can be reflected on (Schippers et al., 2007). However, they are different in that feedback is getting information about goal and task attainment, while reflection focuses on how things can be improved.

The last category is *experimentation*. This is done by trying out new methods or implementing new ideas and observing the differences with what used to be done before. Savelsbergh et al., (2009) stated that the goal clarity also conditions the effectiveness of

experimentation. However, when team members are more bound to their targets and have set demands from management or direction, experimentation often becomes limited (Edmondson, 1999). Decuyper et al. (2010) state that experimentation is necessary for effective team learning; experimenting highlights new perspectives and allows team members to see things from a different perspective, test their shared mental models and cognitive hypotheses, and to recognize their impact.

TLBs are suggested to positively influence all aspects of performance (Widmann & Mulder, 2020), and are even suggested to be more critical to attaining effectiveness, efficiency, and innovation than a shared understanding of tasks. In addition, TLBs increase the group's understanding of tasks. There are several predictors to TLBs, one of them being leadership style. TLBs have been linked to diverse forms of leadership. In the next section, shared leadership will be conceptualized further.

2.2 Independent Variable: Shared Encouraging Innovation

2.2.1 Shared Leadership

Yukl (2012) states that "the essence of leadership in organizations is influencing and facilitating individual and collective efforts to accomplish shared objectives" (p.66).

Pearce and Sims (2000) argue that the emphasis in team leadership research has shifted from teams influencing individuals towards groups as entities within organizations. Societal changes, the focus on teamwork and the interdependency of jobs demand a new way of looking at leadership and the ways in which teams are structured. This has led to a shift in the last 15 to 20 years from vertical, hierarchical leadership towards a more collectivist approach (Friedrich et al., 2016), such as collective leadership (Friedrich et al., 2016; Paunova, 2015), distributed leadership (Canterino et al., 2020; Mehra et al., 2006), plural leadership (White, et al., 2014; Denis et al., 2012) team leadership (Day, Gronn, & Salas, 2004), and the focus of this paper, shared leadership (Wang et al., 2017; Pearce, Manz & Sims, 2009; Carson et al., 2007).

Carson et al. (2007) investigate shared leadership and define it as "the distribution of leadership across multiple team members" (p.1218). Team members both lead and follow each other, creating a mutual influence that strengthens relationships within the team so that they provide leadership for certain aspects and respond to the leadership of others in different areas. Pearce and Conger (2003), define shared leadership as "a dynamic, interactive

influence process among individuals in groups for which the objective is to lead one another to the achievement of group or organizational goals or both" (p.1).

2.2.2 Predictors of Shared Leadership

The emergence of shared leadership can be explained due to numerous factors. Team autonomy usually leads to the distribution of tasks that were previously reserved for managers among members. Furthermore, when the tasks are more complex and leaders are not capable of solving them themselves, they will tend to promote closer working relationships in order to support each other (Canterino et al, 2020). This indicates that in a more complex environment with a wide variety of tasks that are tailored to specific needs, the inclination towards shared forms of leadership will increase. Shared leadership is especially suitable for non-routine tasks that are complex and require interdependence, creativity and problem solving (Pearce, 2004; Wood, 2005). In the case of local welfare teams in the Netherlands, the relevance of tailored response and services, as well as the autonomy to structure and carry out the work, hints at a conspicuous association between their environment, goals and structure, and the emergence of shared leadership.

2.2.4. Shared Encouraging Innovation

The distribution of leadership is one thing, but the actual behavior of those in leadership positions is another. The importance of examining separate behavioral dimensions of shared leadership has been highlighted (Han, Lee & Beyerlein, 2019) and leads us to focus on Yukl's (2012) hierarchical taxonomy of leadership behaviors.

Yukl (2012) studies effective leadership behaviors and develops a taxonomy which has extensively been used in leadership research (Day & Dragoni, 2015; Dugan, 2017; Gottfredson & Aguinis, 2017). Yukl's taxonomy includes task-oriented behaviors, relations-oriented behaviors, change-oriented behaviors and external leadership behaviors. He argues that early leadership research has focused insufficiently on the encouragement and facilitation of change on behalf of leaders. In the increasingly dynamic and changing environment, these are behaviors that deserve more attention. Yukl (2012) defines change-oriented behaviors as behaviors that increase innovation, learning, and adaptation to external changes. He describes four behaviors: advocating change, envisioning change, encouraging innovation and facilitating collective learning. This paper focuses on the specific behavior of encouraging innovation as defined by Yukl (2012) in his hierarchical taxonomy of leadership behaviors.

Encouraging innovation is defined as the encouragement that leaders offer to team members to look at problems from different perspectives, to think outside the box when solving problems, and to experiment with new ideas. By creating an environment of trust, valuing creativity, initiative and innovation, team members are likely to take more risks to implement new ideas (experiment), speak more openly about their actions (feedback and reflection), and mistakes will be more easily tolerated (error management)(West & Anderson, 1996).

This behavior is not only carried out by a single leader, but can be present as a part of shared leadership, where all members of the team participate in the behavior. In this way, team members collectively and mutually facilitate creative ideas, encourage innovative thinking, and stimulate each other intellectually. Indeed, innovation should be everyone's responsibility. Borins (2001) found that often the responsibility for encouraging innovation lies in middle and top managers, while the challenge actually lies in moving past this notion and creating a climate that supports innovation on a day-to-day basis. Even if top managers agree that innovation is key to growth, they often do not actively encourage innovative behaviors (Barsh et al., 2008).

In teams with shared leadership, the structure moves away from hierarchical coordination towards a network system. There is an increase in the density of internal leadership networks, conforming to social network theory (Carson et al., 2007). This motivates team members to exchange and integrate their information and knowledge for maximum decision-making and avoids biases of individual leaders, who may reinforce the present state of affairs and not encourage innovative behaviors (Kirkman & Rosen, 1999; Canterino et al., 2020). The exchange of knowledge and ideas also makes new ideas catch on more quickly (Barsh et al., 2008; Csath, 2012). By facilitating dynamic networks of innovation to emerge, teams are far more successful in creating a culture of innovation and learning.

Bligh, Pearce and Kohles (2006) state that team members are highly influenced by their interactions with other members. They propose that higher levels of shared leadership will have a significant and positive relation with higher levels of knowledge creation. Shared leadership facilitates a fluid movement between different types of leadership behaviors.

Thus, *shared encouraging innovation* can be seen as the encouragement of innovation on behalf of the team as a whole. Shared leadership has been extensively linked to TLBs. Firstly, an increase in creativity and problem-solving on behalf of members of teams where leadership is shared has been found (Lee et al., 2015; Han, Lee & Beyerlein, 2019; Wood &

Fields, 2007). This is due to the emphasis on the importance of teamwork, the sense of shared responsibility, and the inclination towards taking the initiative to solve problems on behalf of team members. Furthermore, Wang et al. (2017), argue that sharing leadership tasks requires learning behaviors on behalf of team members, and will likely enhance communication, reflection, and questioning of existing procedures. Because of this, shared leadership will likely lead to an increase in TLBs.

Lastly, research has suggested that there is a relationship between change-oriented leadership behaviors (Ortega et al., 2014), of which encouraging innovation is a part, according to Yukl (2012). This can be explained by the fact that the innovation process is not without errors. In fact, creating an environment of innovation means to create an environment where new ideas are tested (experimentation), there is a process of evaluation of results (feedback, reflection) and the unsatisfactory results or processes are adapted and improved over time (error management) (Borins, 2001). This gives a clear link between shared encouraging innovation and TLBs as defined in section 2.1.

Based on the literature, the following hypotheses were formulated:

Hypothesis 1: Shared encouraging innovation leads to an increase in team learning behaviors within multidisciplinary teams

2.4 Mediator Variable: Team Psychological Safety

In this section, a third variable is introduced that is expected to mediate the relationship that was hypothesized in the last section (H1).

Within multidisciplinary teams, the specialization of individuals is often considered as part of personal identity. This means that the unique knowledge they possess is often not shared in the way it should (Van der Vegt & Bunderson, 2005). This can be explained by Bunderson and Reagan's (2011) assessment of power and hierarchy within teams. Actors may not share their knowledge in fear of losing the power they hold because of their unique knowledge and skills. Van der Vegt and Bunderson (2005) claim that the specialization and unique power that members of multidisciplinary teams hold may cause for a difficulty to exchange information and participate in learning behaviors. Team members might not feel safe enough to engage in some behaviors that facilitate learning, because these often imply

taking a risk and being vulnerable. Examples of risky activities would be to acknowledge one's mistakes or to experiment with new ideas at the risk of them failing.

