

Department of Psychology

# The Role of Psychological Safety and Team Trust in Determining Employee's Work Motivation (in IT sector)

Ritika Chowdhury

Master's Thesis (30 hp) August 2024

Supervisor: Roger Persson

## Acknowledgement

I would like to begin by expressing my gratitude to my supervisor, Roger Persson, for his guidance and support throughout this process. I am also thankful to my colleagues and friends for their patience, encouragement and advice. I would like to give a special thanks to all the participants who generously took out time from their busy schedules to share their experiences and ultimately make this study possible. Lastly, I would like to express my gratefulness to my parents, as without their support of I would not be here.

#### Abstract

The present study investigates the influence of psychological safety and team trust on work motivation on a small scale among Information Technology (IT) professionals in Sweden and Denmark. Data was collected from 57 participants using the survey method and the scales used were Workplace Trust Survey (WTS), Motivation at Work Scale (MAWS) and Psychological Safety Scale. The results showed a significant positive correlation between team trust and work motivation, with team trust mediating the relationship between psychological safety and work motivation. Psychological safety did not directly increase work motivation, but its influence was significant when mediated by team trust. Moreover, no significant differences were found between Swedish and Danish participants, indicating similar dynamics across these cultural contexts. These findings emphasise the importance of fostering both psychological safety and team trust to enhance employee motivation in the IT sector.

*Keywords:* IT sector, organizational behavior, psychological safety, team trust, work motivation, workplace

## The Role of Psychological Safety and Team Trust in Determining Employee's Work Motivation (in IT sector)

In the current environment of rapidly evolving digital and economic landscape, the Information Technology (IT) sector remains at the forefront of innovation and operational challenges. As organizations continue to strive towards higher productivity and innovation, understanding the factors that drive employee motivation has become increasingly important. In fast-paced industries such as the IT sector, where quick, efficient and creative ways of problem-solving are crucial, factors such as psychological safety, team trust and work motivation enable the employees to communicate their opinions more openly and take risks without the fear of being judged or penalized. This in turn fosters a collaborative atmosphere in the workplace which may lead to higher levels of creativity and efficiency within teams and ultimately the organization as a whole. Despite the established importance of these factors in fostering a collaborative and high-performing work environment, there is a gap in the literature concerning how they interact specifically within the IT sector.

#### **Psychological Safety**

Psychological safety, refers to the environment at the workplace in which the employees feel comfortable and confident enough to express their ideas, thoughts and concerns without being fearful of any negative repercussions (Edmondson, 1999). Over time, the concept of psychological safety has gained a lot of recognition due to its impact on team dynamics and individual well-being (Edmondson & Lei, 2014). Previous studies also indicate that psychological safety is a predictor of positive individual and organizational outcomes and this, in turn, contributes to a favourable employee attitude and behavior. This includes an increase in employee engagement, reduced turnover intentions, and an improvement in team performance (Bülbül et al., 2022). Other studies have similar findings that further confirm that psychological safety has been shown to enhance employees' motivation to collaborate and learn more effectively in team settings (Lin et al., 2022). It was also found that an organization can unlock the full potential of its workforce by fostering an environment where employees feel at ease to express their thoughts and ideas and to take initiative. This in turn, leads to an increase in motivation and overall performance among the employees (Newman et al., 2017). Thus the importance of psychological safety in a fast-paced industry like the IT sector cannot be emphasised enough, due to its impact on the the ability of teams to innovate and adapt to the everchanging technological advancements. However, previous studies tend to

isolate psychological safety as an independent factor and have not attempted to explore its impact combined with other variables, such as team trust, on work motivation (Mitterer & Mitterer, 2023). This study seeks to address this gap by investigating how psychological safety, in conjunction with team trust, influences work motivation among IT professionals.

## Team Trust

Team trust refers to a sense of shared perception among members of the team regarding each other's, integrity, reliability and competence (Costa et al., 2017). It is a crucial component for unity among the members of the team as well as effective collaboration, especially in high-pressure environments such as the IT sector. Trust within a team reduces chances of uncertainty and vulnerability, allowing the team members to focus on the tasks at hand without the fear of being undermined by their peers (Alves et al., 2022). This sense of security is important for fostering a collaborative environment where team members feel comfortable sharing their ideas, seeking feedback, and working together towards common goals (Costa et al., 2017).

Studies have emphasized the importance of trust within teams for various reasons. Previous research shows that team trust is an important factor in a broader context, especially when it comes to team outcomes and leadership due to its mediating role between transformational leadership and team viability, effectiveness and satisfaction (Prabhu et al., 2021). It also allows the team members to collaborate more efficiently by reducing vulnerability and uncertainty (Prabhu et al., 2021). Moreover, team trust has been shown to reinforce a positive correlation between employees' intrinsic motivation and job crafting, emphasizing on its moderating role (Dirks & De Jong, 2022). Based on studies conducted by Nawaz et al. (2022), trust among team members has been associated with benefits for team functioning. High levels of trust may have a positive impact on team effectiveness, which may lead to increased employee satisfaction and success in achieving group goals (Breuer et al., 2016). It is also related positively with team performance and hence it is important for employers and supervisors to actively make sure that there is an overall sense of trust in the teams for increased productivity (Morrissette & Kisamore, 2020).

While team trust has been widely studied, its interaction with psychological safety in driving work motivation remains underexplored (Prabhu et al., 2021). Additionally, most of the existing studies tend to focus on sectors such as education or healthcare, and this leaves a significant gap in understanding how these dynamics play out in the IT sector, with its

challenges. The current study aims to explore how team trust, in conjunction with psychological safety, impacts work motivation among IT professionals.

