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Characteristics of an effective teamwork

Analyzing the role of psychological safety on team effectiveness and performance

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ABSTRACT:

In high-pace and ever-changing business world, organizations rely increasingly more and more on teams, and teamwork has become one of the sought-after business tools for organizations of the 21st century. Organizations create teams and bring together talent in order to achieve competitive edge. However, much of that talent is wasted if people are afraid of speaking up and share their thoughts. Psychological safety refers to an intrapsychic state of how safely and unguardedly individuals can express themselves without a fear of becoming ridiculed, ignored, or compromised. In research literature it has been established that organizations investing and harnessing psychological safety, possess more committed, innovative, and effective personnel, leading to an improvement in several sectors such as performance and well-being. This paper set to explore team psychological safety and its relation on team effectiveness and performance. By interviewing an alliance-based teamwork project, the paper aimed to discover key characteristics of an effective teamwork. By applying Edmondson's model of Antecedents and Consequences of Team Psychological Safety, the paper aimed to observe the role of team psychological safety. Results reveal three key factors of an effective team: Engaging work climate, workshop training and management, and culture of discussion. Moreover, psychological safety is present in all key factors. Finally, when applying the model, the results strengthen the theory that psychological safety leads to performance improvement. Based on the results, it is encouraged to continue research on team psychological safety in more complex teams as well as remote work teams to further expand on the research.

KEYWORDS: Teamwork, psychological safety, team effectiveness, team learning behavior, team performance

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1 Introduction

In mid 2010s, one of the top-class corporations, Google, shook organizational world by revealing a surprising factor in their new recipe to success. Their extensive research on the company's business strategy; the utilization on high-performing teams, resulted in one significant discovery: The requirement of psychological safety in work teams (Sage 2020). According to re:Work, Google had discovered that, instead of *who* partake projects team-interaction, synergy, and self-reflection are far more important. Google summarizes their secret in dependability, clear structure, and meaningfulness and impact of work. However, all these key factors are stemmed from the concept of psychological safety: Risk-taking without one's fear of becoming embarrassed.

Similarly, Microsoft announced psychological safety to be one of the core traits of their world-class team performance. In an era of fiercer and fiercer competition, flexibility and adaptability are teamwork's lifeline. By introducing trust and vulnerability to teamwork, Microsoft realized harnessing social and interaction skills hone their team strategy even further (Inc. 2020.)

Google and Microsoft are examples of organizations which have successfully detected and utilized psychological safety into their teamwork-supporting business formula. Psychological safety has both direct (Edmondson 2019, p. xiv-xv; Singh, Winkel & Selvarajan 2013; Edmondson, Dillon & Roloff 2007) and indirect (Khan, Jaafar, Javed, Mubarak & Saudagar 2020; Brown 2012; Brown & Leigh 1996) impact on team performance and effectiveness. In turn, superb team performance ensures competitive advantage for organizations (Katzenbach & Smith 1993).

1.1 Motivation for the research

While Microsoft's study on team effectiveness is still relatively recent, Google has been advocating on the importance of psychological safety for more than half decade. In fact, psychological safety as a concept is not new to the business world (Walumbwa & Schaubroeck 2009; Edmondson 1999; Hackman 1987). Still, despite of the global recognition of the power of psychological safety in work teams, companies fully embracing its advantages are still scarce. Speaking up at work is harder than one might think, and often dictates behavior, actions, and information shared in organizations. (Edmondson & Lei 2014; 2009).

Due to a proven slow onset of business operations fueled by psychological safety, this research has a calling of relevance. In this paper, the concept of psychological safety is explored further in a high-performing work team. The aim and motivation is to expand empirical knowledge about team effectiveness and what influence psychological safety has to an effectively operating teamwork.

1.2 Scope and research questions

Drawing from previous empirical and practical research literature, the aim of this study is to examine teamwork from two approaches. First, the paper sets to find out what are the key traits of an effective work team. Second, the paper explores what is the role of psychological safety in relation to team effectiveness, particularly, to team performance. By interviewing an alliance-based team, the study aims to answer to the first question.

By utilizing Edmondson's (2003) model on the antecedents and consequences of team psychological safety (see page 26), the research aims to prove the latter.

2 Literature review: Teamwork and psychological safety

The demands of the twenty-first century require business organizations to rely heavily on employee talent to create, share and utilize information as part of the competitive strategy. Simultaneously, organizations need functions to flatten organizational structure and abilities to work collaboratively (Edmondson et al. 2014). Organizational performance is increasingly carried out by task-focused work teams, needing to be cultivated in top-shape via learning processes (Edmondson 2012; Edmondson et al. 2007; Yeh, Smith, Jennings & Castro 2006).

From the beginning of the twenty-first century, different disciplines have increasingly recognized the inseparable bond of social interaction and cognitive representation (Sessa Valerie 2000). Knowledge sharing and communication in work teams are essential team processes, ensuring teams and organizations can fully utilize the diverse knowledge the work teams possess (Jae Hang 2013; Edmondson et al. 2007; Edmondson 1999; Hackman 1987).

In recent years, teams that express safety, trust, respect, and open-mindedness, in form of communication and relationship skills have increasingly proven to be able to draw out game-changing performance. (Edmondson 2019, p. 41; Mayfield, Tombaugh & Lee 2016). The phenomenon of psychological safety, an idea of free expression without backlash from other organizational workers (Edmondson et al. 2014), has become one of the most sought-after ingredients in teamwork level (Jha 2019; 2016). This chapter sets to explore two organizational concepts: Teamwork and psychological safety.

2.1 Teamwork in business setting

Team-based working and its development in business setting has been a subject to research for decades (Jones 2012; Belbin 2002; Hackman 2002; Katzenbach et al. 1993; Critchely & Casey 1984). In the beginning of the 21st century, Hackman (2002) suggested that future organizations will rely increasingly on teamwork in all types of business spectrum both domestically and globally. It has been proven that when organizations utilize teamwork correctly it can help organizations to develop their business strategy and hone results and outputs (Klein, DiazGranados, Salas, Le, Burke, Lyons & Goodwin 2009). Edmondson et al. (2014), Jae Hang (2013), Walumbwa et al. (2009), and Gilley & Gilley (2007) discovered that by building effective teams, organizations improve their employee commitment, employee diversity, work involvement, organizational cooperation, performance growth, and ethical leadership.

Nowadays, a growing demand for effective teamwork and creation of effective teams is constant (Edmondson et al. 2007). Due to evolving globalization and virtualization (Haas & Mortensen 2016; Sheard & Kakabadse 2001), organizations need to think of more creative ways to ensure and maintain business success. The work environment is in constant change which calls for organizations on adapting team-based philosophy and providing capable work teams.

According to Haas et al. (2016) and Sheard et al. (2001), team-based philosophy has become a commonplace in business setting, but why organizations rely on teams in the first place? The purpose for forming teams depends on organizations and situations but most commonly teams are formed to increase productivity, flatten organizational structures, and speed up and unconventionalize decision-making. (Katzenbach et al. 1993).

Organizations rely on teamwork because it reduces risk and complexity ratio. In his research, Belbin (2002) gathered that when the technical complexity of a task increases, a successful completion of a task also increases. He proposed that the appropriate solution would be to move forward from an individual performer to a collaborative group. This strategy increases the success rate of task completion while decrease changes of failure.

Critchely et al. suggested (1984) that group effort adds more value to situations in which uncertainty is high and requires strategic problem solving. When a problem is complex enough, a significant amount of planning is needed in which a work group would excel the best. Hackman (1987) continues that by exploiting resources everyone else has overlooked, groups can come up with new ways to proceed with the work. By working together to resolve pressing issues and finding solutions, teams add strategic value on organizational level, and motivation and commitment on personal level.

2.1.1 Definition of a team

Throughout the research field, countless definitions have given to teams. In its simplest form, a team is a group of two or more people who have gathered to perform a task with a shared goal in mind (Larson & LaFasto 1989, p. 19). Katzenbach et al. (1993) believed that a team consists of a small number of people with complimentary skills and strengths who are committed to a common purpose. According to them, theoretically, larger groups of people can also form teams, however, they are more likely to break into sub teams rather than function as a single entity. Sinclair (1992) defined a team as a more task-orientated than other groups with distinctive set of rules and rewards. Miller (2003) maintained that many team-related activities are time-bound, with clear beginning and end.

A team can also be defined based on dynamicity. According to Edmondson (2012) a team is an established, fixed group of people. A team itself is not enough and requires movement and action. Instead of a static team, teamwork is a dynamic phenomenon performing tasks. Teamwork represents direction, momentum, and commitment by working to shape a meaningful purpose by its team members (Katzenbach et al. 1993).

Teamwork represents a set of values that enable constructive and innovative communication between team members (Edmondson et al 2007). Teamwork encourages listening and responding to views expressed by the members, allowing others to question and offer viewpoints of their own, providing support, and recognizing the interests and achievements of other members (Katzenbach et al. 1993). Lisbona, Las-Hayas, Palací, Bernabé, Morales and Haslam (2020) continue that socially vibrant teamwork pushes forward team initiative that allows the team to become proactive and self-efficient.

Katzenbach et al. (1993) emphasize that a team is not just any group of people working together. Groups of people do not become team players from a command, nor they form a single unit by chance. Teams differ from working groups in that teams require both individual and mutual accountability (Hellriegel & Slocum 2004, p. 194). Team members, unlike work group members, take responsibility over each other's actions. More than group discussion, teams produce additional value and achievement through joint contributions of team members. Instead of personal gain and performance, team members aim to create something that is unachievable on their own. Therefore, team is greater than the sum of its members (Jones 2012; Katzenbach et al. 1993).

2.1.2 Different teams

Although most teams have common features, their structure differentiates based on their purpose they are created to fulfill in an organization. Conti et al. (1997) divided teams based on their structure into *taskforce and cross-functional teams* designed for problem solving, *quality circles* focusing on productivity or service dilemmas, *departmental teams* solving issues inside a single department unit, *organizational policy-making teams* responsible of creating and develop organizational policy, and lastly *self-directed work teams* working together daily, including characteristics of innovative problem-solving.