Edmonson (1999) introduces the concept of team psychological safety as "a shared belief held by members of a team that the team is safe for interpersonal risk-taking" (p.354). It is created in an environment where people perceive that asking for help, discussing problems and admitting errors does not impose a risk on their career or their interpersonal relations. It also consists of an environment where everyone's unique skills are valued. While group cohesiveness can reduce the willingness of team members to disagree with each other, psychological safety creates the freedom and safety to do precisely that, by combining trust, respect for each other's competence, and caring about each other on a personal level (Edmonson, 1999). A high level of psychological safety is more likely to stimulate TLBs because it diminishes the fear of bad reactions, embarrassment, and threat, which, consequently, stimulate an employee's willingness to take risks (Ortega et al., 2014; Newman et al., 2017; Schaubroeck et al., 2011; Hirak et al., 2012; Carmeli & Gittel, 1998). In addition, a psychologically safe team fosters learning and creative thinking (Han, Lee & Beyerlein, 2019) and has been found by Edmondson (1999) to be a prerequisite or condition to learning within teams. Psychological safety facilitates and improves feedback processes (Johnson et al., 2020), increases the amount of reflection about work (Hetzner et al., 2011), stimulates the willingness to experiment with new ways of working (Higgins et al., 2012), and enables error management (Edmondson & Verdin, 2018). Furthermore, a psychologically safe environment is perceived to contribute to information sharing, increase the creativity of followers, and the organization’s performance (Edmondson & Lei, 2014). On the other hand, a psychologically unsafe environment tends to present members who are afraid of discussing important issues or their doubts about a certain situation. This greatly reduces opportunities for team learning (Edmondson, 2003).

Therefore, team leaders must create a climate of psychological safety if they want team members to incur in TLBs (Ortega et al., 2014). Leadership can be seen as a critical antecedent of psychological safety within teams, as leadership is of significant influence to people's perceptions of the work environment (Hirak et al., 2012; Hackman & Wageman, 2005). Furthermore, team members are also strongly influenced by their interactions with other team members. The emergence of shared leadership has been found to influence team members to trust each other, as it increases the amount of interaction and exchange of resources and the acceptance of each other’s opinions and position (Bligh, Pearce and Kohles, 2006; Drescher et al., 2014). In addition, psychological safety has been found to be

an outcome of shared leadership (Liu et al., 2014; Drescher et al., 2014) and to mediate the relationship between shared leadership and performance within teams (Wang et al., 2017; Drescher et al., 2014). Furthermore, psychological safety is often a key part in a climate where innovation is encouraged (Thayer et al., 2018).

Lastly, Ortega et al. (2014) found that the relationship between change-oriented leadership (of which encouraging innovation is a behavior) and team learning in healthcare teams was mediated by psychological safety, and Liu et al. (2014) found that psychological safety mediated the relationship between shared leadership and learning in Chinese teams. These findings highlight the importance of psychological safety in the relationship between shared encouraging innovation and TLBs, and leads to the formulation of the second hypothesis:

Hypothesis 2: The relationship between shared encouraging innovation and team learning behaviors is mediated by psychological safety.

2.5 Conceptual Framework

In this chapter, the different concepts have been explained, theory has been presented, and causal relationships have been explored. The encouragement of innovation on the team level as a measure for team leadership behavior has been linked to TLBs within teams. In addition, it often leads to psychological safety by providing an environment where people can voice their opinions and make mistakes.

Psychological safety has been extensively linked to TLBs within teams. Due to the increase of safety and the decrease of risk that is perceived on behalf of team members when they engage in TLBs, Team members are more likely to engage with each other about their work, give each other open feedback, discuss the errors that were made and experiment with new ways of working. The hypotheses were formulated in this chapter and are visualized in Figure 1.

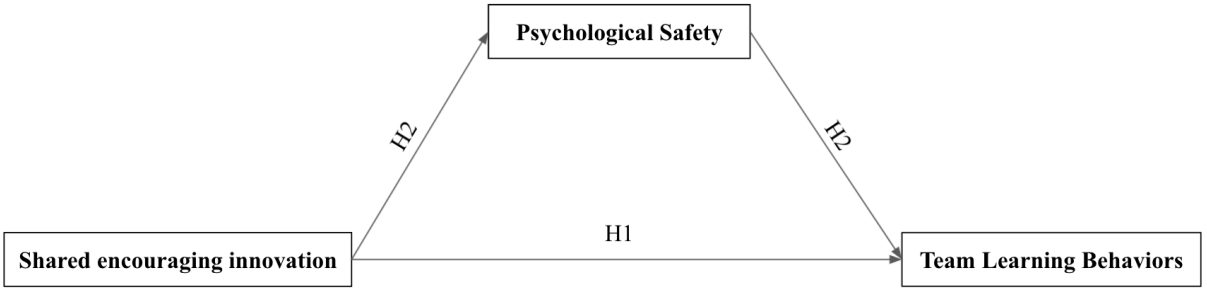

Figure 1. Conceptual Framework

3. Methodology

In this chapter, the setting and design of the study are described, the methodology is explained, and the measures of the different concepts are defined. Later, an explanation of the data collection process is presented, and the methods of analysis are presented with an in-depth description of procedures, reliability, and validity of the study.

3.1 Research Design

This research aims to explore and explain the relationship between shared leadership behaviors and TLBs through the mediating variable of psychological safety. We rely on empirical data concerning social welfare professionals and their team leaders across 87 teams, and use primary data collected through surveys to establish the cause-effect relationships. Quantitative research has been extensively used in the field of public administration because it can be easily applied when the focus is on human attitudes and behaviors (Groeneveld et al., 2015). The research is of correlational nature, as it provides a portrayal of characteristics and perceptions of the individuals that form the selected teams and attempts to discover the relationship between these characteristics and perceptions, which cannot be manipulated by the researcher. (Curtis et al., 2016). Correlational analysis is the most common technique of quantitative analysis within public administration (Houston & Delevan, 1994). The researcher attempts to provide a model of relationships between variables through a deductive and explanatory approach. Using knowledge from several authors, hypotheses have been formulated in the theory chapter and will be tested in chapter four.

This data is collected and analyzed at the meso-level, as it analyses the behavior of team members in local multidisciplinary social welfare teams from different municipalities of the Netherlands. As mentioned in chapter 1, the Dutch government decentralized social and healthcare responsibilities to local municipalities through the new Youth Law (Jeugdwet), Participation Law (participatiewet), and the Social Support Act (Wet maatschappelijke ondersteuning) 2015 (Dijkhoff, 2014; SCP, 2015). The teams are mainly responsible for prevention and universal services, while the provinces provide more specialized care such as youth protection, youth probation, foster care or residential care and support in the case of development or parenting problems (Vermeulen, 2015).

3.2 Methods of Data Collection

The research is carried out through a quantitative survey from which data was retrieved between September and December 2020. Respondents were selected from the population of teams from five different Dutch municipalities. Surveys have a systematic set of data that is arranged in variable by case or unit of analysis. This means that different cases are directly comparable (de Vaus, & de Vaus, 2013). Moreover, they are very effective at drawing conclusions from attitudes, perceptions, and opinions with a small sample size, and are often used as research methods in social sciences (Lee et al., 2018). Online surveys are often used because they are inexpensive and time-efficient (McCoy & Marks, 2001). In this case, the survey had been constructed, and the data had been collected prior to the start of this paper. The collected data has been made available to the author by Joris van der Voet (supervisor). The survey was constructed in a way that paid attention to numerous different factors, and adapted the terminology based on the different municipalities, as these differed. It measures 222 variables about personal characteristics, team characteristics, team perceptions, and leadership perceptions. The measures used for the analysis of this paper were mostly scale measures of perceptions. The survey compiled binary, nominal, and ordinal data measures to assess the participants' different characteristics and perceptions. The survey was carried out in Dutch, and the statements will be translated to English in this paper for the sake of comprehension of the reader.

The respondents were informed via email about the survey and were guaranteed anonymity. At least two reminders were sent to the teams in order to increase the rate of responses. A total of 844 respondents filled out the survey from a total of 87 different teams within five different municipalities. The data was coded anonymously. It was not possible to associate responses with participants. This was managed in accordance with the Dutch Personal Data Protection Act, and was deleted after analysis.

3.3 Sampling Method

The respondents were selected through non-random sampling. Convenience sampling was used, where the networks of the researchers were used to approach different municipalities. Within the municipalities, all youth welfare teams were contacted to fill in the online survey. This led to a voluntary response sampling on behalf of teams. Leaders and their followers alike were asked to fill out the online survey via emails that were sent to the

different teams. Team members' perceptions are extremely important in this research as it focuses on shared leadership instead of hierarchical singular leadership. This means that the variables are perceived at the group level and can be assessed as a group perception, instead of a two-way perception between ranker and leader that would take place within studies that focus on one central leader.

The different municipalities were coded for anonymity. The names of the municipalities will not be revealed as such, but do have numbers to differentiate them. The average response rate was 42.14%. Presented below is an overview of response rates per municipality (Table 1).

Table 1

Respondent Rates of Sampled Population per Municipality

Municipality	Respondents	Total Population	Response Rate %
Gemeente 1	317	787	40.28%
Gemeente 3	291	717	40.59%
Gemeente 8	39	89	43.82%
Gemeente 9	132	290	45.52%
Gemeente 10	65	120	54.17%
Total respondents	844	2003	42.14%

The sample had positions within the teams that differed greatly, some examples of positions are: intensive youth coach, case coordinator, researcher, mental health (GGZ) specialist, domestic violence specialist, youth and family coach, youth psychologist, advisor of parent-children relations, neighborhood team professional, interns, etc.