#### **Work Motivation**

Work motivation is defined as the degree of energy, commitment, and creativity that employees bring to their jobs and is an important determinant of job performance and overall organizational effectiveness (Vo et al., 2022). In the IT sector, maintaining a motivated workforce is essential for sustaining competitive advantage as high levels of work motivation are associated with increased productivity, lower turnover rates, and more job satisfaction, making it the main focus for organizational leaders (Pancasila et al., 2020).

Existing literature suggests that work motivation is influenced by a variety of factors, including psychological safety and team trust (Baldé et al., 2018; Xu et al., 2022). Employees who feel psychologically safe are more likely to be engaged in their work, take initiative, and contribute to their teams' success (Javed et al., 2017). Trust within a team boosts employees' motivation by fostering a work environment where individuals feel appreciated and confident in their roles. When employees trust their colleagues, they are more likely to feel supported and encouraged, which drives them to give their best effort and fully engage in their work and this supportive environment leads to higher levels of motivation and overall performance (Shahid, 2018). The study by Long (2018) explains how building trust could make it easier for employers to motivate employees to cooperate, which is particularly important in fast-paced work environments like the IT sector. However, while existing research sheds light on the importance of psychological safety and team trust individually, there is a notable gap in understanding how these factors operate together, especially in determining an employee's work motivation.

#### **Cultural Context**

From a cultural standpoint Sweden and Denmark, are known for their emphasis on work-life balance, egalitarian workplace practices and are characterized by high levels of trust in institutions and a strong focus on employee well-being (Björk-Fant et al., 2023). However, subtle cultural differences may still exist between the two countries, influencing how psychological safety and team trust are perceived and the impact of these factors on work motivation (Cartland et al., 2022). For example, while both Sweden and Denmark have similar cultural values, Swedish workplaces may place a greater emphasis on consensus-building, which could enhance the influence of psychological safety on team dynamics. On the other hand, Danish workplaces, with their slightly more hierarchical structure, might exhibit differences in how team trust is built and maintained (Hu et al., 2018). Understanding these cultural nuances is crucial for organizations operating across borders, as it allows them to tailor their approaches to fostering psychological safety and team trust according to the specific cultural context.

### **The Present Study**

The IT sector presents certain challenges that make the study of psychological safety and team trust relevant. The constantly evolving nature of the industry, high project demands, and the need for continuous innovation lead to a considerable amount of stress among IT professionals. If not addressed effectively, this stress may lead to a decrease in employee motivation. Therefore, it is crucial for organizations to understand how factors like psychological safety and team trust help maintain high levels of motivation among employees. The purpose of this study is to examine the role of psychological safety and team trust in determining work motivation among IT professionals in Sweden and Denmark. By investigating these relationships, the study aims to contribute to the theoretical understanding of how workplace dynamics operate within the IT sector, particularly focusing on the relationships between psychological safety, team trust, and employee motivation (Edmondson, 1999; Costa et al., 2017). Additionally, the study aims to explore on a small scale how cultural differences between Sweden and Denmark might have an effect on the effectiveness of these variables (Björk-Fant et al., 2023).

Although the study attempts to uncover the dynamics of factors that come into play in fast-paced work environments, its findings could potentially be applied to different kinds of organizations, not only high-paced ones. Apart from the theoretical aspect of organizational psychology, this study may also provide practical insights to companies and supervisors and aid them to better understand and handle challenges by implementing interventions aimed at reinforcing psychological safety and team trust. These interventions could create a more positive work environment, which in turn could likely boost employee motivation and, ultimately contribute to the benefit of the organization as a whole.

Thus, the current study aims to investigate the role of psychological safety and team trust in determining the employee's work motivation through the following hypotheses: *H1:* Higher levels of psychological safety are positively associated with work motivation among IT professionals.

*H2:* Team trust mediates the relationship between psychological safety and work motivation, with stronger trust amplifying the positive effects.

*H3:* There are group differences in the levels of impact of psychological safety, team trust and work motivation between IT professionals in Sweden and Denmark.

## Method

## **Participants**

The study was conducted on data collected from 57 participants working in IT sector based in Sweden and Denmark. The sample consists of 29 participants who identify as male. and 28 who identify as female. A majority of them were based in Sweden, and the rest were located in Denmark. The participants ranged between the ages of 18 and 55 years. For data collection, the convenience sampling method was used to recruit participants due to time constraints as well as financial limitations.

#### Materials

Information was collected regarding the gender, age, nationality as well as the number of years the participants have worked at the company. Psychological safety was measured by using the 7 items formulated by Dr. Amy Edmondson (1999) which included items such as-"If you make a mistake on this team, it is often held against you" and "It is safe to take a risk on this team" (Edmondson, 1999). Participants were required to read the items carefully and rate them by using a 5 point Likert scale where 1 is low and 5 is high. The scale demonstrates high internal consistency as well as discriminant validity (Grailey et al., 2022).

In order to measure team trust, the Workplace Trust Survey (WTS) by Ferres et al. (2004) was employed. The scale consists of 12 items and participants were required to indicate their opinion regarding their relationship with their coworkers on a 7 point Likert scale where 1 is "Strongly Disagree" and 7 is "Strongly Agree". The scale included items such as, "I feel I can trust my co-workers to do their jobs well" and "I believe that my co-workers will support me if I have problems". The scale exhibits good reliability (Cronbach's  $\alpha$ = .93) and it has good validity as well (Ferres, 2003).