Katzenbach et al. (1993) believed that teams are created to serve for a specific purpose and turn it to performance goals. They categorized teams into three types:

Teams that recommend things. These consist of teams designed for task forces and project groups aiming to study and solve specific problems. Teams that recommend things often operate within set time frames.

Teams that make of do things. These teams include people who operate at the forefront of organizations, responsible of manufacturing, development, marketing, sales, and other value-adding businesses.

Teams that run things. Often left without much attention due to their mundane nature, these teams consist of people that manage organizational structured both vertically and horizontally.

Teams can also be viewed based on their perspective and what target level they want to serve. For example, Albanese (1994) discovered that the purpose of a project team is mainly to improve results within the team by enforcing shared goals, creating

interdependence, and developing trust and commitment amongst team members. Hackman (2002) believed that problem-solving teams are created to help organization to direct work force to critical dilemmas that require solution, serving the organizational level. More recently, Haas et al. (2016) suggest that teams are created as highly flexible units to operate in virtual environments of decentralizing organizations, serving the business landscape organizations operate today.

2.1.3 Characteristics of an effective team

"If teams are to live up to their promise and be more than the sum of the parts, they must be able to achieve more than individuals working on their own. So team achievements might be difficult or impossible to achieve by the boss alone or other individual efforts alone. A successful team achieves synergy, which occurs when people together create new alternatives and solutions that are better than their individual efforts." (Jones 2012.)

J. Richard Hackman (1987) discovered the basics of team effectiveness. What arose from his research regarding teamwork was that rather a collaboration of attitudes or personalities, relevance was put on certain enabling conditions which allow effective teamwork to occur. These conditions were identified as a compelling direction, strong structure, and supportive context. Later, (Hackman 2002) he expanded that an effective team is the result of five characteristics:

1. Clear direction and set of goals
2. Good leadership to ensure goal-direction and focus by managing both internal and external relations of a team
3. Task that are appropriate and realistic for the teamwork, offering challenge to team members and their skills

4. Appropriate resources that enable task-performing such as material, financial and human resources
5. Supportive organizational environments, such as power and authority that ensure task-performing and implementation of decisions

Stemming from Hackman's discovery, multiple recipes for successful teamwork have emerged since. Katzenbach et al. (1993) stated that an effective team is cultivated from team discipline. They also insisted that performance and discipline cannot exist without the other. Conti et al. (1997) suggested that a specific set of tools allow teams to excel and help prevent certain pitfalls to occur, while Cohen & Bailey (1997) believed an important measure of team effectiveness is satisfaction amongst team members. Klein et al. (2009) emphasized that, first and foremost, an effective team is a product of excellent interpersonal and social skills and trust; top-level commitment, clear and mutual agreement on goals, supervisor-employment trust and involvement, willingness to take risks and share information.

Team synergy is believed to be an indicator of an effective team by multiple research (Gilley et al. 2007; Hellriegel et al. 2004; Hackman 1987). Whichard et al. (2006) gathered that when a team is caring, respectful, and cooperative, superb results can be unlocked. In fact, without team members establishing positive working relations, productive performance is extremely difficult to occur (Gilley et al. 2007). This kind of positive or synergistic relationship between individuals is known as rapport, which results in unconditional, genuine care of the well-being of others (2006). According to Hellriegel et al. (2004; p. 281), team achieves synergy, when they don't see things in front of them, but need to work for finding solutions that often takes more than the sum of their members.

Another characteristic of an effective team is management. Katzenbach et al. (1993) and Gilley et al. (2010) argue that most successful teams are shaped for their purpose by skillful management that helps to push a team forward towards company's performance expectation. Management is responsible for keeping the teams' goals, rationale, and strategy clear but leave enough flexibility for it to develop commitment around its operation. Ammeter & Dukerich (2002) discovered team leaders with proactive relationship-focused skills and communication skills are most significant predictors of high-performing project teams.

2.1.4 Team competence, learning and performance

According to Gilley et al. (2010), to build effective teams, members need to develop competencies. These are conflict resolution, problem solving, communication, decision-making skills, goal setting and performance management skills, and finally planning and task coordination. Instead, Katzenbach et al. (1993) summarized the required skills into three categories: Technical and functional expertise, problem-solving and decision-making skills, and interpersonal skills.

One of most common failing point of a team is a lack of competencies (Katzman et al. 1993). However, rather than individuals with superior expertise in every area, Haas et al. (2016) concluded that high-performing teams are those that come up with a healthy mix of balanced skill set. That is, an efficient team do not necessarily include members that excel in both technical and social skills but one that promotes every skill evenly. Diversity in knowledge, judgement, and perspectives, as well as sociological aspects can help teams be more creative and avoid groupthink (Katzman & Smith 1993, p. 15).

According to Conti et al. (1997) inadequate training or developing of one's skills can hinder teamwork. However, developing skills as a team, rather than individually has been proven to be better solution for ensuring superior team performance. For a team to be able to develop their skills, team learning needs to occur. (Edmondson et al. 2007; Edmondson 1999).

In research literature, Edmondson (1999) argues team learning to be a process as well as an outcome, although some studies interpret it only one of the other (Van den Bossche, Gijssels, Segers & Kirschner 2006; Van Offenbeek 2001) or dismiss the idea altogether (Gilley et al. 2010). Common practices for this type of team learning are managing opinions, finding suitable solutions, searching for new information, and reflecting work results (1999). This is supported by Rosen, Carrier & Cheever (2011), who discovered team learning behavior is a process of combined information-seeking and reflective, proactive decision-making. Jae Hang (2013) adds that team learning requires knowledge sharing. Team learning can help teams to find processes that helps them to better their performance (Bunderson & Sutcliffe 2003; 1999).

A team will develop their skills with constant reflection and discussion to enhance their performance. (Edmondson 1999). According to Mathieu, Heffner, Goodwin, Salas & Cannon-Bowers (2000) team performance can be defined as actions valued by other members of the organization. Team performance is flexible phenomenon and often ventures out of the organizational level it takes place. Indeed, team performance is an activity that is affected by external forces and effects from individual to team, and onto broader organizational levels (Kirkman & Rosen 1999).

Team learning and performance has been linked to goal sharing and team identification (Edmondson et al. 2007). Bunderson et al. (2003) found out that 'learning orientation' (an emphasis on proactive learning behavior within a team) is a significant predictor of

team performance. According to Jones (2012), team performance is a stage where team members usually help each other, depersonalize conflicts, and focus on problem-solving and achieving goals as a single unit. Edmondson et al. (2007) discovered team identification via interpersonal constructs strengthens team unity and performance. Marks, Mathieu & Zaccaro (2001) continued that team performance is a culmination of processes built upon team interaction: information sharing, cooperative behaviors, and knowledge and skill acknowledgment.

2.2 Psychological safety

“A nurse on a night shift in a busy urban hospital notices that the dosage for a particular patient seems a bit high. Fleetingly, she considers calling the doctor at home to check the order. Just as fleetingly she recalls his disparaging comments about her abilities, last time she called him. All but certain the dosage is fine. She gets the medicine and goes towards the patient’s bed...”

“Far from the urban hospital, a young pilot in a military training flight notices that his senior officer might have made a crucial misjudgment. He lets the moment go by...”

“Far from both of those stories, a senior executive, who has recently been hired by a highly successful company to join a top management team, has grave reservations about a plan to take over. New to the team, feeling like an outsider, everyone else is enthusiastic about the plan, he does not say anything. ...”

These are excerpts from the speech of Amy C. Edmondson, the Novartis Professor of Leadership and Management at the Harvard Business School, recorded during TED Talk event (TED 2014). In her speech, she shares random examples on everyday situations, where voice was necessary. These kinds of cognitive “self-in-role” processes go often undone in organizations (Kahn 1990). The loss of learning potential, varying from

mundane to potentially life-changing events, is immense, and in most cases, go unnoticed in organizations (Edmondson 1999).

Organizations need to create a comfortable climate to allow teams to convey ideas, provide honest feedback, collaborate, and experiment when working (Edmondson & Lei, 2014) so that team learning, and team psychological safety can be created to encourage maximum team performance (Edmondson 2003; Singh et al. 2013; Nembhard & Edmondson 2006). Next, I will view the concept of psychological safety more closely; its definition, meaning for business organizations, and, particularly, for team performance.

2.2.1 Defining psychological safety

The concept of psychological safety refers to people's perceptions of consequences of taking interpersonal risks in certain contexts, like business organizations (Edmondson & et al. 2014.) These risks can appear in a form of asking a question, seeking feedback, reporting a mistake, or proposing for a new idea (Hawkings Donovan 1998). Psychological safety describes the level of safety of speaking one's mind without fear of becoming ignored, ridiculed, or patronized. In other words, it refers to taken-for-granted beliefs on how an interpersonal contribution will be received, perceived, and conveyed. (Edmondson 2003; Edmondson 1999).

Psychological safety is an antecedent of psychological climate (Edmondson 2003). Through cognitive representation, according to James, Hater, Gent & Bruni (1978), psychological climate is an attribute experienced on an individual, rather than organizational level. In 1965, Schein & Bennis proposed that "a work environment characterized by psychological safety is necessary for individuals to feel secure and thus capable of changing their behavior" (2003). Still, psychological safety does not

necessarily refer to a climate where workers are friends with each other, but rather one that welcomes productive communication of problem prevention and accomplishment sharing (2003.) In other words, psychologically safe work setting is a result of an intrapsychic state that boosts both individual and collective learning behavior (Edmondson 1999).

2.2.2 Psychological safety vs. trust

One way of understanding psychological safety is to focus on what it is not. Here psychological safety is defined by comparing it to trust. According McAllister (1995), there are two types of trust occurring in a workplace: affection-based trust, which encompasses mutual care and concern between colleagues, and cognition-based trust, which measures reliability and competence between colleagues. Indeed, interpersonal trust can be defined as an individual's willingness to put themselves vulnerable to the other party's actions with the knowledge the other party will regard their interests (Edmondson 2003; 1995).

Due to its characteristics, interpersonal form of trust can be easily attributed to psychological safety. Both constructs tend to be tacit, intrapsychic states that involve risk, vulnerability and choice making in and towards certain contexts (Edmondson 2003; Edmondson 1999). Edmondson's study (2003) proposes, however, that there are three key factors distinguishing psychological safety from trust: *the object of focus, timeframe, and level of analysis*.

