Psychological Safety and Its Impact on Employee Engagement: Implications for Management

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Abstract

The aim of this article is to systematise knowledge on psychological safety in teams operating in large organisations and to diagnose the relationship between psychological safety and employee engagement, accounting for differences by job level, tenure, and organisational size and industry profile. The study employed a questionnaire survey of 137 employees across sectors and job levels, using standardised scales to measure both constructs: (1) Amy Edmondson's psychological safety scale and (2) an adapted version of Gallup's Q12 employee engagement questionnaire. Statistical analyses confirmed a significant positive correlation between psychological safety and employee engagement. Higher values of both indicators were also observed among individuals in higher managerial positions and with longer tenure, as well as in consulting and development-oriented sectors and in the largest organisations; no differences by gender were found. The findings suggest that psychological safety and employee engagement should be treated as complementary mechanisms shaping positive and productive working conditions. Considering these results, practical recommendations are formulated for the management.

Keywords

psychological safety, employee engagement, job satisfaction

Introduction

In large enterprises and multinational corporations, day-to-day work requires tight coordination across multiple teams, rapid information exchange, and timely responses to operational risks. This context heightens the importance of high-quality communication and early problem disclosure, which can directly and positively influence business outcomes and organisational stability [Edmondson and Bransby, 2023, p. 55-78]. The choice of this population is pragmatic as large organisations typically have established employee-survey cycles, HR toolsets, and implementation procedures that facilitate the execution of a streamlined research design and the direct translation of findings into managerial practice [*ibidem*]. Similar mechanisms may also operate in small and medium-sized enterprises, start-ups, and non-profits. Thus, the present findings may provide a useful point of reference for these organisations, although empirical verification lies beyond the scope of this paper.

The main objective of this study is to systematise knowledge about psychological safety in teams operating within large organisations and to assess the relationship between psychological safety and employee engagement, accounting for differences by job level, tenure, organisational size, and industry profile. The paper synthesises empirical findings and measurement approaches, then tests the co-occurrence of the focal constructs in a quantitative analysis based on original data, and identifies examples of leadership practices, team routines, and HR interventions that may strengthen this linkage. The results inform an integrated implementation model and yield recommendations for managers to ensure that standards for cultivating a psychologically safe climate consistently translate into sustained gains in engagement, improved task execution, and higher overall job satisfaction.

The central concept is *psychological safety*, understood as a shared belief among team members that taking interpersonal risks (e.g., asking questions, admitting mistakes, proposing ideas) will not lead to punishment or incur status- or relationship-related costs [Edmondson, 1999, p. 350-383]. The literature indicates that psychological safety supports team learning, the quality of collaboration, coordination, and innovation, so processes critical in complex organisations [Edmondson and Bransby, 2023, p. 77]. Recent research also highlights links between psychological safety, the psychosocial safety climate, and managerial practices that together strengthen information exchange, readiness to act, and team cohesion [Dong et al, 2024, p. 1-19].

The second key concept is *employee engagement*. In Gallup's framing, it denotes attachment to one's role and workplace, a readiness to exert effort, and the energy invested in tasks [Gallup Inc, https://www.gallup.com, 17.08.2025]; it is clearly as-

sociated with business-unit outcomes [Schaufeli and Bakker, 2004, p. 293-315]. Academic literature describes engagement as a positive, fulfilling state characterised by vigour, dedication, and absorption by work [Harter et al. 2009, p.1-33]. Polish scholarship emphasises both psychological and organisational dimensions (e.g., working conditions, leadership, and identification with the organisation) and their consequences for performance and turnover [Moczydłowska, 2019, p. 162-171].

The relationship between psychological safety and employee engagement has been repeatedly documented. Reviews and meta-analyses show that psychological safety facilitates behaviours beneficial to organisations, like knowledge sharing, initiative, and learning, that are linked to higher engagement [Frazier et al., 2017, p. 113-165]. Some studies emphasise additional mediating mechanisms, such as *employee voice*, whereby freedom to express ideas increases activity and shared responsibility for results [Ge, 2020, p. 1-7]. Others point to leadership styles and perceived organisational support that reinforce both psychological safety and engagement [Wowor and Dewi, 2022, p. 32-42; Boikanyo and Naidoo, 2023, p. 1100-1109; Vakira et al., 2023, p. 819-834]. Taken together, the literature indicates both direct and indirect pathways between the two constructs, supporting the present investigation of their interdependence in large organisations.

This is an applied study, purposefully designed with a simple correlational design to estimate the strength and direction of association between psychological safety and employee engagement in large enterprises and multinational corporations, and to translate the findings into actionable managerial recommendations.