Lastly, work motivation was measured using the Motivation at Work Scale (MAWS) (Gagné et al., 2010). The scale consisted of 12 items and respondents were required to choose between 1= "Not at all" to 7= "exactly". The reliability was good (Cronbach's  $\alpha$ = 0.80) and the scale was valid (Gagné et al., 2010).

#### **Procedure/ Design**

The study was conducted using a survey method and the questionnaire was constructed on the tool, Sunet Survey. For data collection, IT companies in Sweden and Denmark were contacted and upon agreeing to collaborate an online link for the questionnaire was sent, inviting employees of said companies to participate in the study. Participants were also asked to share the link with their colleagues, friends and acquaintances working in the same sector. It took around 15 minutes to complete the questionnaire.

#### Ethics

The study was designed to follow the ethical guidelines required by the Swedish Research Council, as well as the provisions outlined in the Swedish Ethical Review Act. Apart from that the study also conformed to the ethical guidelines and standards prevalent in Denmark. These strict standards were upheld to ensure the protection and respect of the participants involved in the study. Data was collected anonymously in order to protect the identities of the participants. Additionally, before starting the data collection process, all the participants were required to read through and agree to an informed consent form which consisted of their rights, including the option to stop responding to the questionnaire and withdraw their consent to participate at any point during the study, without facing any negative consequences. The participants were also assured that their responses would be treated with the utmost confidentiality, so that their responses remained anonymous throughout the research process.

## Analysis

The data collected for this study were analyzed using the software JASP software (JASP Team, 2024; version 0.18.3). A significance level of p < 0.05 was deemed acceptable for determining statistical significance in this study.

## **Descriptive Statistics**

Descriptive statistics were first computed to summarize the demographic characteristics of the 57 participants, including gender, age, country of employment (Sweden or Denmark), and organizational tenure ie. how long they worked in the company. For this purpose means and standard deviations were calculated for each of the variables and Shapiro-Wilk test was also conducted to test the normality of the variables.

#### **Reliability Analysis**

The reliability of the scales used to measure psychological safety, team trust, and work motivation was assessed using Cronbach's alpha.

## **Correlation Analysis**

Pearson's correlation coefficients were calculated to examine the strength and direction of relationships between psychological safety, team trust, and work motivation.

## Mediation Analysis

To further explore the relationships between these variables, a mediation analysis was performed to investigate whether team trust mediates the relationship between psychological safety and work motivation. It was conducted using the maximum likelihood estimator, with significance determined by the z-value and corresponding p-values.

#### Independent Samples T-Test

Additionally, an independent samples t-test was conducted to explore potential differences in work motivation, psychological safety, and team trust between participants from Sweden and Denmark.

### Results

#### **Descriptive Statistics**

These descriptive statistics provided a foundational understanding of the sample, which consisted of 57 IT professionals from Sweden and Denmark. The sample comprised of 29 identifying as male and 28 as female (49.12%). The majority of participants were based in Sweden (n = 36, 63.16%), with the remaining participants based in Denmark (n = 21, 36.84%). Participants' ages ranged from 18 to 55 years, with the majority (53.63%) falling within the 26-35 year age group. Regarding organizational tenure, 36.84% of participants had been with their current company for less than a year. The frequency table can be found in appendix (see Table 6).

The psychological safety scale demonstrated acceptable reliability with a Cronbach's alpha of 0.76, indicating internal consistency among the items. The team trust scale showed excellent reliability with a Cronbach's alpha of 0.97, suggesting that the items consistently measured the construct of trust within teams. The work motivation scale also demonstrated good reliability with a Cronbach's alpha of 0.82, confirming the consistency of the scale.

Table 1 presents the means, standard deviations, and Shapiro-Wilk test results for the key variables: Psychological Safety, Team Trust, and Work Motivation. These descriptive statistics provide a general overview of the sample's responses.

## Table 1

Variable	М	SD	Shapiro-Wilk	p-value
			W	
PsS	25.32	4.69	0.97	0.23
TmT	64.35	14.32	0.93	0.005
WrM	55.44	10.06	0.98	0.56

Descriptive Statistics for Main Variables

*Note.* N = 57; M = Mean; SD = Standard Deviation, PsS = Psychological Safety, WrM = Work Motivation, TmT = Team Trust

Psychological safety had a mean of 25.32 (SD = 4.69), on a scale ranging from 7 to 35, suggesting that participants generally perceived a reasonable degree of psychological safety in their work environments. Team trust had a mean of 64.35 (SD = 14.32) on a scale ranging from 12 to 84, which reflects a relatively high level of trust within teams. The mean level of work motivation across the sample was 55.44 (SD = 10.06), on a scale ranging from 12 to 84, indicating a moderate to high level of motivation among participants. Shapiro-Wilk test was conducted and the results indicated that the distributions of Psychological Safety (p = .23) and Work Motivation (p = .56) did not significantly deviate from normality, suggesting that these variables are approximately normally distributed. However, Team Trust showed a significant deviation from normality (p = .005). This indicates that the distribution for this variable is not normal. Inspite of this, parametric tests were done in order to maintain consistency with the analysis of other variables and to align with the methodological approach used throughout this study. It is also important to note that the sample size of 57 participants provides some degree of resilience against the potential issues arising from non-normality.