Out of the qualified respondents, 674 were female (88.6%), 82 male (10.8%), and 5 were of another gender or did not specify (0.8%). These percentages can be explained by the female dominated setting. The ages ranged from 20 to 65, with a mean age of 42. Ten participants did not respond to the age question. The respondents were categorized in four age groups (Table 2). The biggest group was the age group of 32 to 53, with 288 (37.8%) of respondents. The next group aged 44 to 54, with 176 (23.1%) respondents. The next group was 20 to 31, with 151 (19.8%) respondents of the sample. The last group was formed of 136 respondents (17.90%) of ages 51 to 64. The average age of workers has risen in the last

decades, according to the CBS. This has mostly happened in public administration and government services sectors, having an average age of 43 years (Arts & Otten, 2013). The overall average worker age is in line with the mean age of this sample (42 years old). This indicates that the ages of the respondents are representative for the bigger population, increasing the reliability of the study. Lastly, groups of tenure were made. Tenure being the amount of months that the respondents had been part of their team. The average tenure of participants was 35 months (2.9 years). The biggest part of the population, however, belongs to the tenure group of 1 to 21 months (31.8%). This percentage decreases as tenure increases, with 25.2% of the population having a tenure of 22 to 42 months (between 1.8 and 3.5 years). The smallest group were those with a tenure of more than 64 months (5.3 years) These numbers indicate that most participants were newer to the teams, but there are still a significant number of long-term team members.

3.3.4 Sample on the Team Level

Since this study attempts to measure variables on the team level, it is essential to aggregate the concepts to a team level. In order to do this and provide a representative overview of team behaviors, only teams with a response rate of 30% or higher were included in the analysis. Seventy teams met the criterion. This leads to a total of 761 respondents being qualified for analysis. The mean age, size and tenure of groups were calculated and presented in Table 3. The average team size has 23.37 members, with the smallest team having two participants and the biggest 51. The average age within teams was 41.03, with the youngest group having an average age of 30.57 years, and the oldest group having an average age of 52.47 years. Lastly, the team with the lowest average tenure was 3 months average, and the highest 52 months (4.5 years), with an average overall tenure of 34.72 months (2.8 years).

The teams were again divided into different groups based on team size, average team age, and average team tenure. The overview in Table 3 demonstrates that most teams have a size ranging from 16 to 27 members, accounting for 47.1% of the teams. There is a smaller amount (12.90%) that have between 40 to 51 team members. The average ages within teams were most frequently between 36 to 41 (42.90%) and 42 to 47 years (41.40%). There were only eight teams with an average age of under 35, and three teams with an average age of 48 and over. Lastly, most teams had an average team tenure of 28 to 39 months, with only a small portion of teams having an average tenure of 27 months and under (these two groups account for only 17.10% of teams. This illustrates that even though the variance of tenure in

individuals is high, most teams do have more experienced and less experienced members combined.

Table 2

Descriptives of the respondents (n=761)

Groups	Frequency	Percentage	Mean	SD
Age group (in years)			42.05	11.24
20 - 31	151	19.80%		
32 - 43	288	37.80%		
44 - 54	176	23.10%		
55 - 64	136	17.90%		
Missing	10	1.40%		
Valid	751	98.60%		
Total	761	100.00%		
Gender			-	0.323
Man	82	10.80%		
Woman	674	88.60%		
Other	5	0.70%		
Missing	0	0%		
Valid	761	100%		
Total	761	100%		
Tenure (in months)			35.82	23.01
1 - 21	242	31.80%		
22 - 42	192	25.20%		
43 - 63	177	23.30%		
64 - 84	108	14.20%		
Missing	42	5.50%		
Valid	719	94.50%		
Total	761	100.00%		

Table 3

Frequencies and Means of Size, Age and Tenure on Team-Level (n=70)

	Frequency	Percent	Mean	SD	Min	Max
Team Size Groups			23.37	11.48	2.00	51.00
2-15	17.00	24.30				
16-27	33.00	47.10				
28-39	11.00	15.70				
40-51	9.00	12.90				
			41.03	4.63	30.57	52.47
Team Age						
30-35	8.00	11.40				
36-41	30.00	42.90				
42-47	29.00	41.40				
48-54	3.00	4.30				
Team Tenure			34.72	10.33	3.00	54.00
2-15	5.00	7.10				
16-27	7.00	10.00				
28-39	32.00	45.70				
40-54	26.00	37.10				

Note: The categories are based on an equal interval of years/tenure/size

3.3 Operationalization of Variables

This section presents the way in which variables were measured. The paper studies the relationship between several variables which are composed of certain behaviors. All variables are studied using multiple items to increase the validity of measurements. In the survey, respondents were given statements and requested to respond on a five-point Likert scale; 1 being “I totally disagree” and 5 being “I totally agree”. As mentioned before, the survey was carried out in Dutch, and the statements will be translated to English in this paper for the sake of comprehension of the reader. All the used items and the literal Dutch statements are presented in Appendix A.

Shared leadership lacks a validated measure (Anderson & Sun, 2017; as cited by Canterino et al., 2020). According to Drescher et al. (2014), it is common to conceptualize

shared leadership as the extent to which group members incur in typical singular leadership behaviors. Due to the time-bound nature of this research, the specific behavior of encouraging innovation perceptions was measured. *Encouraging innovation* is defined by Yukl (2012) as an encouragement to think outside the box and experiment on behalf of team leaders. Encouraging innovation as a behavior of shared leadership was measured through the perception of team members on the individual level about the presence of the behaviors on behalf of the entire team (E.g. together, we speak about the importance of innovation to succeed as a team). The three statements were intended to reflect individual perceptions of the degree to which the team presents these behaviors. The Cronbach's Alpha of this scale was 0.971, indicating a high consistency between items.

Team learning behaviors (TLBs) were measured using four items adapted from Edmondson (1999) and Savelsbergh et al. (2009). According to Edmondson (1999), team learning is a process characterized by (a) exploring, (b) reflecting, (c) discussing errors and unexpected outcomes of actions, (d) seeking feedback, and (e) experimenting within and as a team. The individual behaviors listed below are clustered into a general construct of TLBs (as seen in Raes et al., 2013). As an aggregated variable, the Cronbach's alpha was 0.922. Moreover, this definition of TLBs describes several distinct and concrete learning behaviors. This paper studies reflection, feedback, experimentation, and error management as defined by Savelsbergh et al. (2009):

- *Reflection* is defined as the extent to which team members reflect on their performance. This has been measured with three different statements (e.g. in our team, we regularly discuss the effectiveness of our cooperation). The scale reliability was good, based on the Cronbach's alpha of 0.840.
- *Error management* is defined as the extent to which errors are discussed and analyzed by looking at causes and ways for future improvement. This variable is measured using three different statements (Eg. We try to find the cause of an error as a team). The Cronbach's alpha for this item was 0.897.
- *Feedback behavior* is defined as the extent to which team members seek and analyze feedback. This variable is measured with three statements, such as "We gather feedback about the ways in which we approach and take on our work" or "We ask parties with whom we have collaborated to provide us with feedback on our work". The Cronbach's alpha for this item was 0.792
- *Experimentation* is defined as the extent to which team members try out new methods or try to implement new ideas. Experimentation is measured using three statements

such as “we experiment with different alternative ways to carry out work”. The Cronbach’s alpha was 0.837.

The behaviors compile into the dependent variable of this study. In order to test the hypotheses, they are combined and tested as one (Team Learning Behaviors), but for the sake of more profound insight into the complex mechanisms and to provide a relevant discussion and practical recommendations, it is relevant also to operationalize them as individual behaviors.

Psychological safety is explored as the mediating variable. It is defined as the belief that interpersonal risk taking is safe within the team. Edmondson (1999) states four indicators of psychological safety: asking for help, being able to discuss problems, admitting errors, and the appreciation of everyone's unique traits within a team. In order to measure the degree of psychological safety experienced by team members, these four indicators are translated into four statements that are assessed by respondents. An example of a statement is "In our team, it is easy to ask others for help", or "in our team, everyone's unique qualities and talents are appreciated". The Cronbach's alpha of this scale is 0.815.

3.3.1 Control Variables

Team size and *team age* and *team tenure* are measured as control variables. Smaller teams have been found to facilitate learning, whereas bigger teams often face coordination barriers (Decuyper et al., 2010). Team age is used as a control variable because culture and cognition is often defined by older members of a group. Moreover, people tend to become more like each other as they spend time together (Richter & Kruglanski, 2003). This can lead to inflexibility as a team ages. Team tenure has been argued to influence interpersonal relations, knowledge and performance (Van der Vegt & Bunderson, 2005). This variable was calculated as the number of months that the individual has worked at the specific team.

3.4 Measurements

Factor analysis (Principal Component Analysis) was employed in SPSS in order to test the measures. This demonstrated that there is a high correlation between items (between 2.07 and 0.798), but no multicollinearity, as none of the values exceeded 0.8. This indicates that although the measures are related, they do not repeatedly measure the same thing. The highest correlation was found between two items that measure error management, namely: "In our team, we meticulously study our errors", and "We take the time as a team to think about why something failed".