According to Edmondson (2003), the first distinguishing factor is *the object of focus* refers to the direction of trustworthiness. In trust, an individual holds this 'expression of faith' towards others, while in psychological safety, the faith is aimed at an individual by others. For example, in the beginning, the nurse feels a lack of psychological safety in

form of her worries of not being taken seriously – a lack of faith aimed towards at her professional input.

Timeframe can be understood as the temporal bound in which psychological safety takes place. Unlike in trust, psychological safety considers “the very short-term interpersonal consequences one expects from engaging in a specific action”(Edmondson 2003), while trust holds people’s beliefs in more overarching manner and, due to its multifaceted nature, is difficult to tie in certain situations (McEvily 2011; McAllister 1995).

Level of analysis describes the context in which psychological trust is perceived. Apart from individual phenomenon, psychological trust can form to be a team-level experience all members can identify. Leading factors – similar influences, and shared experiences create a homozygous mindset within a team. Contrary to psychological safety (Edmondson 1999), trust pertains primarily to a dyadic relationship between individuals or collectives, such as firms or supply chains.

In conclusion, compared to trust, psychological safety is easier to conceptualize. It is a *shared belief* about interpersonal risk-taking *towards* a certain group unit *in narrow temporal bounds*. Trust, on the other hand, is more abstract concept of psychological state towards other individuals (2003.)

2.2.3 Psychological safety in business research

In organizational research literature, psychological safety finds its roots in 1960s, when MIT professors Edgar Schein and Warren Bennis offered that psychological safety played a key part in successful organizational change. According to them, psychological safety

was “essential for making people feel secure and capable of changing their behavior in response to shifting organizational challenges” (Edmondson 2003). Supporting this, Ellis (1992) argued that to reduce employee uncertainty towards organizational change demanded open and unbiased discussion.

Later, Schein (1993) argued that psychological safety was vital for an individual to overcome his or her defensiveness to learn something new. According to Schein, this “Anxiety 1” is a feeling associated with an inability or unwillingness to learn and try new things, because it appears too difficult or obtrusive. This often leads to “Anxiety 2” which concerns fear, shame, or guilt associated with not learning anything new. To break this kind of learning anxiety, an organization needs to provide an environment favorable for learning system that promotes psychological safety through managers and steering committees.

Since 1990s, several studies concerning psychological safety in business settings have come forth. Khan (1990) found out that psychological safety positively affects to personal engagement and willingness to express themselves physically, cognitively, and emotionally during role performances. Brown et al. (1996) continued that psychologically safe and meaningful organizational environment is related directly to job involvement and indirectly to effort and work performance. Employees heartened by supportive work environment become more self-confident and expressive, allowing them to engage behaviors that benefit organizations (1999; 2001; Nembhard & Edmondson 2006).

According to Edmondson (1999) and Khan (1990) collectively perceived values like organizational appreciation encourages self-expression and interpersonal risk-taking amongst employees. An organization that supports equality and diversity sends a positive message to all employees, further boosting their psychological safety. Singh et

al. (2013) continue that well-promoted psychological safety in racially diverse work environment allow employees to express their identities, which positively influence their performance.

During the new millennium, psychological safety has been increasingly reported to have an influence on individual outcomes, such as creativity and performance, with the help of leader-employee relationships (Edmondson 2019, p. 41, 156; Singh et al. 2013; Carmeli, Brueller & Dutton 2009; Nembhard & Edmondson 2006). According to Edmondson (1999), psychological safety is essential in activating learning within organizations at both individual and team levels. Furthermore, psychological safety welcomes self and group reflection, enhancing cognitive abilities within group and individuals that lead to better performance, learning behavior and outcomes.

Carmeli et al. (2009) hypothesized that a high-quality relationship together with psychological safety is positively affecting individual learning behavior, leading to boost of creativity, while low level of psychological safety (Baer & Frese 2003) hinders creativity participation. Psychological safety becomes even more essential in settings that are innovation-driven, complex and sense-making (Sanner & Bunderson 2015.) These settings coupled with psychological safety encourage learning from failures, creative self-efficacy, and creative work involvement (Lee & Park 2020).

Psychological safety has been found to influence individual work practice through leadership styles (Zaman & Abbasi 2020). Nembhard et al. (2006) found a link between leader inclusiveness and employee engagement. Leaders who invite and encourage employee contribution to tasks at hand promote supportive work environment, leading to more committed employees. Similarly, Khan et al. (2020) hypothesize that inclusive leadership increases project success through mediating role of psychological safety. Leaders promoting psychological safety in workplace can help bringing down barriers of

effective communication and discussion, increasing employee well-being (Erkutlu & Chafra 2016).

2.2.4 Challenges of psychological safety

Psychological safety is an important but surprisingly challenging concept in practice. Its importance often comes forth in an aftermath of a failure. Edmondson (2019) reviewed shortcomings of large corporations and discovered that lack of psychological safety essentially contributed to them. When psychological safety is absent from workplace, it can create an illusion of success that eventually turns into serious business failures.

The first obstacle - and the most profound one – is a culture of avoidance still found in countless organizations today (Edmondson 2019, p. 8). Jones (2012) maintains that “Individual behavior is often driven by a desire to be accepted by others, and to avoid controversy or conflict.” In business setting employees may want to avoid situations such as questioning the managers’ instructions or presenting a bold opinion on a current task. Reportedly many have avoided doing so out of fear of their voice affecting negatively to their reputation at work, or their career. Subordinates simply “don’t want to disagree with the boss or carry bad news.”(Edmondson 2019, p. 34; Hawkings Donovan 1998.)

Fear of speaking up creates a dangerous culture of silence, which provides breeding ground for dissociative beliefs about interpersonal gain and loss. Edmondson (2019, p. 32) discovered that organizations implement a particular code of communication at workplace called *implicit theories of voice*. They determine when it is or is not appropriate to speak to higher ups. Additionally, they dictate the flow of not only negative information but positive ideas in favor of avoidance of awkward situations such

as insulting a manager. In conclusion, a culture of avoidance automatically leads to a culture of silence where individual voices are suppressed, and imaginary fears rule.

A workplace void of open discussion directly effects on decision making (Edmondson 2019, p. 86). Interestingly, Fagiano (1992) proposed that high gain-high loss decision-making tends to only occur at the top levels of an organization where an impact of risk is greater. Still, it appears that in a culture where voice-silence asymmetry is imminent, individuals throughout the organization regard similar risks a daily occurrence (2019, p.32). Despite of the worldwide recognition of the benefits open discussion promotes in organizations, taking spontaneous interpersonal risks in a form of honest confrontation are very scarce. (2019, p. 8; Hawkings Donovan 1998.)

2.3 Team-learning model: Promoting psychological safety in teamwork

At the turn of the new millennium, Amy Edmondson (2003) pioneered a research on psychological safety in work team context. She found out that by promoting psychological safety in teamwork context, a team is likely to perform superior compared to one, where psychological safety is shunned.

She proposed that team psychological safety is a group level construct where a team identifies as a single entity rather than by its individual members. Hence, team psychological safety stems from same contextual expectations, influences, and experiences. For example, a team that has a history of sharing mistakes and learning from them, is more likely to take criticism as a constructive feedback rather than rejection. Indeed, psychological safety is crucial in teams' learning behavior and performance (2003; Edmondson 1999).

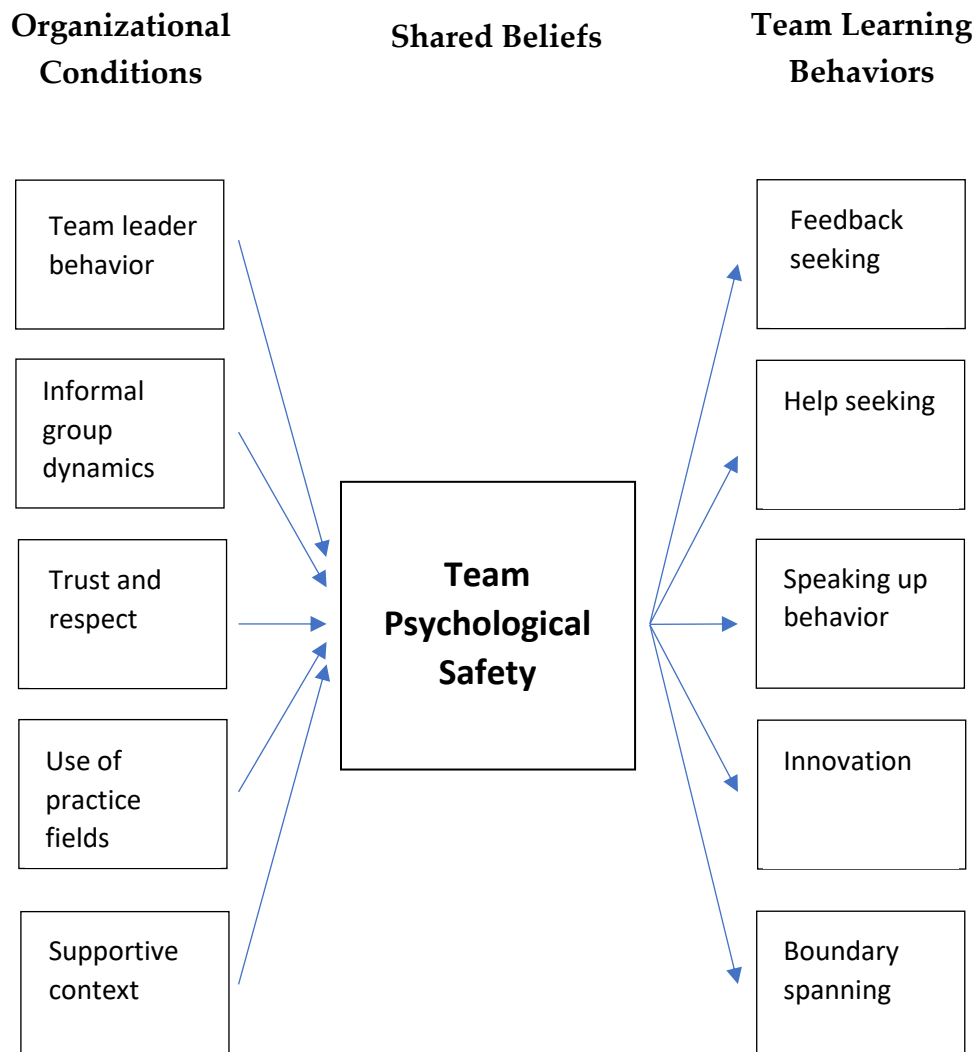
Edmondson (2003) studied the antecedents of psychological safety of teamwork and how psychological safety effects on team behavior. In her research, she discovered five central factors.