As shown in Table 2, the sample was almost evenly split between male and female participants (M = 1.49, SD = 0.50). Most of participants were relatively young within the 26-35 age range (M = 1.86, SD = 0.72) and most participants were based in Sweden (M = 1.86, SD = 0.72) and most participants were based in Sweden (M = 1.86, SD = 0.72) and most participants were based in Sweden (M = 1.86, SD = 0.72) and most participants were based in Sweden (M = 1.86, SD = 0.72) and most participants were based in Sweden (M = 1.86, SD = 0.72) and most participants were based in Sweden (M = 1.86, SD = 0.72) and most participants were based in Sweden (M = 1.86, SD = 0.72) and most participants were based in Sweden (M = 1.86, SD = 0.72) and most participants were based in Sweden (M = 1.86, SD = 0.72) and most participants were based in Sweden (M = 1.86, SD = 0.72) and most participants were based in Sweden (M = 1.86, SD = 0.72) and most participants were based in Sweden (M = 1.86, SD = 0.72) and most participants were based in Sweden (M = 0.72) and most participants were based in Sweden (M = 0.72) and most participants were based in Sweden (M = 0.72) and most participants were based in Sweden (M = 0.72) and most participants were based in Sweden (M = 0.72) and most participants were based in Sweden (M = 0.72) and most participants were based in Sweden (M = 0.72) and most participants were based in Sweden (M = 0.72) and most participants were based in Sweden (M = 0.72) and most participants were based in Sweden (M = 0.72) and most participants were based in Sweden (M = 0.72) and most participants were based in Sweden (M = 0.72) and most participants were based in Sweden (M = 0.72) and most participants were based in Sweden (M = 0.72) and most participants were based in Sweden (M = 0.72) and most participants were based in Sweden (M = 0.72) and most participants were based in Sweden (M = 0.72) and most participants were based (M = 0.72) and

1.37, SD = 0.49). Organizational tenure was found to be varied, with an average tenure of around 2-3 years (M = 2.09, SD = 1.18).

## Table 2

Descriptive Statistics for Demographic Variables

Variable	Μ	SD	Minimum	Maximum
Sex	1.49	0.50	1.00	2.00
Age	1.86	0.72	1.00	4.00
Country	1.37	0.49	1.00	2.00
Organisational	2.09	1.18	1.00	6.00
Tenture				

*Note.* N = 57; M = Mean; SD = Standard Deviation. Sex coded as 1 = Male, 2 = Female; Age coded as 1 = 18-25, 2 = 26-35, 3 = 36-45, 4 = 46-55; Country coded as 1 = Sweden, 2 = Denmark; Organizational Tenure is reported in years.

#### Table 3

Variable	1	2	3
1. PsS	1		
2. TmT	.692***	1	
3. WrM	.217	.478***	1

Pearson's Correlation Coefficients

*Note*. N = 57. \*\*\* p < .001, PsS = Psychological Safety, WrM = Work Motivation, TmT = Team Trust

The analysis revealed a strong positive correlation between psychological safety and team trust (r = 0.69, p < .001), which indicates that a safer psychological environment within teams is closely linked to higher levels of trust (see Table 3). Additionally, there was a positive correlation between team trust and work motivation (r = 0.48, p < .001). This suggests that higher levels of trust within teams are associated with increased motivation among IT professionals. However, the correlation between psychological safety and work

motivation, while positive, was not statistically significant (r = 0.22, p = 0.11). This suggests that psychological safety may not have a directly influence work motivation in this context. The correlation plot can be found in the appendix (see Figure 2).

## Table 4

Variable	t	df	p-value	Mean Difference	95% CI of the Difference
PsS	-0.20	55	.846	-0.33	[-3.68, 3.01]
TmT	-1.33	55	.191	-6.85	[-17.21, 3.51]
WrM	-1.03	55	.306	-3.44	[-10.08, 3.20]

Independent Samples t-Test

*Note.* CI = Confidence Interval, PsS = Psychological Safety, WrM = Work Motivation, TmT = Team Trust

The independent samples t-test results indicate that there are no statistically significant differences between Swedish and Danish IT professionals in terms of work motivation, psychological safety, or team trust (see Table 4). The p-values for all three variables are greater than the 0.05 threshold, indicating that the observed differences in mean scores between the two countries are not statistically significant. Specifically, there were no significant differences in work motivation (t(55) = -1.03, p = 0.31), psychological safety (t(55) = -0.19, p = 0.85), or team trust (t(55) = -1.32, p = 0.19). Hence, contrary to H3, findings suggest that there are no group differences in the levels of impact of psychological safety, team trust and work motivation between IT professionals in Sweden and Denmark.

A mediation analysis was conducted to examine whether team trust mediates the relationship between psychological safety and work motivation (see Table 5). The direct effect of psychological safety on work motivation was not statistically significant (estimate = -0.05, p = 0.17, 95% CI [-0.11, 0.02]). However, the indirect effect through team trust was significant, with the unstandarised estimate of 0.09 (p < .001) with a 95% confidence interval of 0.04 to 0.15. This indicates that while psychological safety alone has a low to medium direct effect on work motivation (r = 0.22), its influence is more when mediated by team trust. This mediation model is shown in Figure 1, where the path from psychological safety to team trust is significant (path coefficient = 0.15, p < .001), and team trust has an effect on work

motivation (path coefficient = 0.63, SE = 0.16, p < .001). Although the total effect of psychological safety on work motivation was positive (estimate = 0.05, p = 0.09), it did not reach statistical significance, highlighting that the indirect path through team trust is important in understanding the relationship between psychological safety and work motivation in this study.