The KMO test was 0.931 and the Bartlett's test indicated a high statistical significance (<0.001). This gives us confidence that our variables are significantly correlated and assures a high construct validity. The eigenvalues indicated the appearance of four new factors (with an Eigenvalue of greater than 1). To double check this, a parallel analysis was carried out. According to the parallel analysis, we should retain three new factors. The three components were analyzed through a Principal Component Analysis extraction method and Oblimin rotation. Oblimin rotation was used as in the social sciences, it is often expected that items are going to be correlated. The output indicated that the items were in fact categorized according to the three main variables operationalized above. The component correlation matrix indicated weak correlations, but the absolute values of the correlations were all above 0.32, indicating that Oblimin rotation is in fact adequate. For an overview of the factors, see Appendix B.

3.5 Team-level Variance

The measured constructs are team-level constructs, and as such, only conceptually meaningful at the team level. Therefore, the individual assessments of items of team members needed to be aggregated at the team level to test the hypotheses. The referent-shift consensus composition applies to this case, as the measures on the individual level refer to perceptions about the team level. There is a need to establish sufficient agreement among group members and sufficient variance between groups in order to justify the aggregation of data. Intraclass correlation coefficients (ICC1 and ICC2) were evaluated. The average number of members per group was calculated to account for the wide range of team sizes (range from 2 to 51), using the following formula:

$$N_g = (1/(\text{Number of teams} - 1)) \times \left(\sum \text{Team sizes} - \left(\sum \text{Team sizes}^2 / \sum \text{Team sizes}\right)\right)$$

(1/(70 - 1)) x (1636 - (47336/1636) = (1/69) x (1636 - 28.9339853) = (0.01449275) x (1607.06601) = 23.29

The ICC values are presented in Table 4. ICC's are used to test the reliability and validity of group constructs. ICC1 indicates the variance accounted for by group membership. ICC2 is a reliability coefficient of group means (Bliese, 1998). The ICC1 values indicate a small association between professionals' ratings on shared encouraging innovation and

psychological safety. They indicate a high association in TLBs. Acceptable ICC1 values range from 0.05 to 0.2, which none fall under (the value of shared encouraging innovation is rounded up). The ICC2 values indicate that 54% of variance in shared encouraging innovation, 46% of variance in TLBs, and 36% of variance in psychological safety is explained at the team level. In order to justify aggregation to the team level, ICC2 values of 0.7 or higher are desirable. This data indicates that the group means of the constructs are less reliable. However, aggregation on the team level is justified since (1) the concepts are constructed at the team level and (2) the variation is likely to be because due to the wide range of team sizes (Bliese, 1998).

Table 4

Intra-class Correlation (n=761)

Variable	ICC1	ICC2	F
Shared Encouraging innovation	0.05	0.54	2.16**
TLBs	0.36	0.46	1.86**
Psychological safety	0.03	0.36	1.57*

*** p<0.001*

** p<0.005*

3.6 Data Analysis Methods

The quantitative analysis has been carried out in SPSS (version 27). After the reliability analyses that were presented in this chapter, the data was analyzed in order to test the following hypotheses:

H1: Shared encouraging innovation leads to an increase in team learning behaviors within multidisciplinary teams

H2: The relationship between shared encouraging innovation and team learning behaviors is mediated by psychological safety

First, descriptive analysis was carried out to determine the degrees in which each variable was present or the degree in which it was perceived. Calculating frequencies, means, standard deviations, and other forms of descriptive statistics to describe the situation and observe trends. Secondly, a correlation analysis was conducted, where the different items were correlated through bivariate Pearson correlations. This shows the link between variables and allows us to establish the relationships. Third, regression analysis was utilized to test

hypotheses, and mediated regression analysis was employed to establish the mediating position of psychological safety. The results are presented in tables and explained in the text.

3.5 Research Limitations

There are a number of research limitations in this study. Firstly, survey research within public administration has been argued to be overused, leading to a uniform approach that lacks diversity (Perry, 2012; as cited by Groeneveld, 2015). Because of this, the practical contributions of this research method could be narrower than expected. The quantitative tool is able to collect a vast spectrum of data but hampers an in-depth understanding of the actual relationships. Furthermore, other factors that might be influencing the variables are easily overlooked. However, the relatively big sample size compensates for this limitation by increasing the generalizability of the findings to a wider audience, enhancing reliability

The voluntary sampling method yielded many respondents. However, self-selection bias may lead to individuals with certain characteristics to be more likely to respond.

The survey that was employed consisted of 222 questions and statements. This can be argued to be a very long survey, which can lead to a non-sampling error and respondent fatigue and habituation bias, where the respondents respond to questions in similar ways when they are worded in similar ways. The questions were often asked first on an individual level, and after, on a group level. There is a risk of response bias, as respondents might be inclined to rate their teams and team members higher because of social desirability and because they want to rate themselves high.

In the public sector, surveys have often been misused, and the statistical techniques used in the public sector are often more simple and basic (Cozzetto, 1994). Due to the scope and time-bound nature of this paper, the statistical analysis sufficiently explores the relationships between variables and tests the hypotheses, but does not delve deeper into the complex relationships between variables.

The construct validity of the study is high, as seen by the Cronbach's alpha rates and factor analysis. Moreover, the constructs were measured based on validated studies that have been tested before. This increases the replicability of the study and allows for comparisons with other studies. It increases the content and construct validity of this study. Reliability was tested with the ICC and inter-rater agreements, which increases the inter-rater reliability. The internal consistency of data is proved to be high.

4. Results

This chapter presents the findings from the survey data. The chapter is organized into three sections. The first section uses descriptive statistics to explain the current rates, values, and perceptions of participants, categorizing them in groups and observing trends. Then, correlation analysis is presented as a way to relate the concepts and explore the possible relationships between variables. Lastly, regression analysis is employed to test the hypotheses.

4.1 Descriptive Statistics

Table 5 presents the overall results from the survey data. The respondents were asked to rate several items from 1 to 5, with 1 being “totally disagree” to 5 being “totally agree”. As seen below, the overall scores of the variables are fairly good, with most of the means being higher than 3 (neither agree nor disagree) and 4 (agree).

Participants experience that innovation is encouraged within their team. However, the average scores between teams differed greatly; from 2.44 (disagree/neither agree nor disagree) and 5 (totally agree). This indicates that this variable changes a lot from team to team. When measuring TLBs as one variable composed of all the items that indicate reflection, feedback, experimentation, and error management, the mean score is 3.51. However, there is a significant difference between means within TLBs. Reflection was the highest-scoring behavior (mean=3.75), while feedback behaviors scored lowest of the behaviors (mean=3.2). Feedback also has the lowest average score out of all the variables, with a minimum team average being 2.26. This indicates that in some teams, members do not feel like team members give each other feedback on their work (TL_Feed_1), that operations are not compared with that of other teams (TL_Feed_2), and that external parties are also not involved in the feedback process (TL_Feed_3).

Psychological safety ranks the highest of the variables, with an overall mean of 4.31. Team members experience that they can ask each other for help (4.42) and that mistakes are allowed (4.35), that difficult subjects are discussed (4.25), and that everyone's qualities are valued (4.25). The lowest scoring minimum item of psychological safety is discussing problems, with a minimum of 3.20. This means that some teams have a harder time discussing difficult subjects or pressing issues.

Table 5

Means, Standard Deviation, Variance, Minimum and Maximum of Variables

Variable	N	Mean	SD	Variance	Min	Max
Encouraging innovation	70.00	3.63	0.45	0.20	2.44	5.00
TLBs	70.00	3.51	0.32	0.10	2.73	4.35
Reflection	70.00	3.76	0.37	0.13	2.94	4.78
Feedback	70.00	3.23	0.40	0.16	2.26	4.30
Experimentation	70.00	3.52	0.37	0.14	2.61	4.78
Error Management	70.00	3.52	0.38	0.14	2.67	4.53
Psychological safety	70.00	4.31	0.26	0.07	3.67	5.00
Discussing problems	70.00	4.25	0.35	0.12	3.20	5.00
Asking for help	70.00	4.42	0.32	0.10	3.44	5.00
Allowing mistakes	70.00	4.35	0.30	0.09	3.40	5.00
Value skills	70.00	4.25	0.32	0.10	3.53	5.00

In order to observe the differences between the teams, the respondent teams were grouped by age, tenure, and team size. This is done to provide more insight into the sampled population and show trends within the categories. The mean score for each variable was calculated per control variable (Table 6).

There are no prominent trends in the data that could suggest the influence of age, size or tenure on the scores. In order to test the variance, one way ANOVA was tested. The groups were changed to match the distribution of the teams, so that there were enough subjects in each group to get a valid analysis of variance. The assumption of homogeneity of variances was satisfied based on Levene's F test for each variable (Appendix C).

The between-group ANOVA did not yield a statistically significant effect for any of the groups. There are no trends in the means and the control variables do not seem to be confounding the results.