The first of these factors is *leader behavior*. According to her, leaders who are easily approachable and accessible by employees, providing feedback and inviting discussions, and promoting openness and fallibility are those who strengthen psychological safety in work teams. Secondly, Edmondson theorized psychological safety is advanced by *trusting and respectful interpersonal relationships*. Thirdly, psychological safety is promoted by “*practice fields*”, places and situations set up primarily for practice and mistake making, rather than providing actual output. According to Edmondson, practice fields further support psychological safety, due to financial incentives being removed but also due to allowing team members a safe environment to perform, make mistakes and learn from them. Fourthly, psychological safety is further advanced by *organizational context support*, such as available resources. Lastly, Edmondson believes *emergent group dynamics* - roles, are responsible on furthering psychological safety. These roles are not necessarily tied to work roles, but personality and characteristics. Depending on the role, they either promote or impair familiarity amongst the group, affecting on how members perceive psychological safety.

Edmondson (2003) discovered five consequences of psychological safety that manifest in a form of team-learning behavior. First of these consequences is *help-seeking*. Help-seeking, usually done in a form of questioning puts an individual in a risk of being judged by other parties. Psychologically safe environment, however, allows help-seeking without backlash. Second consequence is *feedback-seeking*. Similarly, to help-seeking, Edmondson theorized feedback-seeking is available in psychologically safe environment and significantly boosts team performance. Thirdly, psychological safety leads to team members *speaking up about errors and concerns*. Next, psychological safety promotes

innovative behavior patterns. According to Edmondson's study, creative behavior during team tasks varies depending on how strictly team leaders adhere set rules. Those, who allow improvisation, are more likely find applicable working mechanisms to other areas, too. The last consequence of psychological safety is *boundary spanning*. Edmondson explains boundary-spanning behavior as external communication proactivity. For example, how readily teams will include objectives, schedules, or resources to their operation.

Figure 1. Model of Antecedents and Consequences of Team Psychological Safety (Edmondson 2003).



3 Methodology

With a conclusion of the research literature review on organizational teamwork and psychological safety, this chapter introduces methodology used in data collection: The setting, participants, and procedure taken place.

3.1 Research design setting and participants

The research was conducted to a large building project to a municipal facility in Finland. The project was a coalition between local client and an alliance consisting of professionals in their respective fields. Prospective alliances were first selected through tendering. From the selected few, a winner alliance was decided through screening, consisting of two-day workshop between the parties. The two-day workshop was tasked to challenge the alliances to solve the cases of both real-life and imaginary cases with the client for the upcoming building project.

Both, the client, and the winner alliance were unfamiliar with one another. In addition, the members of the winner alliance were mostly strangers, prior. The client group consisted of 5 members of the same field, while the winner alliance consisted of 6 members of different professions. The members of the winner alliance attended to workshop training for 3–6 times, approximately six months prior the actual screening. This paper focuses on the perspectives of the winner alliance also referred to as 'a winner team', later in the analysis.

3.2 Procedure

The method used was a mixture of an unstructured and semi-structured interview, in which an interviewer loosely presented questions with certain key themes in mind. These themes focused on finding an explanation on two key observations obtained during the screening:

1. Why the workshopping of the winner alliance was so superb compared to that of other competitors'

and

2. what factors contributed to their success

The six team members were each interviewed once by the same person, after the screening was over and they were announced as winners. Interviews were recorded, lasting around 40–80 minutes, and carried out the same day. During the interviews, a collage of photos was played in the background to help the members remember events, and moments from their workshop project.

The team members, also referred to as interviewees during the analysis, were given the possibility of expressing their thoughts and feelings freely throughout the whole process, starting from the workshop training, and concluding to their win. The recordings were then transcribed and analyzed by factor.

With the help of the themes identified from the interviews, the following analysis focuses on the key contributors resulting the success of the winning team. Second, I

observe the findings by applying them to Edmondson's model on team psychological safety to further explore the role of psychological safety in team effectiveness.

4 Results

The interview data revealed that the winner alliance was able to perform superbly compared to other teams during the screening. What more compelling, the team members were not necessarily aware of this skill. It became apparent that the winner team's efforts were a culmination of factors of multiple components present in their work, defining their success. First, I will take a look at these factors.

4.1 Interview results by factor

During the analysis, three key factors were discovered: *Engaging work climate*, *workshop training and management*, and *culture of discussion*. Based on the interview data, aforesaid factors were crucial for the team's success, creating surroundings needed for the alliance to perform in a form of dimensioning. Following is a dissection of each and the contributing components.

4.1.1 Engaging work climate

Throughout the interview data, a concept of work climate was brought up. All the team members listed it as one of the contributing factors, enabling the team to perform the way it did, some members going as far as identifying it as a sole key to their success. All the team members identified the work climate as *engaging*, increasing their proactivity and commitment with slightly different approaches. For example, three of the interviewees mentioned the importance of keeping up *a good team spirit*. According to

them, the team spirit was a state in which everyone willingly, and knowingly wanted to work together as a single unit, rather than separately.

"... I, at least, have never experienced such 'a spirit of doing things' as strongly as here."

"... it's the kind of (about surroundings) state that engages people; everyone is active and excited about working and getting results."

"... a good team spirit right from the beginning."

"We tried to stress about the importance of team spirit and doing things together."

"... engagement, that was the things we wanted to stress about..."

"... we aimed to create - and I mean really create - an active climate within the team."

"... there was an extremely good team spirit in our group..."

The winner team was *committed* in both individual and collective level. Firstly, all team members were committed to the cause even when attending from different professional fields. Due to this, four team members believed their success was due to luck, for majority of the members did not know each other prior. However, all of them partook the project with a desire to succeed in the alliance project. This increased productivity, and responsibility amongst the team members.

"... it was weird... we all just happened to concur about this project, about how we all really wanted to be a part of it..."

"... I think it was about our personalities – they fit well together, and then our individual competences."

"... I guess, it all came down to luck, in the end... But also, I think we all played well together, we were similar enough."

"We teamed up well. It all felt very natural."

Secondly, all team members understood the importance of teamwork. One interviewee stressed that their success was thanks to the team effort, rather than individual accomplishments along the way. Another shared that even in the beginning, when the group was battling with silence, everyone knew they had to jump forward as a team. Lastly, one member compared their group to a sports team, where you did not want to jeopardize the team for the sake of one member being sick. Indeed, one member mentioned how they actively gave pep talks to one another over different communication channels.

"We had a feeling that we could achieve things with this group of people. It gave us hope that we can do greater things together than on our own."

"... I mean, I was sick one time (during workshop training), and all I wanted to do was to make sure no one else catches cold because of me. I had to be careful like that. Kind of like how you mind your team members in sports."

Closely following commitment, a concept of *familiarity*, identified both in the beginning and during the alliance project, was brought up. Two interviewees believed that despite of being strangers, every team member cared for the designated municipality of the project. Hence, it was easier for them to create familiar space in the group. Another interviewee continued how close the team further grew. To her, it felt like she was now part of the team permanently, rather than just visiting shortly for the project. Another

explained that the sense of familiarity was thanks to the team keeping in touch outside the work schedule, arranging meetups at restaurants, and setting up their own chat for communication.

"... one night, after training, we met up at a restaurant."

"Some of our kinds have similar hobbies, etc. ..."

"We had our own WhatsApp group from the start where we sent our greetings, shared funny things, etc. Something you usually do after you have known your team for a while. But with this group, we became close very quickly."

"After a while, I started to feel like these are my people, like my actual work colleagues."

Two of the interviewees named the engaging work climate to be a product of *relaxed surroundings*. Moreover, when asked about what kind of feeling the team wanted to create to their workshops, both described it with the same terms: "Relaxed and direct." One of them said that a relaxed environment made people feel safe, allowing them to lower their guard and open up for a conversation. Similarly, the other continued that a relaxed environment made it easier to partake discussion.

"We wanted to create an engaging climate, but also, how should I say, relaxed and direct, easy to partake in."

"When the environment was relaxed everyone became more talkative and less tense about situations."

The work climate was a careful mix of *respect* and *humor* adding to the relaxed environment. The humor was careful and light in nature, not meant to degrade the other. Two of the team members especially stated the importance of humor and fun. One

interviewee mentioned the humor came naturally, without forcing it to the group. He believes that both verbal and body language, like genuine smiles and postures contribute to well-received humor. Another interviewee remembered the team laughing and joking a lot, inserting sitcom to their rehearse and actual screening.

"Humor was present right from the start. We needed lots of it."

"Our teams (the alliance and the client) had fun, and we joked some."

"There was humor, but you had to tread lightly with it. ... You can just shove it down someone's throat."

"I'm not sure if it was intended but, there was no awkwardness within the group. We had fun all the time. It was very direct, the humor, like sitcom. It wasn't decided or anything, it just came naturally to us."

Work climate was also described as *accepting* and *trusting*. One of the members described the feeling of working in the project as warm, and welcoming - an environment that accepted him and put value on his skills and opinions. This increased his commitment. The other one stated that the work climate was engaging due to the mutual trust between the team members. There was no tension between the members, allowing them to speak freely on every matter.

"Trust and building good bonds, it has been important throughout this project."

"... I just felt really warm about being truly accepted in the team. It makes you more committed."

Lastly, three participants mentioned the importance of *sincerity*. According to them, sincere actions, thoughts, and opinions played a major part in discussions during the workshops. Sincere commitment to the project and goals lifted the team spirit, creating a cycle positive of continuous responsibility and commitment. One interviewee explained that by discarding any phony behavior or talking, usually meant for a benefit of personal gain, the team was able to achieve better solutions and results.