## Table 5

Mediation Analysis

						95% Confidence Interval		
Effect	Pathway	Estimate	SE	Z	р	Lower	Upper	
Direct	PsS →WrM	-0.05	0.03	-1.38	0.17	-0.11	0.01	
Indirect	$PsS \\ \rightarrow TmT \rightarrow WrM$	0.09	0.03	3.49	<0.001	0.04	0.15	
Total	$PsS \rightarrow WrM$	0.05	0.03	1.68	0.09	-0.01	0.10	
Path Coefficients	$TmT \rightarrow WrM$	0.63	0.16	3.98	<.001	0.32	0.94	
	$PsS \rightarrow TmT$	0.15	0.02	7.23	<.001	0.11	0.19	

*Note*. SE = Standard Error, PsS = Psychological Safety, WrM = Work Motivation, TmT =

## Team Trust

## Figure 1

Path Plot of the Mediation Analysis of the Relationship between Work Motivation, Team Trust and Psychological Safety



These findings offer an understanding the potential interactions between psychological safety, team trust, and work motivation in the IT sector in the context of this study, which will be further explored in the discussion section.

#### Discussion

The current study aimed to investigate the role of psychological safety and team trust in determining work motivation among IT professionals in Sweden and Denmark. The results provided partial support for the hypotheses, and shed light on the dynamics between the variables.

*H1* proposed that higher levels of psychological safety could be positively associated with work motivation, but this was not directly supported by the data as the effect of psychological safety on work motivation was not significant. However, the correlation between the two variables shows a low to medium direct effect. This suggests that psychological safety, while important, may not directly enhance work motivation among IT professionals. However, this finding aligns with research indicating that while psychological safety is crucial for team learning and collaboration, its direct impact on individual outcomes like work motivation can be context-dependent (O'Donovan & McAuliffe, 2020). On the other hand, studies in other sectors, such as those by Carmeli et al. (2008), have found a direct link between psychological safety and work motivation, indicating that IT may present challenges that moderate this relationship. It is possible that other factors, such as the nature

of IT work or individual differences, play a more critical role in translating psychological safety into motivation.

*H2*, suggested that team trust could mediate the relationship between psychological safety and work motivation, and this hypothesis was supported by the findings of the study. The mediation analysis revealed a significant indirect effect of psychological safety on work motivation through team trust. This shows that psychological safety plays a role in creating a trusting environment within teams, which in turn positively influences work motivation. This is consistent with findings of a meta-analytic review by Frazier et al. (2016), which highlights the role of psychological safety in promoting team dynamics and enhancing overall team performance in different organizational settings. The review indicates that psychological safety is linked to developing trust within teams, which in turn drives positive outcomes, such as higher motivation among team members.

Additionally, another study emphasizes that psychological safety is instrumental in creating a work environment where employees feel empowered and encouraged to take initiative and be creative (Baer & Frese, 2003). It demonstrates that in environments where psychological safety is prioritized, teams tend to be more likely to exhibit high levels of trust which leads to enhanced motivation and better performance outcomes. This aligns with the finding that psychological safety enhances work motivation by fostering trust among team members.

*H3*, posited that there could be group differences in psychological safety, team trust and work motivation among IT professionals in Sweden and Denmark. However, the independent samples t-tests indicate no significant differences between the two countries for any of the key variables. This lack of significant differences suggests that the cultural context may not play as large a role as initially expected. Another possibility could also be that the IT sector in these countries is characterized by a similar work environment and team dynamics which ultimately lead to comparable perceptions of psychological safety, team trust, and work motivation.

#### **Theoretical Contributions**

The present study contributes to the existing literature by further exploring the mediating role of team trust in the relationship between psychological safety and work motivation. Prior studies have established the importance of psychological safety in fostering

positive organizational outcomes, such as increased collaboration and learning behaviors (Edmondson, 1999; Frazier et al., 2017).

Secondly, the study contributes to the ongoing discourse about the role of psychological safety in innovation and organizational performance. Previous studies such as the one conducted by Baer & Frese (2003) shed light on the importance of psychological safety in creating an encouraging environment for the employees to take initiative and innovate and it was found in the present study that psychological safety may enhance work motivation by fostering trust within teams. Therefore, the findings of the study suggest potential pathways, but do not provide conclusive evidence of causal relationships due to its cross-sectional design.

Futhermore, the study explores cultural context by comparing psychological safety, team trust and work motivation between the IT sector employees from a Scandinavian standpoint. Although the study did not find significant cultural differences in the impact of these factors, they offer insight specific to this sample suggesting that the dynamics of psychological safety and team trust may function similarly across these two countries. Therefore it attempts to explore on a small scale, the possible cultural influences in high-tech work environments. Therefore it indicates that, while cultural nuances are important, the main mechanisms by which psychological safety and trust operate might go beyond cultural boundaries in similar work environments (O'Donovan & McAuliffe, 2020).

Finally, the study contributes to the literature by addressing the non-significant direct effect of psychological safety on work motivation. This contrasts with some studies that have reported a direct relationship such as the one carried out by Carmeli et al. (2008) and highlights the importance of considering sector-specific factors. The demands of IT sector and the potential moderating factors such as task complexity and leadership styles, warrant further exploration and could be especially important for researchers and practitioners who are aiming to apply psychological safety theories across different industries.