Table 6

Mean Scores per Team. Sorted by Team Characteristics (n=70)

Category	Encour. Innov.	TLBs	Reflection	Feedback	Experim.	Error Manag.	Psych. Safety	Discuss Problems	Asking for help	Allowing Mistakes	Value Skills
Age group											
30-35 years	3.84	3.68	4.06	3.20	3.85	3.63	4.45	4.44	4.67	4.39	4.29
36-41 years	3.66	3.52	3.74	3.29	3.48	3.58	4.33	4.21	4.46	4.37	4.28
42-47 years	3.50	3.42	3.69	3.15	3.44	3.41	4.24	4.21	4.29	4.29	4.18
48-54 years	4.04	3.72	3.94	3.48	3.73	3.73	4.50	4.47	5.52	4.51	4.51
Tenure group											
2-15 months	3.95	3.77	4.13	3.28	3.93	3.75	4.40	4.50	4.60	4.30	4.22
16-27 months	3.68	3.64	3.75	3.48	3.65	3.67	4.36	4.39	4.41	4.26	4.37
28-39 months	3.56	3.41	3.69	3.11	3.40	3.44	4.26	4.15	4.37	4.33	4.18
40-51 months	3.64	3.54	3.79	3.30	3.54	3.53	4.36	4.28	4.45	4.40	4.31
Team Size											
2-15 members	3.76	3.59	3.88	3.22	3.63	3.62	4.39	4.31	4.55	4.37	4.33
16-27 members	3.59	3.51	3.75	3.28	3.47	3.55	4.33	4.22	4.43	4.37	4.29
28-39 members	3.60	3.44	3.72	3.15	3.45	3.42	4.17	4.17	4.21	4.22	4.07
40-51 members	3.59	3.45	3.67	3.17	3.59	3.36	4.30	4.33	4.38	4.35	4.16

4.2 Correlation Analysis

The variables were correlated and presented in Table 7. The correlations are high to moderate and have a high statistical significance. This indicates that there is a positive relationship between the variables, which confirms the first hypothesis that shared encouraging innovation is linked to learning behaviors in teams (0.76). However, the relationship between shared encouraging innovation and psychological safety is lower than expected (0.57), with a moderated positive correlation.

Table 7

Correlation between Main Variables (n=70)

Variables	1	2	3
1. Encouraging innovation	1	0.77**	0.57**
2. TLBs	0.77**	1	0.67**
3. Psychological Safety	0.57**	0.67**	1

*** Correlation is significant at the 0.01 level (two-tailed)*

Next, the correlations were tested between shared encouraging innovation and the different TLBs (Table 8) to observe the possible mechanisms in detail. All the behaviors had a positive relationship with shared encouraging innovation, with a high statistical significance of results (<0.01). While the variance between correlations is not remarkably high, it is relevant to note that error management (0.70) has the highest correlation with shared encouraging innovation within teams. On the other hand, Feedback and Experimentation have a lower correlation (0.63 and 0.64, respectively).

Table 8

Correlation between Shared Encouraging Innovation and the different Team Learning Behaviors (n=70)

	Encouraging Innovation
Reflection	0.66**
Feedback	0.63**
Experimentation	0.64**
Error Management	0.70**

*** Correlation is significant at the 0.01 level (2-tailed)*

In Table 9, the same thing is done, but with the different TLBs and the mediator variable, Psychological Safety. They all showed positive correlations, however moderate, and strong statistical significance. Experimentation and Psychological Safety have the lowest correlation result (0.49), While Reflection and Error Management score equally for the highest correlating behaviors to Psychological Safety.

Table 9

Correlation between the Different Team Learning Behaviors and items of Psychological Safety (n=70)

TLBs	Psychological Safety
Reflection	0.63**
Feedback	0.55**
Experimentation	0.49**
Error Management	0.63**

*** Correlation is significant at the 0.01 level (2-tailed)*

The correlations between the different TLBs and the items of psychological safety are further explored and correlated in Table 10. Again, all the items are positively correlated and have a strong statistical significance. However, the correlations are all moderate, with some on the lower side. When team members perceive that they are safe to ask others for help, they will slightly increase their experimentation behaviors. Moreover, an environment where mistakes are allowed only slightly increases the team's error management and feedback behaviors. Based on the stronger correlations found in Table 10, we can deduce that when a team appreciates and values each other's unique skills, team members also present more error management behaviors, which consist of studying the causes and effects of mistakes. The ability to discuss difficult issues also is positively correlated with a team's capacity for reflection, while asking for help increases the chances of error management within teams.

Table 10

Correlation between the different Team Learning Behaviors and items of Psychological Safety (n=70)

TLBs	Psychological Safety			
	Discussing problems	Asking for Help	Allowing Mistakes	Value Skills
Reflection	0.55**	0.50**	0.45**	0.55**
Feedback	0.47**	0.45**	0.31**	0.55**
Experimentation	0.51**	0.39**	0.31**	0.37**
Error Management	0.52**	0.54**	0.38**	0.60**

*** Correlation is significant at the 0.01 level (2-tailed)*

Lastly, the control variables are correlated with the items of the study (Table 11). This has been done in order to observe if there are relationships that might influence our variables. The correlations show very low forms of correlation, with not a lot of statistical significance. Noteworthy is the negative relationship between average team age and TLBs (-0.23), indicating that as the team ages, they rank TLBs as lower. The negative correlation between average team size with TLBs and psychological safety indicates that as teams get bigger, the team's psychological safety decreases, as well as the presence of TLBs.

Table 11

Correlation between Main Variables with the Control Variables (n=70)

Variables	Team Age	Team Size	Team Tenure
1. Encouraging innovation	-0.18	-0.19	-0.14
2. TLBs	-0.23*	-0.24*	-0.12
3. Psychological Safety	-0.22	-0.24*	0.04

** Correlation is significant at the 0.05 level (two-tailed)*

4.3 Regression Analysis

A hierarchical multiple regression analysis was carried out to test the relationships between variables while controlling for variables that are possibly confounding the relationship. The regression analyses on TLBs are formed of three models. The first model

includes only control variables (Team Size, Team Age, and Team Tenure). The second model includes shared encouraging innovation as well as the control variables. Lastly, the third model also incorporates psychological safety. Table 12 shows the summary of the models. The R square indicates the variance in TLBs that the model is responsible for. This incrementally increases as more variables are introduced into the models, with an end value of 0.67, indicating that they are responsible for 67% of the variance in our dependent variable. The ANOVA table shows statistical significance for models 2 and 3 (<0.001), but low significance for model 1 (See Appendix D). The R Square Change indicates the change of percentage that is present in each model. This shows that model 2, which includes shared encouraging innovation, has the most influence on TLBs, with an increase of 53% in the influence. This shows that adding shared encouraging innovation to the model increases the model's predictive capacity at predicting TLBs in a statistically significant way. This makes it presumable that shared encouraging innovation greatly influences TLBs, even in the presence of the control variables.

Table 12

Model Summary of Hierarchical Multiple Regression

Model	R	R Square	Adjusted R Square	S.E. of the Estimate	R Square Change	F Change	Sig. F Change
1	0.28[a]	0.08	0.04	0.32	0.07	1.84	0.15
2	0.78[b]	0.60	0.58	0.21	0.53	86.56	<0.001
3	0.82[c]	0.67	0.65	0.20	0.07	13.80	<0.001

a. Predictors: (Constant), Team Tenure, Team Size, Team Age

b. Predictors: (Constant), Team Tenure, Team Size, Team Age, Shared Encouraging Innovation

c. Predictors: (Constant), Team Tenure, Team Size, Team Age, Shared Encouraging Innovation, Psychological Safety

We can see in Table 12 that none of the control variables offer statistically significant results. This indicates that they are not a unique predictor of TLBs, even though they are slightly negatively correlated. The measures of the table are the standardized Beta Weights. Shared encouraging innovation is in fact a unique incremental predictor of the dependent variable based on the F Change (Table 12) and on the Beta Weight (Table 13), which are both statistically significant. This also counts for Psychological Safety.

Table 13

Regression Analysis on Team Learning Behaviors (n=70)

	Model 1	Model 2	Model 3
Encouraging Innovation	-	0.75**	0.56**
Psychological safety	-	-	0.34**
Team Size	-0.17	-0.06	-0.03
Tenure	-0.02	0.04	-0.03
Age	-0.148	-0.08	-0.03

** $p<0.001$

4.3.4 Testing Mediation

A mediational model with direct and indirect effects was tested for our hypotheses. This section utilizes multiple regression analyses to test the mediating effect of psychological safety. In order to test the mediation of psychological safety (M) in the relationship between shared encouraging innovation (X) and TLBs (Y), first the total effect between X and Y must be tested through a bivariate regression. Then, bivariate regression is used to estimate the effect between X and M. Thereafter, the direct effects between X and Y and the direct effect between M and Y are estimated through multiple regression. Lastly, the indirect effect for statistical significance is estimated and tested through a Sobel test.