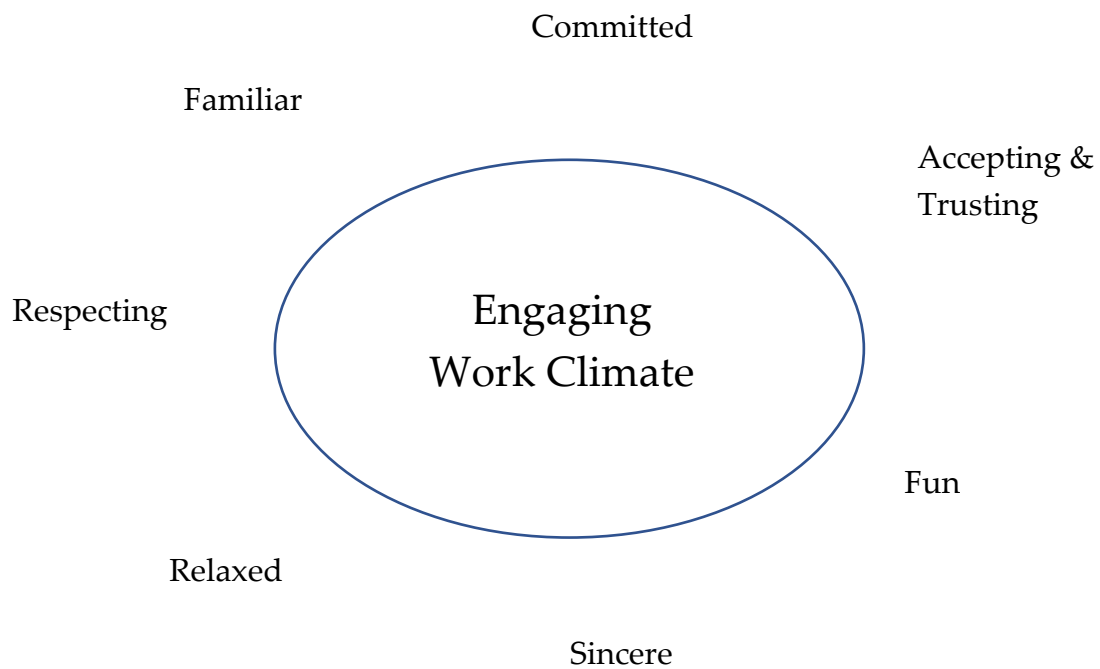
"We took this project very seriously right from the beginning."

"We sincerely partook this project..."

"... it is about genuinely wanting to understand one another and their needs in a project. Maybe we were willing to cross each other's territories (responsibilities) in order to get a better picture."

"... like sometimes the way you talk, the way you behave, you are trying to gain a personal win. We disregarded any ideas of that in this project. We understood all parties benefit together."

Figure 2. Engaging Work Climate.



4.1.2 Workshop training and management

All the interviewees pointed out the importance of workshop training in the beginning of the screening project. Workshop training provided means to battle variety of situations the team might need to face during the workshopping with the client. Workshop training ignited a learning process, carving new competences out of the team members.

"The training, and everything we did together gave us so many tools for this project..."

"Once we got the gist of the workshopping, we could utilize it smoothly and even bring it to a next level."

Most importantly, according to the interview data, the workshop training prepared the team for *improvisation* under unexpected situations. For that to happen, the team established a framework in which it operated. Three interviewees shared that they needed the team to be organized in order to 'compose.' Another member further stressed that the framework was there to provide safety, rather than determine courses of action. Indeed, one member simply referred to the framework as a safety measure. According to him, having a certain template to work with was an important factor but not a game-changer.

"It's not all about mastering some technique and following it by the book, it's also about being able to improvise and modify..."

"Improvising, that's what it was, yes. And we had rehearsed it, too, of course. Without the training, we wouldn't have been able to do it."

"Even though we had a plan, we didn't necessarily follow it religiously. There was room for improvisation."

"... I mean it helped me, and I'm sure others too, that we had some kind of template to follow. But we modified it a lot. There were many such occasions in the screening."

The team also honed their *planning and organizing skills* during and before exercises. According to the interviewees, workshop training was fast-paced in nature, and many tasks were performed within time-limitations. One of the members said that time-limitation conditioned them to heavily focus on scheduling, even going as far as planning their workshopping a day in advance. This kind of mentality led the team to anticipate upcoming tasks beforehand, during the screening. Two of the interviewees especially

stated how the team studied the client, their needs, and expectations, prior. According to them, this method provided the team with a smooth start each day.

"... We were well prepared. The screening was just a place where we could show what we can do."

"We were prepared for. The day before, we checked what to expect from the client, what they will expect from us, etc. And we agreed everything we do needs to be efficient and flexible, so that there is little room for fumbling."

"Time pressure was nothing next to what we have had in the workshop training. We were prepared for worse. It allowed us to relax and have fun."

"We rehearsed different techniques, plus the exercises were all about handling pressure. Once we had had enough of those exercises, the actual screening was a piece of cake."

"... I think we got off easy. Some of our prior exercises were more demanding..."

Another important aspect of the workshop training was *information processing*. One member stated that much of their ability to process and categorize information effectively during the screening was due to exercises undertaken in workshop training. Another member continued their key was to detect and gather information with "good quality." According to him, by using simple, easily trackable paper slips, the team was able to better perceive tasks in entirety.

"... in the workshop training, every task was about honing processing skills. About how to the most relevant piece of information in the midst of multiple."

"... the very first task consisted millions of color-coded paper slips about the assignment. The idea was to sort them, categorize them, and piece them together in a coherent fashion. And after that we just aimed to perform better each time."

“The first round in the screening, it was all about collecting ideas. But soon enough, we started processing them, prioritizing the information.”

The team also honed *discussing skills*. For example, one team member shared how the team would try out different ways of questioning, and prodding. Another member said the team learned to use silent moments to their advantage – If the team fell silent, one member would pick up the previous pace by initiating new discussion. On the other hand, another member said that a team member might ask for a moment of silence for better recollection.

“The training taught us discussing methods, and every exercise needed conversing skills. If you fell silent, nothing would have come out of it.”

“However great an idea our team might have come up with, it didn’t matter if it did not serve the client. Then we have missed the point.”

“... the coach stressed the importance of questioning. We needed to be able to get information out of (the client.) So we questioned them a lot, all the time... I think they were a bit overwhelmed by how much we actually cared.”

Discussing methods helped the team to rehearse *reflection techniques*. Couple of team members pointed out how the importance of reflection and revision was present during both the training and actual workshopping. According to them, the team regularly took moments to revise their current position. This made sure their production remained relevant and on track.

“There were times during tasks where we took a moment to reflect back, to see if we have had considered every option.”

“... they were like time-outs, and they were extremely important during the training. They allowed us to sit back and think together what the next steps are.”

“... I mean, you learn from mistakes, right? Reflection time was meant for that. Then you know what to improve.”

“... to stop for a while and see what we’ve gathered so far. And then, with a help of some group-talk, we discovered something previously gone unnoticed.”

The workshop training required *determined management*. The whole team recognized the training became successful due to their team coach. Hired from outside sources the coach was responsible on challenging the team, leading to the growth on both personal and collective level. According to one team member, the coach chose not to embed the team with theories but instead relied on honest communication. Indeed, another team member described the coach as unforgiving and outspoken, not afraid of sharing critique. Another member vividly remembered how, thanks to a strong initiator, the team was able to start conversing, in the first place. According to him, the team was battling with awkward silence, until the coach simply stated: “ Let’s take a look at the matter and discuss.” That is how it all started.

“His role was huge in this whole thing. In my mind, he should get much more credit.”

“He didn’t shower us with theories, but believed the power of conversation.”

“He was, you know, extremely strict and adamant. Some of the critique was kind of harsh. But it was constructive. He certainly didn’t hold back on being nasty, at times. Maybe, it was due to that the whole team remained grounded.”

“... about our alliance manager, I am not sure if it was all thanks to him that we were able to create such a productive environment in the first place.”

"... (He was) a very strict fellow. He almost reminded me about by service in the army."

Compared to the coach, the team put much less significance on individual roles and competences. Instead, rather than clearly defined skillset, the team members were valued by how well they could respond to situations by being *self-directed and adaptable*. For example, everyone recognized the importance of their project leader and acknowledged him becoming more dynamic by the end of the workshop project. However, it became apparent that individuals gained more competence by pairing up and working as a team. One team member praised the seamless cooperation of the project and deputy manager, while another pointed out how one female member was able to naturally mingle with different people.

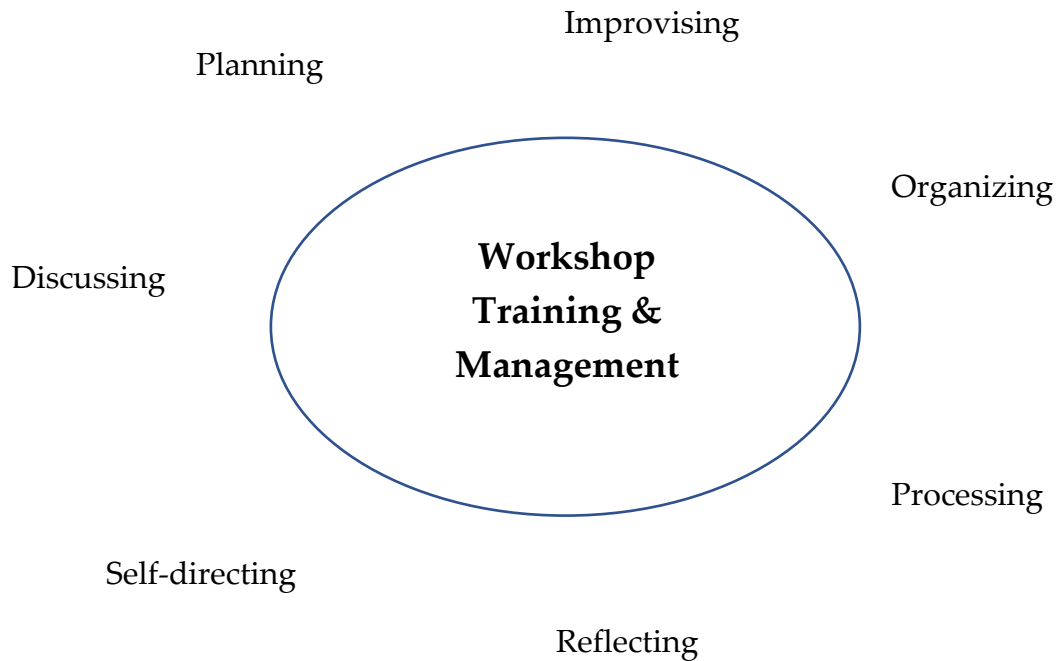
"Of course we looked for competences, too, but more than that, we played well together. And many of us could play many different roles. For example (the team member), she could be positioned anywhere and be just as productive."