### **Practical Implications**

The findings have several practical implications for organizations, particularly those in the IT sector. Firstly, fostering psychological safety within teams remains crucial, but its benefits on work motivation are most effective when it leads to the development of trust. Thus, managers and leaders should prioritize creating a workplace where employees feel safe and confident to express their thoughts and ideas. Additionally, they should actively work on strategies to build and sustain trust within their teams. In order to achieve this, managers could implement various approaches, such as organizing team-building activities both in and out of the office, promoting open and honest communication, and developing effective methods for conflict resolution. These actions are essential for fostering a supportive and trusting work environment, which can lead to better teamwork and higher employee motivation (Joo et al., 2022). For IT managers, these findings suggest that by enhancing trust and adopting leadership styles that empower employees, they can potentially create a psychologically safe environment which may help reduces interpersonal conflicts as well as boost work motivation. This is particularly crucial in high-pressure environments like the IT sector, where team collaboration and innovation are key to success (Roussin et al., 2016).

Secondly, the lack of significant cultural differences between Swedish and Danish participants suggests that strategies for enhancing psychological safety and team trust can be broadly applied across these cultural contexts (Cartland et al., 2022). Organizations operating in similar cultural environments may find that best practices for fostering psychological safety and trust are transferable across borders, at least within the IT sector.

## **Limitations and Future Research**

The non-normality of the Team Trust variable, as indicated by the Shapiro-Wilk test, presents a potential limitation in this study. While the primary analyses used parametric methods, which assume normality, the deviation from this assumption in the case of Team Trust could influence the accuracy of the statistical inferences made. However, a sample size of 57 participants, while modest, does offer some protection against the potential drawbacks of non-normality. In general, larger sample sizes could help to stabilize the estimates and reduce the influence of non-normality on parametric tests and future research could address this issue by employing non-parametric methods or transforming the data to better meet the assumptions of normality.

Additionally, the small sample size doesn't allow the generalizability of the findings. While this study offers insights specific to a limited sample from the IT sector within Sweden and Denmark, the results may not be applicable to other contexts or industries. Future research could be conducted with a larger, more diverse sample that includes participants from different countries outside Scandinavia, to explore these relationships in different cultural settings. Furthermore, the mediation analysis conducted in this study was based on cross-sectional data, which limits the ability to infer causality between the variables. While the analysis suggests that team trust mediates the relationship between psychological safety and work motivation, it does not establish the directionality of these relationships. Longitudinal studies could provide more definitive evidence about the directionality and potential causality between these variables. Additionally, alternative models could also be tested to see if different pathways, such as the influence of work motivation on psychological safety through team trust and so on.

Additionally, incorporating qualitative methods, such as interviews or focus groups, could offer deeper insights into the mechanisms through which psychological safety and trust influence motivation. Such mixed-method approaches would allow researchers to explore the contextual factors and personal experiences that drive these dynamics, offering a richer understanding of how to foster a motivating work environment in various sectors.

#### Conclusion

In conclusion, this study contributes to the understanding of the role played by team trust in mediating the relationship between psychological safety and work motivation among a small sample of IT professionals from Sweden and Denmark. While psychological safety may not directly influence work motivation, it does contribute to the development of trust within teams, which, in turn, drives motivation. Moreover, although the cross-sectional design and the challenges associated with the mediation model limit the ability to draw definitive conclusions about causality, the findings emphasize the importance of fostering environments where employees not only feel psychologically safe but also trust each other in order to maximize employee motivation and, by extension, organizational performance. The study's findings offer practical strategies for organizations looking to improve workplace dynamics and employee outcomes. By recognising and leveraging the interplay between psychological safety and team trust, organizations can create more motivating and productive work environments, ultimately contributing to their success.

#### References

- Alves, M. P., Dimas, I. D., Lourenço, P. R., Rebelo, T., Peñarroja, V., & Gamero, N. (2022).
  Can virtuality be protective of team trust? Conflict and effectiveness in hybrid teams. *Behaviour and Information Technology*, 42(7), 851–868.
  https://doi.org/10.1080/0144929x.2022.2046163
- Baer, M., & Frese, M. (2003). Innovation is not enough: climates for initiative and psychological safety, process innovations, and firm performance. *Journal of Organizational Behavior*, 24(1), 45–68. https://doi.org/10.1002/job.179
- Baldé, M., Ferreira, A. I., & Maynard, T. (2018). SECI driven creativity: the role of team trust and intrinsic motivation. *Journal of Knowledge Management*, 22(8), 1688–1711. https://doi.org/10.1108/jkm-06-2017-0241
- Björk-Fant, J. M., Bolander, P., & Forsman, A. K. (2023). Work–life balance and work engagement across the European workforce: a comparative analysis of welfare states. European Journal of Public Health, 33(3), 430–434. https://doi.org/10.1093/eurpub/ckad046
- Breuer, C., Hüffmeier, J., & Hertel, G. (2016). Does trust matter more in virtual teams? A meta-analysis of trust and team effectiveness considering virtuality and documentation as moderators. *Journal of Applied Psychology*, *101*(8), 1151–1177. https://doi.org/10.1037/ap10000113
- Bülbül, S., İşiaçık, S., & Aytaç, S. (2022). Measurement of Perceived Psychological Safety: integration, review and evidences for the scale in the context of Turkey. *Journal of Economy Culture and Society*, 0(0), 0. https://doi.org/10.26650/jecs2021-974757
- Carmeli, A., Brueller, D., & Dutton, J. E. (2008). Learning behaviours in the workplace: The role of high-quality interpersonal relationships and psychological safety. *Systems Research and Behavioral Science*, 26(1), 81–98. https://doi.org/10.1002/sres.932