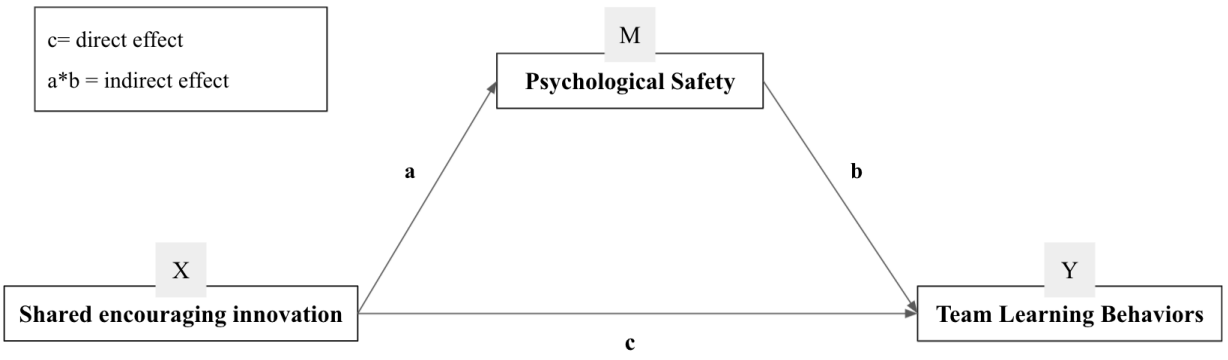

Figure 2. Mediation Model to be tested

The calculation of the total effect between X and Y is carried out to see if there is any relationship to mediate in the first place. In the last segment, the relationship between shared encouraging innovation and TLBs has already been established, but a bivariate regression was made in order to specify and corroborate this. This is presented in Figure 3, which shows a scatter plot of the distribution of teams on an X - Y graph.

Moreover, Table 14 shows the unstandardized Beta (0.56) and Standardized Beta (0.77) of shared encouraging innovation on TLBs. There is a high statistical significance (<0.001), indicating that there is a positive relationship between our X and Y.

Then, the same data was extracted for shared encouraging innovation (X) and Psychological safety (M). The unstandardized Beta is 0.34, while the standardized Beta is 0.57. Again, a very high statistical significance was found, confirming the positive relationship between our X and M. This relationship is also presented in the scatterplot in Figure 4.

Table 14

Linear Bivariate Regressions

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
Dependent Variable: Team Learning Behaviors					
Intercept	1.49	0.21		7.25	<0.001
Shared Encouraging Innovation	0.56	0.06	0.77	9.90	<0.001
Dependent Variable: Psychological Safety					
Intercept	3.09	0.22		14.26	<0.001
Shared Encouraging Innovation	0.34	0.06	0.57	5.74	<0.001

Table 15 presents the multiple regression that tests the relationship between shared encouraging innovation and TLBs (X-Y) and the relationship between psychological safety and TLBs (M-Y). Through this table, the influence that the different variables have on Y are calculated. For every 1 point of value that shared encouraging innovation increases, TLBs

will increase 0.41 (ceteris paribus). On the other hand, for every 1 point of increase in psychological safety, TLBs will increase by 0.42 (ceteris paribus).

Table 15

Multiple Regressions for X-Y and M-Y

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
Intercept	0.20	0.37		0.55	0.59
Shared Encouraging Innovation	0.41	0.06	0.57	6.69	<0.001
Psychological Safety	0.42	0.104	0.343	4.002	<0.001

Dependent Variable: Team Learning Behaviors

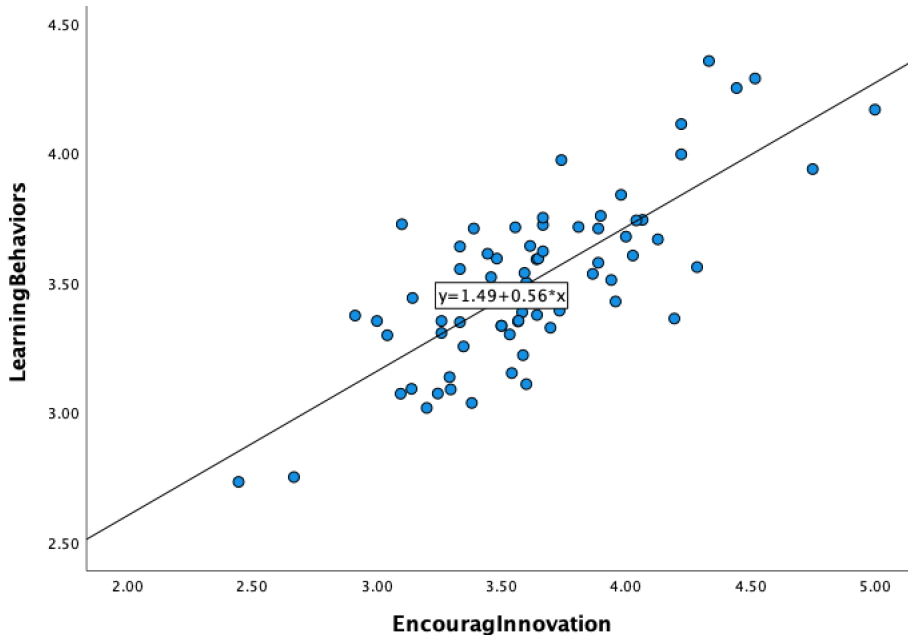

Figure 3. Scatterplot of Encouraging Innovation(X) and Team Learning Behaviors(Y)

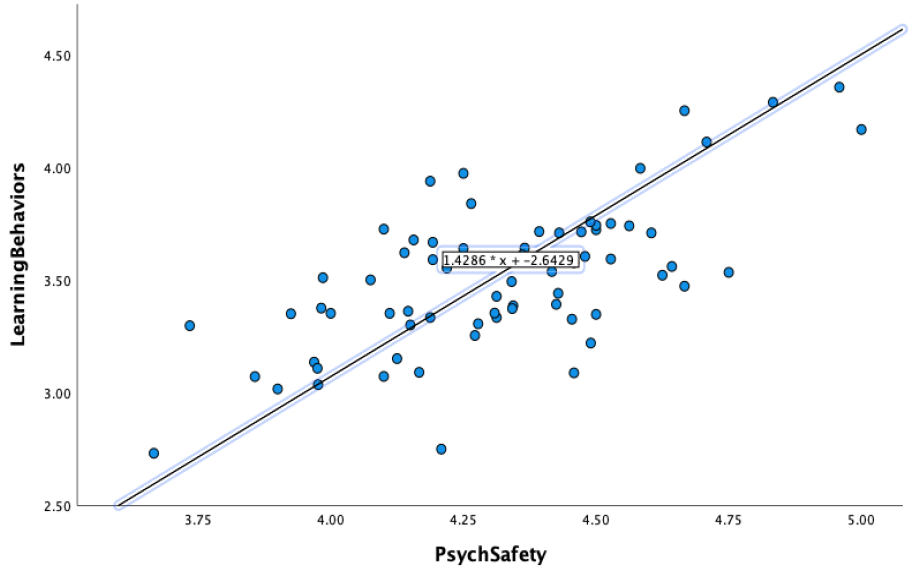

Figure 4. Scatter plot of Learning Behaviors and Psychological Safety

To finalize, we have the terms required to estimate the indirect effects and test them for statistical significance. We use a Sobel Test to do this. The results of the Sobel test was 3.29, with a standard error of 0.04 and a p-value of 0.001. These values prove that the indirect effect of shared encouraging innovation and TLBs via the intermediary variable of psychological safety is statistically significant. This indirect effect can also be calculated by multiplying the effect of X on M and M on Y, or a*b. As visualized in Figure 5, the indirect effect of shared encouraging innovation on TLBs via psychological safety is 0.14.

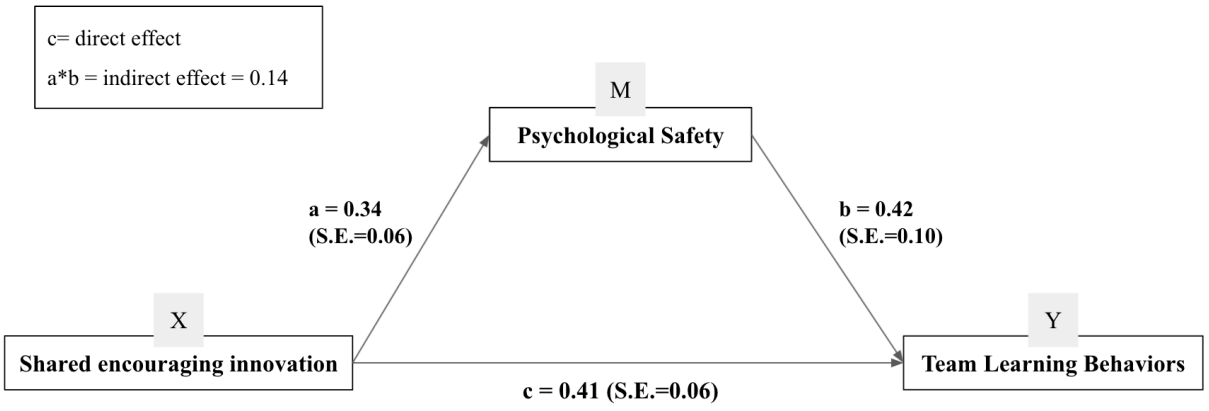

Figure 5. Mediational Model with Calculation of Effects.

5. Discussion

In this chapter, the data will be analysed and discussed in order to confirm the hypotheses and ultimately answer the research question "*How does shared leadership influence team learning in Dutch welfare teams, and to what extent is this relationship mediated by psychological safety?"*.