"Yes, there was lots of navigating within the team. Like, we juggled with the members and changed our posts if the tasks required it."

"The project leader and deputy manager, they complimented each other well."

"... well, I think the project manager and deputy manager were equals. We kind of had a bipolar leadership going on in the team."

Figure 3. Workshop Training and Management.



4.1.3 Culture of discussion

The winner alliance was defined by culture of discussion, aiming to maintain active participation. According to the interviewees, an engaging and relaxed work climate lead to people opening up and discussing matters without reservations of becoming judged or shunned. Relevance of discussion was established early on, from the first meeting between the alliance members to the final screening and even beyond; All the interviewees were convinced that the culture of discussion would be a permanent trait for their upcoming project.

“... it was the communication we practiced rather than fiddling with the paper slips and what to do with them, all the time.”

From the interviews, several different characteristics of the team discussion were identified. According to the data, the most prominent one was the fact that the winner team discussed constantly. *Brainstorming* was promoted from the beginning of their training and carried throughout the workshops. According to one of the members, rarely, a silent moment occurred during the workshops. Two interviewees especially thanked for the utilization of learning café as a discussing tool. Learning café ensured that both, the participants, and bits of information were in a constant movement.

"... everyone was almost obligated to discuss constantly..."

"We wanted everyone to work with everyone."

"We all agreed to never stop improving. Like, if a task is completed, we will discuss about what we could still improve. That way, we found new areas to improve the proposal. Maybe that was our strength as a team."

Yeah, we agreed to just discuss. Discuss and discuss so we could gather as much information as possible.

"We took a liking on Learning café, for that way our team was rotating efficiently, and everyone got to talk to everybody."

Learning café exposed another factor prominent, during the workshops: *An invitation for discussion*. Every team member described their communication as a group effort, where everyone discussed, offered opinions, and shared information. In addition, the team knowingly made sure no one was left out. One participant shared how, at times, they literally had to "drag" a member of the client back to their discussion table to ensure they were truly included, and their thoughts reviewed.

An invitation to discuss was also expressed with bodily gestures. Two interviewees stressed the importance of gesturing, especially during the introduction phase between the winner team and the client. According to them, by inviting others in their space, maintaining eye contact, and smiling genuinely helped to counter tension, and boost respect and acknowledgement in the groups.

"... inviting them, genuinely, to our team, instead of just proceeding as two groups."

"... we were super active ourselves and managed to, kind of, suck them in, and they clearly got excited about it."

"... we kept an eye on the client party and made sure they would not wander away on their own. Like, they wouldn't just remain standing next to a wall, and instead, they would be invited into our group discussions."

"... we tried to do everything together, as well as we could."

"If someone fell silent (from the client party), they were dragged into the discussion again."

Much of the discussion flow was determined by *questioning*. All the interviewees mentioned that asking questions from the client especially was the most important way of communicating, during the final workshops. Based on the data, questioning was not only frequent but in-depth in nature. One of the team members named it 'milking', while the other used a term 'fishing' to stress the prodding qualities.

"We tried to obtain the kind of information not apparent in the quote request, tried to suck it out of them."

“We were fishing information.”

“It was like milking: You trying to pry some information from another party. We needed their thoughts and ideas to produce our proposal.”

Discussion was *open-minded* in nature. The flow was kept clear from any formality to ensure it did not hinder the teams’ creativity. For example, one of the members stated that everyone was allowed to present questions and opinions despite of how weird or unconventional they might have been. According to him, it was more important to explore matters from all angles, rather than succumb on judging others about “wrong questions.” It was more likely, that an unusual approach resulted in new discoveries within the team.

“... and everything had to be clear and understandable to all members.”

“Well, we had discussed that we cannot really criticize anything, so that we would not shoot any ideas right from the get-go. That would easily kill the conversation. So we wanted to dig up those valuable points from them most stupid of comments.”

“... I mean, you can always look at things from new angles. ‘Hey, you can do it like that, too’, and all. Those kinds of realizations are ideas and options, too.”

“... and you should not fear too much about what you say or whether it is correct.”

Counterbalance to questioning, the winner team also used *active listening*. The members gave all participants time to gather their thoughts, offer opinions, and share perspectives, while others listened acutely. According to one of the team members, this kind of behavior added to the experience of really being heard and acknowledged. Moreover, active listening further unified the participants. Two of the team members explained how active listening helped different personalities to work together by

teaching more proactive and opinionated one's patience and perspective during discussions, while encouraging more reserved participants to share their thoughts freely.

"... it is a wonderful feeling when others really listen what you say."

"Apart from trying to engage them (the client), we wanted to encourage them to share their thoughts by giving them time to speak."

"... one skill we practiced was about letting others to talk while you listen."

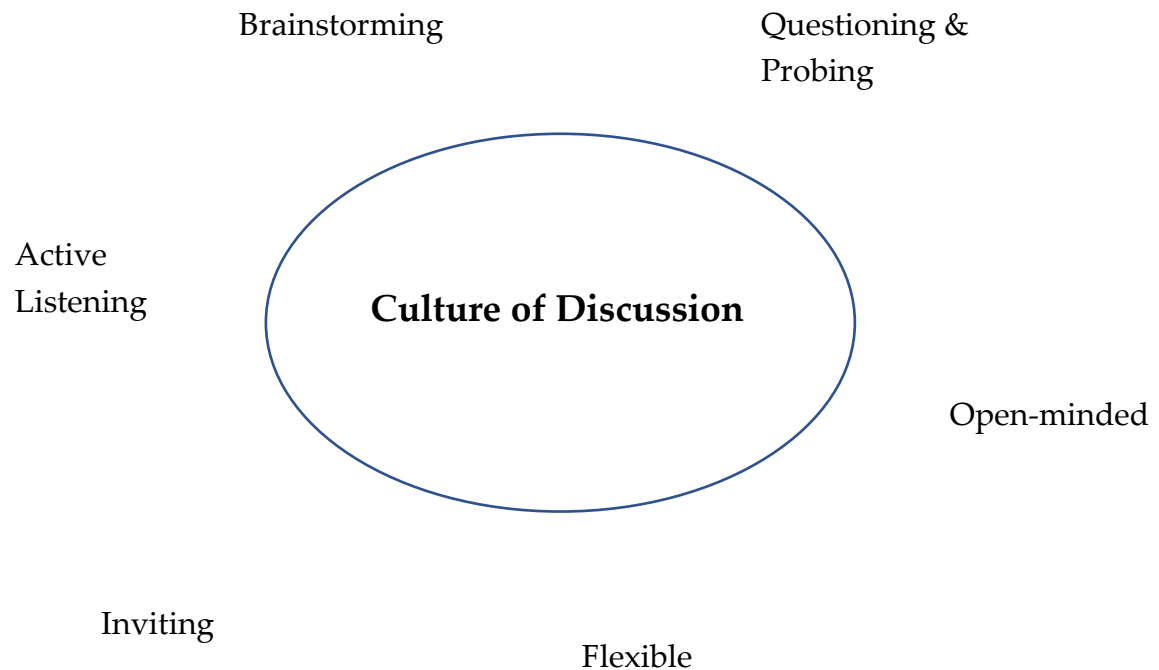
Finally, the data revealed the discussion was defined by *adaptability*. This ensured the discussions were kept clear and understandable amongst and between the parties. One team member said how, by acknowledging the tools, work setting, and work methods of others, helped the conversation to flow with little distractions. One team member shared how the work language was knowingly kept simple, absent of unnecessary jargon.

"... it was about respecting the working methods of others."

"... you understand to respect the technicalities of planning (even though it would differ from your own working style."

"For example, we were aware to not to use too difficult terms in our discussions (with the client.) Like those we obtained during the training."

Figure 4. Culture of Discussion.



4.2 Results by team psychological safety model

In her model (see page 26), Edmondson proposes team psychological safety to be conveyed through learning behavior. Psychologically safe team requires certain antecedents – organizational conditions - to occur, which lead to productive teamwork environment. This, in turn, propels a team towards effective learning and performance. Next, I attempt to position the three key factors to the model to further observe the role of psychological safety and team effectiveness.

4.2.1 The similarities

Engaging Work Climate. When implemented in Edmondson's (2003) model about antecedents and consequences of psychological safety (see page 26), work climate represents shared beliefs of the winner team. Throughout the research literature concerning psychological safety, it has been described to be a state or belief that an individual can express themselves freely, without fearing of becoming compromised by others (Edmondson et al. 2014; Edmondson 1999). This state was also later discovered to be a team level phenomenon (2003), often described by employees as psychologically safe work climate (Douglas et al. 2004; Brown et al. 1996; Khan 1990.) Indeed, all the interviewees mentioned about having a feeling of being included, accepted, and respected. Hence, it is plausible to argue work climate represents the state of team psychological safety in the model.

Workshop Training and Management. The second key factor arguably represents organizational conditions in the model. Psychological safety is crucial factor in igniting learning process both in individual and team levels (Edmondson 2003; Edmondson 1999) but needs organizational support to emerge (2003; Hackman 1987). When compared to Edmondson's model (2003), workshop training and management of the winner alliance revealed two clear antecedents of team psychological safety.

First, based on the interview data, the winner team described the training as strong supporting structure in their teamwork throughout the screening project. The tools and methods adopted during the training created a framework, "a safety net", around the team, fostering confidence, self-direction, and improvisation. The second clear indication of organizational condition was team coach behavior. According to the interviewees, the team coach relied heavily on openness, feedback-sharing, and discussion. According to Edmondson, leader behavior contributes to a shared belief of

team psychological safety (2003). Hence, it can be concluded that psychological safety is heavily promoted in workshop training and management by the team coach.