Cartland, J., Green, M., Kamm, D., Halfer, D., Brisk, M. A., & Wheeler, D. (2022).
 Measuring psychological safety and local learning to enable high reliability organisational change. *BMJ Open Quality*, *11*(4), e001757.
 https://doi.org/10.1136/bmjoq-2021-001757

- Costa, A. C., Fulmer, C. A., & Anderson, N. (2017). Trust in work teams: An integrative review, multilevel model, and future directions. *Journal of Organizational Behavior*, *39*(2), 169–184. https://doi.org/10.1002/job.2213
- Dirks, K. T., & De Jong, B. (2022). Trust within the Workplace: A review of two waves of research and a glimpse of the third. *Annual Review of Organizational Psychology and Organizational Behavior*, 9(1), 247–276.

https://doi.org/10.1146/annurev-orgpsych-012420-083025

- Edmondson, A. (1999). Psychological safety and learning behavior in work teams. Administrative Science Quarterly, 44(2), 350–383. https://doi.org/10.2307/2666999
- Edmondson, A., & Lei, Z. (2014). Psychological Safety: the history, renaissance, and future of an interpersonal construct. *Annual Review of Organizational Psychology and Organizational Behavior*, 1(1), 23–43.

https://doi.org/10.1146/annurev-orgpsych-031413-091305

Ferres, N. (2003). Development and Validation of the WTS 1 The Development and Validation of the Workplace Trust Survey (WTS): Combining Qualitative and Quantitative Methodologies Paper to be Presented at APROS, Mexico 2003 Emotions, Attitudes and Culture Stream.
https://www.semanticscholar.org/paper/Development-and-Validation-of-the-WTS-1-T

he-and-of-Ferres/00dd98535dceef1b7c22380b5ed5dc154a358ee2

- Ferres, N., Connell, J., & Travaglione, A. (2004). Co-worker trust as a social catalyst for constructive employee attitudes. *Journal of Managerial Psychology*, 19(6), 608–622. https://doi.org/10.1108/02683940410551516
- Frazier, M. L., Fainshmidt, S., Klinger, R. L., Pezeshkan, A., & Vracheva, V. (2016). Psychological Safety: A Meta-Analytic Review and Extension. *Personnel Psychology*, 70(1), 113–165. https://doi.org/10.1111/peps.12183
- Gagné, M., Forest, J., Gilbert, M., Aubé, C., Morin, E. M., & Malorni, A. (2010). The motivation at work scale: Validation evidence in two languages. *Educational and Psychological Measurement*, 70(4), 628–646. https://doi.org/10.1177/0013164409355698
- Grailey, K., Leon-Villapalos, C., Murray, E., & Brett, S. (2022). Exploring the working environment of Hospital Managers: a mixed methods study investigating stress, stereotypes, psychological safety and individual resilience. *BMC Health Services Research*, 22(1). https://doi.org/10.1186/s12913-022-08812-7
- Hu, J., Erdoğan, B., Jiang, K., Bauer, T. N., & Liu, S. (2018). Leader humility and team creativity: The role of team information sharing, psychological safety, and power distance. *Journal of Applied Psychology*, *103*(3), 313–323. https://doi.org/10.1037/apl0000277
- Javed, B., Naqvi, S. M. M. R., Khan, A. K., Arjoon, S., & Tayyeb, H. H. (2017). Impact of inclusive leadership on innovative work behavior: The role of psychological safety. *Journal of Management & Organization*, 25(1), 117–136. https://doi.org/10.1017/jmo.2017.3

Long, C. (2018). To control and build trust: How managers use organizational controls and trust-building activities to motivate subordinate cooperation. *Accounting, Organizations and Society*, 70, 69–91. https://doi.org/10.1016/j.aos.2018.05.006

- Joo, B., Yoon, S. K., & Galbraith, D. (2022). The effects of organizational trust and empowering leadership on group conflict: psychological safety as a mediator. Organization Management Journal, 20(1), 4–16. https://doi.org/10.1108/omj-07-2021-1308
- Mitterer, D. M., & Mitterer, H. E. (2023). The Mediating Effect of Trust on Psychological Safety and Job Satisfaction. *Journal of Behavioral and Applied Management*, 23(1). https://doi.org/10.21818/001c.73642
- Morrissette, A. M., & Kisamore, J. L. (2020). Trust and performance in business teams: a meta-analysis. *Team Performance Management*, 26(5/6), 287–300. https://doi.org/10.1108/tpm-02-2020-0012
- Nawaz, M. R., Ishaq, M. I., Ahmad, R., Faisal, M., & Raza, A. (2022). Team diversity, conflict, and trust: Evidence from the health sector. *Frontiers in Psychology*, 13. https://doi.org/10.3389/fpsyg.2022.935773
- Newman, A., Donohue, R., & Eva, N. (2017). Psychological safety: A systematic review of the literature. *Human Resource Management Review*, 27(3), 521–535. https://doi.org/10.1016/j.hrmr.2017.01.001
- O'Donovan, R., & Mcauliffe, E. (2020). A systematic review of factors that enable psychological safety in healthcare teams. International Journal for Quality in Health Care, 32(4), 240–250. https://doi.org/10.1093/intqhc/mzaa025
- Pancasila, I., Haryono, S., & Sulistyo, B. A. (2020). Effects of Work Motivation and Leadership toward Work Satisfaction and Employee Performance: Evidence from

Indonesia. *Journal of Asian Finance Economics and Business*, 7(6), 387–397. https://doi.org/10.13106/jafeb.2020.vol7.no6.387