The data suggests that within Dutch welfare teams, the scores for our three main variables were considerably high. Noteworthy was the significantly high perceived psychological safety within teams. No significant trends were found within these scores based on age groups, team sizes, or tenure. Research has found age to be linked to cognitive flexibility, and points out that with older age, employees tend to avoid innovative behaviors like the one studied in this paper due to inflexibility (Schubert, & Andersson, 2015). However, research has not yet found conclusive data on how these mechanisms work regarding age within a team and innovation or learning (Frosch, 2011). This fact is also corroborated by the data in this study, which fall short of providing evidence for a relationship. Team size has been shown to influence team based learning and innovation (Gu et al., 2013). A small team can lack diversity of viewpoints, and a big team is harder to coordinate and promote participation. However, our data did not identify a trend or strong correlation of our variables with this aspect. Lastly, team tenure has been linked to psychological safety (Koopman et al., 2016), indicating that the longer a team works together, the safer they feel to share their opinions and discuss harder issues. This has also been found in research but was not concluded out of the data of this study.

This study contributes to the literature by exposing the mediation of team psychological safety in the relationship between shared encouraging innovation and TLBs. This is the first study to my knowledge that specifically focuses on shared encouraging innovation as defined by Yukl (2012) and studies its relationship with TLBs.

The study demonstrates the correlation between shared encouraging innovation and TLBs, which were highly positively correlated. This relationship confirms the first hypothesis, "*Shared encouraging innovation leads to an increase in team learning behaviors within multidisciplinary teams."* In fact, the regression analysis delved deeper into the direct influence that shared encouraging innovation has on TLBs within welfare teams and shows that shared encouraging innovation is responsible for a 41% increase in TLBs. The control variables did not pose a significant influence on this relationship. This indicates that the relationship is not dependent on team size, team tenure, or team age.

TLBs within teams have extensively been linked to performance and innovation, and are critical in modern organizations and teams (Senge, 2006; Decuyper et al., 2010). If organizations want to keep up with the changing environment, they need to continuously learn (Raes et al., 2013), highlighting the importance of this finding.

The study differentiates between four different TLBs. Shared encouraging innovation was positively correlated with the TLB of error management, indicating that the encouragement of innovation on behalf of team members also increases their capacity to manage errors by finding causes of an error, discussing why something failed, and studying the mistakes in detail. The correlation with reflection was also positive and significant, pointing out the fact that the shared encouragement of innovation positively correlates with discussing the effectiveness of the team, thinking about the ways in which work can be approached, and taking the time to reflect on their work. Moreover, feedback behaviors were also positively correlated, indicating that shared encouraged innovation positively links with gathering feedback as a team, analyzing and comparing operations with that of other teams, and involving external parties and collaborators by asking them for feedback. Lastly, the correlations showed that increased shared encouraging innovation also leads to an increase in experimenting with alternative ways of working, developing new techniques to work with, and making plans as a team to test new things.

In order to test hypothesis number 2, "*The relationship between shared encouraging innovation and team learning behaviors is mediated by psychological safety,"* multiple regression analyses were employed. After a direct positive relationship was established between shared encouraging innovation and TLBs, another direct positive relationship was established between shared encouraging innovation and psychological safety.

It also became evident that psychological safety is closely and positively linked to TLBs. This link falls in line with the literature presented in chapter 3. In teams with high reflection scores, the values of psychological safety as ranked by respondents were also higher. This agrees with the findings of Hetzner et al. (2011), who also found that the more psychologically safe the environment is, the more team members reflect on their work. This also counted for error management and feedback behaviors. Psychological safety is a prerequisite for effective feedback encounters (Johnson et al., 2020) and enables error management (Edmondson & Verdin, 2018).

Experimentation, against expectations, had a moderated positive correlation with psychological safety. This moderated relationship could be explained by the limiting influence of capacity to experiment within the neighborhood teams. Even though the teams

have been given relative autonomy to carry out their tasks, they are still expected to meet certain targets. Edmondson (1999) states that experimentation has become limited when a team is bound to their targets and has set demands from management or direction. Moreover, the teams have a limited budget to carry out their responsibilities, therefore lacking the funding and technology to be able to afford systematic experimentation on behalf of team members (Hood & Peters, 2004). These contextual factors could hinder the positive relationship between a psychologically safe environment and the amount of experimentation within a team.

These findings were used to confirm the mediation of psychological safety in the relationship between shared encouraging innovation and TLBs. Shared encouraging innovation influences psychological safety, which in turn influences TLBs within Dutch welfare teams. It is important to note that the mediation is partial and not complete, as the independent variable of shared encouraging innovation greatly influences TLBs in the direct effect (X-Y). The indirect effect of the mediation is 0.14.

In sum, the research question "*How does shared leadership influence team learning in Dutch welfare teams, and to what extent is this relationship mediated by psychological safety?"* can be answered.

Shared leadership, in specific, shared encouraging innovation (X), as a leadership behavior as defined by Yukl (2012), influences TLBs (Y) within Dutch welfare teams positively, with an increase of 0.41 by every 1 increase of X. The relationship builds on existing literature and confirms the findings of Ortega et al. (2014), who stated the relationship between change-oriented leadership behaviors with TLBs and strengthens the claim by providing evidence of a specific behavior within the category of change-oriented behaviors.

Furthermore, this relationship is indeed partially mediated by psychological safety.. Previous literature had also found links between the variables. An example is a research of Liu et al. (2014), who already tested the mediation, only not in the sector of public welfare teams and not in the cultural and socio-economic context of the Netherlands.

6. Managerial Implications

This study reveals the direct and indirect effects of shared encouraging innovation on TLBs within Dutch welfare teams. This offers practical insight for teams that have transitioned to more decentralized forms of carrying out their tasks and have gained autonomy in their sector, but also for other teams in the Dutch public sector that simply want to increase team learning.

For teams with multidisciplinary members, this study provides insights into behaviors that help overcome barriers to learning due to clashes of values, goals, cultures or interests. By encouraging innovative thinking, creativity and intellectual stimulation as a team, team members are likely to increase the psychological safety of their environment. When team members can discuss the issues that are important to them openly, it is more likely that an effective knowledge exchange occurs and that barriers associated with multidisciplinarity can be bridged. This in turn will increase the teams' participation in learning behaviors and offer opportunities for adaptation and innovation.

TLBs present great opportunities for teams that are self-managed, as it increases performance and effectiveness. Ultimately, the goal of the transition of social welfare (through the Youth Law, Participation Law and the Social Support Act 2015) was to decrease costs, increase efficiency, and adapt provision to individual needs. In order to do so, teams must learn to adapt to their new environment and be adaptable to new scenarios or changes in the environment. Because of this, it is advisable to emphasize on encouraging innovation as a team in order to increase learning.

Understanding how to motivate shared encouraging innovation is a critical step for managers to take within their teams, regardless of age, size or tenure. However, managers often lack the skills or knowledge to introduce behaviors in a team. Barsh et al. (2008) developed a model for managers to encourage innovation. The authors convey three fundamental steps to encourage innovation within a team. Innovation should be integrated as part of the team's formal agenda, facilitate the emergence of innovation networks, and foster an innovation culture.

When team members start encouraging innovation, this fosters a work environment with psychological safety, and increases TLBs that will ultimately lead to an improved provision of services and processes.

7. Conclusion

This research aimed to test the relationship between shared leadership and its effect on team learning behaviors (TLBs) through psychological safety. The research question "*How does shared leadership influence team learning in Dutch welfare teams, and to what extent is this relationship mediated by psychological safety?"* was answered based on survey analysis of welfare teams in different municipalities of the Netherlands. Team members were presented several statements that measured their perceptions and experiences of their team. The data was utilized to test two hypotheses: "*Shared encouraging innovation leads to an increase in Team Learning Behaviors within multidisciplinary teams"* and *"The relationship between shared encouraging innovation and learning behaviors is mediated by psychological safety".* The results confirmed both hypotheses. This study indicates that shared encouraged innovation on behalf of team members is indeed positively related to TLBs in Dutch welfare teams. Furthermore, the analysis clearly illustrates that this relationship is mediated by psychological safety. The findings provide a building block in the development of theory on team functioning and leadership in the public sector.

8. Limitations and Future Research

The findings of this study have to be seen in light of some limitations. First, the cross-sectional nature of the data restricts the ability to establish causal relationships and can present a degree of common method bias of the results. Shared leadership can be seen as an emergent form of leadership that changes over time, and the relationship between shared leadership and TLBs might be stronger at certain points in time depending on the task at hand (Wang et al., 2017). Researchers are encouraged to use a longitudinal approach in future research to establish the direction of causality and assess progress or changes over time.

Another limitation of this research is the abstract concepts that it intends to measure: even though the behaviors have been narrowed down and specified, they are still hard to identify and pinpoint on behalf of team members and leaders. This abstraction of terms offers a barrier for management to measure and improve it, limiting practical applicability.

The third limitation is that the low ICC values debilitate our findings (Bliese, 2000). Even though the data was aggregated to the team level on the basis of theoretical arguments, the low values showed that the concurrence of respondents within their teams was narrow.

Future research could focus more on individual differences in perception instead of investigating mean perceptions within teams.

The fourth limitation is one of context: The Netherlands has a determined set of culture and social norms that might influence the emergence of certain behaviors, whereas in other cultures, the relationships might not be as prominent. The design of this study did not allow to identify cultural specificity in the relationship between shared encouraging innovation and TLBs. Furthermore, the professional functions and division of work is dependent on legislation and socio-economic aspects. Future research could shine a light on the different contextual factors that influence the relationship in order to develop an understanding of international team dynamics and increase generalizability of the theory.