Psychological safety is measured with Amy Edmondson's original survey items, widely used in organisational research [Edmondson, 1999, p. 363; Edmondson, 2019, p. 19-20], and employee engagement is assessed with an adapted version of the Gallup Q12 questionnaire [Gallup Inc., https://www.gallup.com/q12-employee-engagement-survey, 17.08.2025]. Using these concise, well-validated instruments enabled efficient execution of the study and the derivation of clear implementation guidance.

1. Literature review

1.1. Psychological safety – the essence and its significance

Psychological safety is a shared belief among team members that speaking openly about errors, doubts, or problems and proposing new solutions will not incur negative consequences for one's standing in the group [Edmondson, 1999, p. 350]. It is a precondition for the interpersonal risk-taking that enables difficult issues to be

surfaced and discussed, which is critical to decision quality and the pace of team learning [Edmondson, 2019, p. 350; Edmondson and Bransby, 2023, p. 63-64]. The emphasis is not on creating a "nice atmosphere" but on communication norms that enable rapid knowledge flow and timely course correction without fear of embarrassment or sanction from supervisors [*ibidem*]. Psychological safety develops over time, typically at the team level, stabilising expectations about others' reactions and becoming part of the work climate [Edmondson and Lei, 2014, p. 23-43].

Measurement commonly relies on brief surveys, most notably Amy Edmondson's seven-item scale, which has been repeatedly validated [Edmondson, 1999, p. 363]. The scale gauges beliefs about reactions to errors and questions. Results are frequently aggregated to the team or unit level, which supports practical interpretation and targeted intervention [Edmondson and Lei, 2014, p. 30]. In organisational practice, quantitative assessment should be paired with light qualitative inquiry (e.g., focus groups) to distinguish genuine psychological safety from agreeableness or polite conflict avoidance [Edmondson and Bransby, 2023, p. 63].

Practical implications have gained traction following repeated findings that higher team psychological safety is associated with greater error reporting and, consequently, better prevention, faster learning, and more effective cross-functional collaboration [Edmondson, 2019, p. 9-11]. Synthesis papers identify it as one of the best-established process factors in team behaviour, alongside role clarity and work coordination [Edmondson and Bransby, 2023, p. 61]. Its links to organisational performance are often indirect, operating through efficacy-enhancing behaviours such as knowledge sharing, individual initiative, adaptation to change, and organisational citizenship [Frazier et al., 2017, s 148-149; Abror and Patrisia, 2020, p. 3634-3644].

Employee voice is a prominent mechanism linking psychological safety to outcomes. When the interpersonal cost of speaking up is low, employees surface risks and propose improvements more readily, enabling faster course correction [Ge, 2020, p. 3-4]. In practice, this yields earlier warning signals and experimentation with alternatives that reduce error costs and accelerate learning [Edmondson andF Bransby, 2023, p. 56]. A complementary pathway involves *psychological empowerment* and *meaningfulness*, which energise employees and increase their readiness to invest extra effort that are core elements of engagement [Frazier et al., 2017, p. 116].

From the perspective of the *job demands—resources* (JD-R) model, psychological safety functions as a social resource [Schaufeli et al., 2002, p. 71-92]. It helps regulate informational and emotional load, activates motivational pathways, and indirectly supports engagement [*ibidem*]. At the organisational level, it is facilitated by the psychosocial safety climate – the belief that health and wellbeing are management priorities – because such a climate strengthens and sustains expressions of

psychological safety within teams [Dong et al., 2024, p. 1]. Polish scholarship similarly stresses that a climate grounded in partner-like communication, procedural justice, supportive and inclusive leadership, builds trust and collaboration, thereby strengthening psychological safety [Steinerowska-Streb, 2020, p. 3-11].

Psychological safety does not arise or persist spontaneously, however. Key catalysts for it to develop include:

- leader behaviours, like availability, curiosity, and a visible willingness to learn from employees, which signal that raising doubts and reporting errors are expected parts of work [Edmondson and Lei, 2014, p. 31]; while inclusive leadership strengthens safety and, indirectly, engagement [Vakira et al., 2023, p. 282];
- the quality of leader - member relationships and perceived organisational support, which promote openness and speaking up [Mao and Tian, 2022, p. 31-39; Boikanyo and Naidoo, 2023, p. 1102];
- team norms and explicit work practices, like role clarity, task allocation, responses to errors, and feedback routines, that reduce interpersonal risk and stabilise psychological safety over time [Edmondson and Bransby, 2023, p. 64].

In large organisations and corporate settings, the practical value of psychological safety is particularly salient. Process complexity, task interdependence, and the speed of change increase the risk of "silent errors" that do not reach decision-makers without a culture of openness. Teams with higher psychological safety detect deviations earlier, flag threats to operational continuity more readily, and conduct post-event reviews more consistently, thereby improving organisational effectiveness [Edmondson, 2019, p. 111; Abror and Patrisia, 2020, p. 3635]. Psychological safety thus serves a dual function because it reduces organisational loss while boosting engagement by increasing employees' perceived influence over results [Frazier et al., 2017, p. 114-115].