- Prabhu, N., Ramaprasad, B. S., Prasad, K., & Modem, R. (2021). Does workplace spirituality influence reflexivity in ongoing teams? Examining the impact of shared transformational leadership on team performance. *South Asian Journal of Business Studies*, *11*(3), 341–369. https://doi.org/10.1108/sajbs-07-2020-0246
- Roussin, C. J., MacLean, T. L., & Rudolph, J. W. (2016). The safety in unsafe teams. *Journal of Management*, *42*(6), 1409–1433. https://doi.org/10.1177/0149206314525204
- Shahid, A. (2018). Employee intention to stay: An environment based on trust and motivation. *Journal of Management Research*, 10(4), 58. https://doi.org/10.5296/jmr.v10i4.13680
- Vo, T. T. D., Tuliao, K. V., & Chen, C. (2022). Work motivation: the roles of individual needs and social conditions. *Behavioral Sciences*, 12(2), 49. https://doi.org/10.3390/bs12020049
- Xu, Z., Wang, H., & Suntrayuth, S. (2022). Organizational climate, innovation orientation, and innovative work behavior: the mediating role of psychological safety and intrinsic motivation. *Discrete Dynamics in Nature and Society*, 2022, 1–10. https://doi.org/10.1155/2022/9067136

## Appendix

## Table 6

Frequency Table for Demographic

	N=	= 57
Demographic Variables	п	Percent
Sex		
Male	29	50.88
Female	28	49.12
Age		
18-25	18	31.58
26-35	30	52.63
36-45	8	14.03
46-55	1	1.75
Country		
Sweden	36	63.16
Denmark	21	36.84
Organisational Tenure		
(in years)		
<1	21	36.84
1-2	20	35.09
3-5	11	19.29
5-7	1	1.75
8-10	3	5.26
10>	1	1.75

## Figure 2

Correlation plot



## **Questionnaire for Data Collection**

#### **Psychological Safety**

In this section you will be responding to some items regarding team Psychological Safety at your workplace.

Please read the items carefully and rate them from 1 to 5 where, 1 is low and 5 is high.

	Strongly Disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly Agree 5
If you make a mistake on this team, it is often held against you.	0	0	0	0	0
Members of this team are able to bring up problems and tough issues.	0	0	0	0	0
People on this team sometimes reject others for being different.	$\bigcirc$	0	0	0	0
It is safe to take a risk on this team.	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
It is difficult to ask other members of this team for help.	0	0	0	0	0
No one on this team would deliberately act in a way that undermines my efforts.	0	0	0	0	0
Working with members of this team, my unique skills and talents are valued and utilized.	0	0	0	0	0

#### Team Trust

In this section you have to indicate your opinion regarding your relationship with your coworkers.

Please read the items carefully and rate them from 1 to 7.

Here, 1= "Strongly Disagree" and 7= "Strongly Agree".

	Strongly Disagree 1	2	3	4	5	6	Strongly Agree 7
I feel I can trust my co-workers to do their jobs well.							
I proceed with the knowledge that my co- workers are considerate of my interests.							
I believe that my co-workers will support me if I have problems.							
Most employees at this organization believe that co-workers are reliable.							
I feel confident that my co-workers appreciate my good work.				$\bigcirc$		0	
I feel that my co-workers are truthful in their dealings with me.							
I think that my co-workers act reliably from one moment to the next.							
I will act on the foundation that my co-workers display ethical behavior.							
Most employees at this organization believe that co-workers will be supportive if problems arise.							
I believe that my co-workers give me all the information to assist me at work.	0	$\bigcirc$	0	$\bigcirc$		$\bigcirc$	0
Employees at this organization generally feel that co-workers appreciate their good work.							
I behave on the basis that my co-workers will not disclose personal information.							

#### **Work Motivation**

In this final section you will be responding to some items related to work motivation.

Please read the items carefully and using the scale below, indicate for each of the following statements to what degree they presently correspond to one of the reasons for which you are doing this specific job.

Here, 1= not at all; 2= very little; 3 = a little; 4 = moderately; 5 = strongly; 6 = very strongly; 7= exactly.

	Not at all 1	Very little 2	A little 3	Moderately 4	Strongly 5	Very strongly 6	Exactly 7
Because I enjoy this work very much	$\bigcirc$	0	0	0		0	$\bigcirc$
Because I have fun doing my job	$\bigcirc$	0	0	$\bigcirc$		0	$\bigcirc$
For the moments of pleasure that this job brings me	$\bigcirc$	0	0	0	$\bigcirc$	0	$\bigcirc$
I chose this job because it allows me to reach my life goals	$\bigcirc$	0	0	0		0	$\bigcirc$
Because this job fulfills my career plans	$\bigcirc$	$\bigcirc$	0	$\bigcirc$	$\bigcirc$	0	$\bigcirc$
Because this job fits my personal values	$\bigcirc$	$\bigcirc$	0	$\bigcirc$		$\bigcirc$	$\bigcirc$
Because I have to be the best in my job, I have to be a "winner"	$\bigcirc$	0	0	0	$\bigcirc$	0	$\bigcirc$
Because my work is my life and I don't want to fail					$\bigcirc$		
Because my reputation depends on it	$\bigcirc$	$\bigcirc$	0	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Because this job affords me a certain standard of living	$\bigcirc$	0	0	0		0	$\bigcirc$
Because it allows me to make a lot of money	0	0	0	0	$\bigcirc$	0	$\bigcirc$
I do this job for the paycheck	$\bigcirc$	0	0	0		0	$\bigcirc$