Culture of discussion. Edmondson gathered that team psychological safety leads to learning behavior mostly promoted through voice (2003). Indeed, the findings of the interviews revealed that culture of discussion comprehends all behavior patterns typical for psychologically safe team learning. Questioning, active listening, brainstorming, open-mindedness, and flexibility directly corresponding to those of feed-back seeking, help-seeking, speaking up behavior, innovation, and boundary spanning. Hence, it can be concluded the culture of discussion directly represents the consequences of psychologically safe team.

4.2.2 The differences

Edmondson's model offers a lens through which to observe the role of psychological safety in teamwork setting. While it is possible to pinpoint three key constructs in the model, it is worth to note where the model and the data collide.

Independence vs codependence. First the model clearly expresses the antecedents and consequences of psychological safety as their independent factors. In the research data, however, the factors, and constructs are heavily codependent.

Characteristic to all interviewees was that they brought up similar key traits and aspects but approached them from slightly different angles. For example, all team members identified their teamwork as a group effort but offered slightly different reasons for it. In addition, some traits could be identified in several constructs. For example, one interviewee stated that learning café was a discussing method established during

workshop training which was then brought to the official screening. Another member stated that learning café added to engaging and accepting work climate by letting the participants to share their thoughts freely.

Linear vs circumferential. Second difference stems from way of direction in which the model presents itself. According to the model, team learning behavior is a consequence of a team equipped with psychological safety, which, in turn, is a consequence of organizational conditions, like tools, roles, and structures. However, the research data indicates the process is not necessarily linear but cyclic.

Evidence supports the idea of the key factors creating a positive cycle. For example, all interviewees brought up commitment. Whilst some described it as a lucky phenomenon in a team brought together by individuals of similar mindsets and goals, other recognized it as a product of a relaxed, inviting environment or a consequence of workshoping methods obtained during the training. As learned from before, workshop training represents an antecedent, work climate a state of psychological safety, and discussing methods consequences in the model. This supports the argument that the characteristics of the key factors emerge in different stages of the model.

4.2.3 Psychological safety and team performance

According to Edmondson's model, psychologically safe teamwork manifests itself in team learning behavior. Moreover, the model proposes learning equals team performance. The data revealed the winner alliance relied on multiple discussion methods during the final workshop. The tools, along with an inviting and accepting work climate, and structures backing up the team led to teamwork described as innovative, improvising, fun, and committed.

Additionally, one particular skill was brought up in half of the interviews. Identified as *dimensioning* in the data, this working method, powered by conversational skills, improvisation, and safety providing framework, allowed the team to process and present their final product by observing all contributing factors, their relevance, and impact to the production from multiple angles. Dimensioning can be viewed as a culmination of the performance of the winner team.

Based on the above, the results indicate team learning behavior - obtained from the workshop training and carried out in the final screening with the help of the team psychological safety - led to a significant improvement in team performance. Hence, the results support the argument that team psychological safety leads to a performance improvement.

5 Discussion

The aim of the present research was to discover what traits make an effective team. I also sought to explore the mediating role of psychological safety for effective teamwork manifesting through team learning and performance. The study identified three key factors of an effective teamwork: Engaging work climate, workshop training and management, and culture of discussion. Secondly, the research suggests psychological safety leads to performance improvement through team learning behavior.

Psychological safety was identified to be present in all key factors. Several phenomena and behavior pattern signaling about presence of psychological safety were discovered. Moreover, psychological safety created an environment opportune for learning. Organizational structures and working methods promoting interactive skills, innovation in a form of team management and workshoping leads to psychologically safe teamwork, resulting in team learning behavior and performance fueled by culture of discussion. When situated in the model, workshop training and management can be identified as an antecedent, engaging work climate as a current state, and culture of discussion as a consequence of team psychological safety.

Some arguments can explain why the positioning of the key factors is not precise. The findings revealed all three factors are crucial not on their own but especially when brought together. Evidence supporting the constructs worked as a single entity rather than separately was the fact the team members used similar terms to refer to different observations made during the screening project. Secondly, the factors do not necessarily represent linear continuum of antecedent and consequence but rather create a positive cycle. This is supported by the fact that throughout the data, the team members referred to certain phenomenon as a derivative or indicator of one or more key factors.

Finally, the paper implies psychological safety enhances team performance in team learning behavior. First, the consequences of the model heavily promote conversational skills as a process through which a team will improve their learning. Secondly, as established earlier by Bunderson et al. (2003) and Edmondson (1999), team learning is believed to be both a process and outcome. Furthermore, improving team performance requires skills that rely on conversive social interaction in a form of information-seeking, decision-making, trouble-shooting, and reflection skills. By utilizing a skill referred to as dimensioning, the winner team was able to produce a remarkable final product compared to other teams. Taking this into account, it can be argued psychologically safe teamwork leads to notable improvement in team performance.

5.1 Implications and practical applications

At a theoretical level, the study strengthens previously established theories regarding both team effectiveness and psychological safety. The findings showcase several traits typical for effective teamwork, such as cognitive behavior based on interaction between team members, supportive structures, and leadership. In addition, the findings go in line with Edmondson's model of the consequences and antecedents of team psychological safety, and arguably, beyond: It is suggested psychologically safe team learning leads to improvement on team performance.

Despite of strong signs of theories implemented on the research, they are not pervasive. Although results do express psychological safety to be an antecedent of the alliance success, it leaves space for consideration of other theories. This is most apparent with the case of team commitment, for the findings heavily suggest commitment was not an

experience of psychological safety alone, but a coincidence. Hence, it is recommended to explore other theories, such as social identity theory.

At a practical level, the research offers further evidence on the benefits of team psychological safety to team learning behavior and team performance, specifically. Organizations, which want to improve their outcomes should promote and support organizational structures which promote psychological safety. Moreover, the study recommends implementation of these practices at a team level specifically to create effectively operating work teams and grab better results in learning and performance. Given the over-arching benefits of psychological safety, it is further suggested expanding same behavior patterns to all organizational levels.

5.2 Limitations and future research

As with all research, this study had its limitations. One of these was the size of the sample used. The data was gathered from a single alliance of six members, each providing one interview. In addition, interviews provided only one perspective – the experiences of the alliance, whilst the client party was left out. In the future, it is recommended to expand the study to larger, more complex work teams and to multiple perspectives for obtaining larger scope. Given the fact that the project team operated with all team members physically present, and the global pressure on organizations to invest more and more remotely operating work teams, it is encouraged to study the link between team psychological safety and remote teamwork.

Lastly, one of the limitations resulted from the use of convenience sample or luck factor. Despite of the interviewees represented different backgrounds; everyone partook the

project with similar mindset. In the future research, it is recommended to focus on work teams selected more randomly.

Psychological safety as a research target has increasingly interested business scholars for more than a decade, now. The result of this study proves the growing body of research data is welcome. Since psychological safety expresses itself through varying nuances of human experience, it is encouraged to expand the research on case studies for best wraparound.

6 Conclusions

This research studied key effective traits of an alliance-based teamwork and set forth to explore the relation of psychological safety regarding team effectiveness, particularly in a form of team learning behavior and performance. The model applied was Edmondson's model of antecedents and consequences of team psychological safety. The results pointed out three key factors of an effective teamwork: Engaging work climate, workshop training and management, and culture of discussion, manifesting in an intertwined fashion.

When applying the model of antecedents and consequences of team psychological safety, the three key factors were situated as follows: Workshop training and management as an antecedent, engaging work climate as a current state, and culture of discussion as a consequence of team psychological safety. Regarding the second research angle, the study supports the argument that psychologically safe teamwork leads to a performance improvement.

In line with previous research this study supports the claim that psychological safety increases team effectiveness (Edmondson et al. 2007; Edmondson 1999), team learning behavior (Sanner et al. 2015; Edmondson et al. 2014; Edmondson 2003), and performance (Singh et al. 2013; Carmeli et al. 2009; Nembhard et al. 2006; 2003). The results encourage organizations to invest on psychologically safe work teams to ensure team effectiveness and better performance.

The study encourages to continue research on team psychological safety; its further connections between psychological safety and team performance, and to test newer models of psychological safety in practice. Moreover, the paper proposes to research

work teams in more complex setting, in longer periods of time and with more randomly selected individuals. In addition, it is also suggested to explore remote teamwork. Coming from the year of rocket-like increase in remote work and remotely operating work teams, study on the relevance of team psychological safety is ever more imminent.

References

Albanese, R. (1994). Team-building process: Key to better project results. *Journal of Management in Engineering*, 10, 36–44.

Ammeter, Anthony P. & Dukerich, Janet M. (2002). Leadership, team building, and team member characteristics in high performance project teams. *Engineering Management Journal*, 14(4), 3–10.

Baer, Markus & Frese, Michael (2003). Innovation is Not Enough: Climates for Initiative and Psychological Safety, Process Innovations, and Firm Performance. *Journal of Organizational Behavior*, 24(1), 45–68.

Belbin, R. M. (2000). *Beyond the Team* (1st ed.). Butterworth-Heinemann, Oxford.

Brown, Kenneth G. (2012). Reaping the Benefits of Task Conflict in Teams: The Critical Role of Team Psychological Safety Climate. *Journal of Applied Psychology*, 97(1), 151–158.

Brown, Steven P. & Leigh, Thomas W. (1996). A New Look at Psychological Climate and Its Relationship to Job Involvement, Effort, and Performance. *Journal of Applied Psychology*, 81(4), 358–368.

Bunderson, J. S. & Sutcliffe, K. M. (2003). "Management team learning orientation and business unit performance." *Journal of Applied Psychology*, 88, 552–560.

Carmeli, Abraham, Brueller, Daphna & Dutton, Jane E. (2009). Learning Behaviours in the Workplace: The Role of High-quality Interpersonal Relationships and Psychological Safety. *Behavioral Science*, 26(1), 81–98.

Cohen, S. G. & Bailey, D. E. (1997). What makes teams work: Group effectiveness research from the shop floor to the executive suite. *Journal of Management*, 23(3), 239–290.