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10. Appendices

Appendix A: Operationalization Table

Operationalization, Cronbach's Alpha and translations of Variables

Variable	Code	Operationalization Dutch	Operationalization English	Measurement	Cronbach's Alpha
Encouraging innovation	En_Inn_1	De leden van mijn team spreken samen over het belang van innovatie voor het succes van het team.	The members of my team discuss the importance of innovation for succeeding as a team	Likert Scale	0.971
	En_Inn_2	De leden van mijn team moedigen elkaar aan om de doelen van het team beter te bereiken.	The members of my team encourage each other to better achieve the goals of the team	Likert Scale	
	En_Inn_3	De leden van mijn team moedigen elkaar aan om op innovatieve wijze de prestaties te verbeteren.	The members of my team encourage each other to improve on our performance in innovative ways	Likert Scale	
Team Learning Behaviors	TLB	Aggregation of all items from Reflection, Feedback, Experimentation and Error Management		-	0.922
Reflection	TL_Refl_1	In ons team bespreken we regelmatig hoe effectief onze samenwerking is.	We regularly discuss the effectiveness of our cooperation within the team	Likert Scale	0.84
	TL_Refl_2	In ons team heroverwegen we dikwijls de manier waarop we het werk aanpakken.	In our team, we ponder on the ways in which we approach and take on our work	Likert Scale	
	TL_Refl_3	In ons team nemen we geregeld de tijd om te reflecteren op onze manier van werken	As a team, we regularly take the time to reflect on our ways of working	Likert Scale	
Feedback	TL_Feed_1	In ons team verzamelen we feedback over de manier waarop we het werk aanpakken.	In our team, we gather feedback about the way in which we approach and take on our work	Likert Scale	0.792
	TL_Feed_2	In ons team analyseren we ons eigen functioneren in vergelijking met andere teams.	We analyze our operations as a team and compare them to other teams	Likert Scale	

	TL_Feed_3	In ons team vragen we partijen waar we mee samenwerken om een terugkoppeling op ons werk	In our team, we ask parties with whom we collaborate to provide us with feedback on our work	Likert Scale	
Experimentation	TL_Expe_1	In ons team experimenteren we met verschillende alternatieve manieren van werken.	In our team, we experiment with different alternative ways to carry out work	Likert Scale	0.837
	TL_Expe_2	In ons team testen we nieuw ontwikkelde werkwijzen.	In our team, we test newly developed ways of working	Likert Scale	
	TL_Expe_3	In ons team maken we gezamenlijke plannen om iets nieuws uit te proberen	As a team, we make plans to trest out something new	Likert Scale	
Error management	TL_Erro_1	In ons team proberen we gezamenlijk de oorzaak van een vergissing te achterhalen.	We try to find the cause of an error as a team	Likert Scale	0.897
	TL_Erro_2	In ons team nemen we de tijd om na te denken over waarom iets is mislukt.	We take the time as a team to think about why something failed	Likert Scale	
	TL_Erro_3	In ons team bestuderen we onze fouten nauwkeurig	In our team, we meticulously study our errors	Likert Scale	
Psychological Safety	PsychSafe	Aggregation of all items: Discussing problems, asking for help, allowing mistakes, valuing skills			
Discussing problems	PsySaf_1	In ons team kan je problemen of lastige kwesties naar voren brengen.	We are able to discuss problems and tricky issues within our team	Likert Scale	0.815
Asking for help	PsySaf_2	In ons team is het gemakkelijk om anderen om hulp te vragen.	In our team, it is easy to ask others for help	Likert Scale	
Allowing mistakes	PsySaf_3	In ons team is een vergissing maken geoorloofd.	In our team, making mistakes are allowed	Likert Scale	
Value Skills	PsySaf_4	In ons team worden ieders unieke vaardigheden en talenten gewaardeerd	Everyone's unique skills and talents are valued within our team	Likert Scale	

n = 721

Cronbach Alpha of >0.7 indicates high reliability

Appendix B - PCA of Extracted Factors

Principal Component Analysis of extracted factors

Code	Operationalization Dutch	Factor		
		1	2	3
TL_Expe_2	In ons team testen we nieuw ontwikkelde werkwijzen.	0.865		
TL_Expe_1	In ons team experimenteren we met verschillende alternatieve manieren van werken.	0.837		
TL_Expe_3	In ons team maken we gezamenlijke plannen om iets nieuws uit te proberen	0.825		
TL_Feed_1	In ons team verzamelen we feedback over de manier waarop we het werk aanpakken.	0.618		
TL_Erro_1	In ons team proberen we gezamenlijk de oorzaak van een vergissing te achterhalen.	0.618		
TL_Erro_2	In ons team nemen we de tijd om na te denken over waarom iets is mislukt.	0.588		
TL_Feed_3	In ons team vragen we partijen waar we mee samenwerken om een terugkoppeling op ons werk	0.584		
TL_Erro_3	In ons team bestuderen we onze fouten nauwkeurig	0.578		
TL_Refl_2	In ons team heroverwegen we dikwijls de manier waarop we het werk aanpakken.	0.576		
TL_Refl_3	In ons team nemen we geregeld de tijd om te reflecteren op onze manier van werken	0.566		
TL_Feed_2	In ons team analyseren we ons eigen functioneren in vergelijking met andere teams.	0.551		
TL_Refl_1	In ons team bespreken we regelmatig hoe effectief onze samenwerking is.	0.441		
PsySaf_3	In ons team is een vergissing maken geoorloofd.		0.854	
PsySaf_2	In ons team is het gemakkelijk om anderen om hulp te vragen.		0.824	
PsySaf_1	In ons team kan je problemen of lastige kwesties naar voren brengen.		0.781	
PsySaf_4	In ons team worden ieders unieke vaardigheden en talenten gewaardeerd		0.679	
En_Inn_2	De leden van mijn team moedigen elkaar aan om de doelen van het team beter te bereiken.			-0.874
En_Inn_1	De leden van mijn team spreken samen over het belang van innovatie voor het succes van het team.			-0.852
En_Inn_3	De leden van mijn team moedigen elkaar aan om op innovatieve wijze de prestaties te verbeteren.			-0.843

Appendix C - Comparing Means of Groups based on Control Variables

Table X

ANOVA Tables for Encouraging Innovation

	Levene's Test	Levene Sig.	Sum of Squares	df	Mean Square	F	Sig.
Team Size	3.57	0.20					
Between groups			0.47	3.00	0.16	0.75	0.53
Within groups			13.77	66.00	0.21		
Total			14.24	69.00			
Group Age	3.01	0.40					
Between groups			1.17	3.00	0.39	1.97	0.13
Within groups			13.07	66.00	0.20		
Total			14.24	69.00			
Team Tenure	0.17	0.92					
Between groups			0.83	3.00	0.28	1.37	0.26
Within groups			13.40	66.00	0.20		
Total			14.24	69.00			

Table X

ANOVA Team Learning Behaviors

	Levene's Test	Levene Sig.	Sum of Squares	df	Mean Square	F	Sig.
Team Size	2.01	0.12					
Between groups			0.58	3.00	0.19	1.85	0.15
Within groups			6.87	66.00	0.10		
Total			7.45	69.00			
Group Age	0.84	0.48					
Between groups			0.54	3.00	0.18	1.72	0.17
Within groups			6.91	66.00	0.11		
Total			7.45	69.00			
Team Tenure	0.88	0.46					

Between groups		0.94	3.00	0.31	3.16	0.03
Within groups		6.51	66.00	0.10		
Total		7.45	69.00			

Table X

ANOVA Psychological Safety

	Levene's Test	Levene Sig.	Sum of Squares	df	Mean Square	F	Sig.
Team Size	1.01	0.39					
Between groups			0.52	3.00	0.17	2.54	0.06
Within groups			4.50	66.00	0.07		
Total			5.02	69.00			
Group Age	1.94	0.13					
Between groups			0.46	3.00	0.15	2.20	0.10
Within groups			4.56	66.00	0.07		
Total			5.02	69.00			
Team Tenure	1.67	0.18					
Between groups			0.10	3.00	0.03	0.44	0.73
Within groups			4.92	66.00	0.08		
Total			5.02	69.00			

Appendix D - Regression Analysis Tables and Data

ANOVA[a] Table

Model		Sum of Squares	df	Mean Square	F	Sig.
1.00	Regression	0.57	3.00	0.19	1.84	0.15[b]
	Residual	6.87	66.00	0.10		
	Total	7.44	69.00			
2.00	Regression	4.50	4.00	1.12	24.81	<0.001[c]
	Residual	2.95	65.00	0.05		
	Total	7.44	69.00			

3.00	Regression	5.02	5.00	1.00	26.50	<0.001[d]
	Residual	2.42	64.00	0.04		
	Total	7.44	69.00			

a. *Dependent Variable: Learning Behaviors*

b. *Predictors: (Constant), Team Tenure, Team Size, Team Age*

c. *Model 2. Predictors: (Constant), Team Tenure, Team Size, Team Age, Shared Encouraging Innovation*

d. *Model 3. Predictors: (Constant), Team Tenure, Team Size, Team Age, Shared Encouraging Innovation, Psychological Safety*