Conti, Betty & Kleiner, Brian H. (1997). How to increase teamwork in organizations. *Training for Quality*, 5(1), 26–29.

Critchley, B. & Casey, D. (1998). “Second thoughts on team building.” *Journal of Management Education & Development*, 15(2), 163–175.

Edmondson, Amy (1999). Psychological Safety and Learning Behavior in Work Teams. *Administrative Science Quarterly*, 44, 350–383.

Edmondson, Amy (2003). Psychological Safety, Trust, and Learning in organizations: A Group-level Lens. In book: *Trust and Distrust in Organizations: Dilemmas and Approaches*, 239–272. Roderick Kramer and Karen Cook. New York: Russell Sage Foundation.

Edmondson, Amy C., Dillon, James R. & Roloff, Kathryn S. (2007). Three perspectives on team learning: outcome improvement, task mastery and group process. *Academy of Management Annals*, 1(1), 269–314.

Edmondson, Amy C. (2012). *Teaming: How Organizations Learn, Innovate, and Compete in the Knowledge Economy*. John Wiley & Sons, Inc.

Edmondson, Amy, & Lei, Zhike (2014). Psychological Safety: The History, Renaissance, and Future of an Interpersonal Construct. *Annual Review of Organizational Psychology and Organizational Behavior*, 1, 23–43.

Edmondson, Amy C. (2019). *The Fearless Organization: Creating Psychological Safety in the Workplace for Learning, Innovation, and Growth*. Wiley & Sons, Inc.

Ellis, Beth Hartman (1992). The Effects of Uncertainty and Source Credibility on Attitudes about Organizational Change. *Management Communication Quarterly*, 6(1), 34–57.

Erkutlu, Hakan & Chafra, Jamel Ben (2016). Benevolent leadership and psychological well-being: The moderating effects of psychological safety and psychological contract breach. *Leadership & Organizational Development Journal*, 37(3), 369–386.

Fagiano, D. (1992). The Art of Decision making. *SuperVision*, 53(2), 6–7.

Fuhl, Jessica (2020, November 20th). *Psychological safety: The secret to Google's top teams' success – and 5 lessons for workplaces*. Sage. <https://www.sage.com/en-gb/blog/how-to-create-psychological-safety-for-employees-google/>

Gilley, J. W., & Gilley, A. (2007). *Manager as coach*. Hatford, CT: Praeger.

Gilley, Jerry W., Morris, M. Lane, Waite, Alina M., Coates, Tabitha & Veliquette, Abigail (2010). Integrated Theoretical Model for Building Effective Teams. *Advances in Developing Human Resources*, 12(1), 7–28.

Haas, M. & Mortensen, M. (2016). The Secrets of Great Teamwork. *Harvard Business Review*. June 2016 issue, 70–76.

Hackman, J. R. (1987). The design of work teams. *Handbook of organizational behavior*, 315–342.

Hackman, J. R. (2002). *Leading Teams. Setting the Stage for Great Performances*. Boston. Harvard Business School Press.

Hawkings Donovan, J. (1998). Butting Head In the Workplace. *Quality Progress*, 31(5), 33–35.

Hellriegel, Don & Slocum, John W. (2004). *Organizational Behavior*. (10th digital ed.) Thomson/South-Western. Cornell University.

Jae Hang, Noh (2013). *Employee Knowledge Sharing in Work Teams: Effects of Team Diversity, Emergent States, and Team Leadership*. (Publication No. 3596347) [Doctoral dissertation, University of Minnesota]. ProQuest Dissertations & Theses Global.

James, Lawrence R., Hater, John J., Gent, Michael J. & Bruni, John R. (1978). Psychological climate: Implications from cognitive social learning theory and interactional psychology. *Personnel Psychology*, 31(4), 783–813

Jha, Sumi (2019). Team psychological safety and team performance: A moderating mediation analysis of psychological empowerment. *International Journal of Organizational Analysis*, 27(4), 903–924.

Jones, Stephanie (2012). Team Building and the Stages of Team Development. *Effective Executive*, XV(1), 52–57.

Khan, Jabran, Jaafar, Mastura, Javed, Basharat, Mubarak, Namra & Saudagar, Tahira (2020). Does inclusive leadership affect project success? The mediating role of perceived psychological empowerment and psychological safety. *International Journal of Managing Projects in Business*, 13(5), 1077–1096.

Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal*, 33, 692–724.

Katzenbach, J. R. & Smith, D. K. (1993). The Discipline of Teams. *Harvard Business Review*, 71, 111–120.

Khan, J., Jaafar, M., Javed, B. & Saudagar, T. (2019). Does inclusive leadership affect project success? The mediating role of perceived psychological empowerment and psychological safety. *International Journal of Managing Projects in Business*, 13(5), 1077–1096.

Kirkman, B. L., & Rosen, B. (1999). Beyond self-management: Antecedents and consequences of team empowerment. *Academy of Management Journal*, 42, 58–74.

Klein, C., DiazGranados, D., Salas, E., Le, H., Burke, C. S., Lyons, R. & Goodwin, G., F. (2009). Does team building work? *Small Group Research*, 40, 181–222.

Larson, C. & LaFasto, F. (1989). *Teamwork: What Must Go Right/ What Can Go Wrong*. Sage Publications, Newbury Park, CA.

Lee, Hyun & Park, Kim (2020). The Antecedents and Consequences of Psychological Safety in Airline Firms: Focusing on High-Quality Interpersonal Relationships. Focusing on High-Quality Interpersonal Relationships. *International Journal of Environmental Research and Public Health*, 17(7), 1–19.

Lisbona, Ana, Las-Hayas, Abel, Palací, Francisco J., Bernabé, Miguel, Morales, Francisco J & Haslam, Alexander (2020). Team Efficiency in Organizations: A Group Perspective on Initiative. *International Journal of Environmental Research and Public Health*, 17, 1–17.

Marks, M. A., Mathieu, J. E. & Zaccaro, S. J. (2001). A temporally based framework and taxonomy of team processes. *Academy of Management Review*, 26(3), 356–376.

Mautz, Scott (2020, January 15th). *In a Recent Study, Microsoft Found That the Most Successful Teams Share These 5 Traits: These are five traits you can bring to your team.* Inc. <https://www.inc.com/scott-mautz/in-a-recent-study-microsoft-found-that-most-successful-teams-share-these-5-traits.html>

Mathieu, J. E., Heffner, T. S., Goodwin, G. F., Salas, E., & Cannon-Bowers, J. A. (2000). The influence of shared mental models on team process and performance. *Journal of Applied Psychology*, 85, 273–283.

Mayfield, Clifton, O., Tombaugh, Jay, R. & Lee, Minsu (2016). Psychological collectivism and team effectiveness: Moderating effects of trust and psychological safety. *Journal of Organizational Culture, Communications and Conflict*, 20(1), 78–94.

McAlister, D. (1995). Affect- and cognition-based trust as foundations for interpersonal cooperation in organizations. *Academy of Management Journal*, 38(1), 24–59.

McEvily, Bill (2011). Measuring trust in organizational research: Review and recommendations. *Journal of Trust Research*, 1(1), 23–63.

Miller, Diane L. (2003). The Stages of Group Development: A Retrospective Study of Dynamic Team Processes. *Canadian Journal of Administrative Sciences*, 20(2), 121–134.

Nembhard, Ingrid M. & Edmondson, Amy C. (2006). Making It Safe: The Effects of Leader Inclusiveness and Professional Status on Psychological Safety and Improvement Efforts in Health Care Teams. *Journal of Organizational Behavior*, 27(7), 941–966.

Rosen, L. D., Lim, A. F., Carrier L. M., & Cheever., N. A. (2011). An Empirical Examination of the Educational Impact of TextMessage-Induced Task Switching in the Classroom: Educational Implications and Strategies to Enhance Learning. *Psicología Educativa*, 17 (2), 163–217.

Rozovsky, Julia (2015, November 17th). *The five keys to a successful Google team.* re:Work. <https://rework.withgoogle.com/blog/five-keys-to-a-successful-google-team/>

Sanner, Bret & Bunderson, Stuart (2015). When feeling safe isn't enough: Contextualizing models of safety and learning in teams. *Organizational Psychology Review*, 5(3), 1–20.

Schein, Edgar H. (1993). How Can Organizations Learn Faster? The Challenge of Entering the Green Room. *Sloan Management Review* 34(2), 85–92.

Sheard, A. G. & Kakabadse, A. P. (2002). From loose groups to effective teams: The nine key factors of the team landscape. *The Journal of Management Development*, 21(2), 133–151.

Sinclair, A. (1992). The tyranny of a team ideology. *Organization Studies*, 13, 611–626.

Singh, Barjinder, Winkel, Doan E. & Selvarajan, T. T. (2013). Managing diversity at work: Does psychological safety hold the key to racial differences in employee performance? *Journal of Occupational and Organizational Psychology*, 86, 242–263.

TED. (2014, May 5th). *Building a psychologically safe workplace | Amy Edmondson | TEDxHGSE* [Video]. YouTube. <https://www.youtube.com/watch?v=LhoLuui9gX8>

Van den Bossche, P., Gijssels, W. H., Segers, M., & Kirschner, P. A. (2006). Social and cognitive factors driving teamwork in collaborative learning environments: Team learning beliefs and behaviors. *Small Group Research*, 37, 490–521.

Van Offenbeek, M. (2001). Processes and outcomes of team learning. *European Journal of Work and Organizational Psychology*, 10, 303–317.

Walumbwa, F. O. & Schaubroeck, J. (2009). Leader personality traits and employee voice behavior: mediating roles of ethical leadership and work group psychological safety. *Journal of Applied Psychology*, 94(5), 1275–1286.

Whichard, J. & Kees, N. L. (2006). *Manager as facilitator*. Hartford, CT: Praeger.

Yeh, Elizabeth, Smith, Charlene, Jennings, Clarethia & Castro, Nancy (2006). Team building: A 3-dimensional teamwork model. *Team Performance Management*, 12(5/6), 192–197.

Zaman, Umer & Abbasi, Maha (2020). Linking transformational leadership and individual learning behavior: Role of psychological safety and uncertainty avoidance. *Pakistan Journal of Commerce and Social Sciences*, 14(1), 167–201.