Recent studies position psychological safety as a bridge between managerial practices and engagement-related behaviours. Inclusive leadership, supervisory support, and organisational justice strengthen safety, which in turn promotes activity and willingness to expend extra effort [Vakira et al., 2024, p. 822-823; Mao and Tian, 2022, p. 31; Boikanyo and Naidoo, 2023, p. 1107]. These relationships are central here, as they imply that initiatives to build psychological safety can meaningfully support employee engagement, translating into improved quality, productivity, and retention [Frazier et al., 2017, p. 141].

1.2. Employee engagement in the organisational settings

In this paper, employee engagement is defined as a sustained, positive state directed towards work and the organisation, manifested as energy, dedication, and task focus [Schaufeli et al., 2022, p. 73-75; Truss et al., 2013, p. 19-20]. Unlike momentary job satisfaction, engagement reflects a relatively stable readiness to exert extra effort, share responsibility for results, and actively propose improvements [*ibidem*]. Polish scholarship highlights psychological dimensions (identification, meaning) and organisational dimensions (working conditions, human-capital management practices) and their importance for work quality and retention [Moczydłowska, 2013, p. 166; Borkowska, 2014, p. 9-26].

Two dominant measurement approaches prevail in literature. First, diagnostic indices focused on key work conditions and experiences – most widely Gallup's Q12 – deployed broadly due to their simplicity, repeatability, multilingual availability, and sound psychometrics [Gallup Inc, https://www.gallup.com/q12-employee-engagement-survey, 17.08.2025]. Second, state-based scales, notably the Utrecht Work Engagement Scale (UWES), which measures vigour, dedication, and absorption [Schaufeli et al., 2006, p. 701-716].

The practical significance of engagement for tangible organisational benefits has been robustly demonstrated in meta-analyses of Q12 studies [Harter, 2009, p. 6-7]. Teams with higher engagement achieve better productivity, quality, safety, absenteeism, and turnover outcomes at the team and business-unit levels [*ibidem*]. More recent reviews confirm engagement's role as a conduit between job resources and results via positive organisational behaviours such as initiative, knowledge sharing, and customer orientation [Chandani et al., 2016, p. 1-7; Motyka, 2018, p. 227-244].

Within the job demands - resources (JD-R) framework, engagement arises when resources exceed demands [Schaufeli et al., 2002, p. 87]. Resources, like autonomy, supervisory support, feedback, and development opportunities, activate motivational processes that increase vigour, dedication, and absorption, whereas excessive, unmanaged demands promote strain and lower engagement [*ibidem*]. Leadership quality, procedural justice, and perceived organisational support are pivotal resources [Truss et al., 2013, p. 64-66; Barik and Kochar, 2017, p. 33-38]. Polish research shows that HR practices (e.g., transparent appraisal, development opportunities, effective internal communication) create conditions for stronger identification and extra-role effort [Borskowska, 2014, p. 10; Lewicka and Rakowska, 2016, p. 102-115].

Mechanisms linking resources to employee engagement operate at three complementary levels:

- Cognitive – evaluative, where goal and role clarity facilitate sense-making and strengthen task identification [Truss et al., 2013, p. 131-148].
- Emotional – relational, where supervisory support and justice promote a positive climate, raising willingness to go beyond minimum role requirements [Barik and Kochar, 2017, p. 34].
- Agentic, where autonomy and influence over task execution increase felt control and responsibility, translating into perseverance and initiative [Schaufeli et al., 2002, p. 75].

Organisations bolster these mechanisms through communication rituals, regular feedback, alignment of personal and team goals with firm objectives, and access to development opportunities and tools [Truss et al., 2013, p. 180-194; Motyka, 2018, p. 230].

Measurement and interpretation issues merit attention, however. Some authors note potential overlap between employee engagement and adjacent constructs such as job satisfaction or organisational commitment [Motyka, 2018, p. 230]. Q12 implementations demonstrate strong practical utility, despite focusing largely on experiences and conditions rather than the phenomenological state of engagement [Vale, 2011, p. 3-88; Truss et al., 2013, p. 273-290]. Accordingly, this paper employs the Q12 approach as a validated diagnostic indicator of organisational engagement, complementary to broader theoretical models.

To conclude, higher engagement can be associated with greater productivity, lower absenteeism, better work quality and safety, reduced turnover, and stronger financial and non-financial results [Chandani, 2016, p. 2-5; Motyka, 2018, p. 232].

1.3. Psychological safety and employee engagement – studies' review

A useful starting point views psychological safety as one of three psychological conditions (meaningfulness, safety, availability) enabling full job—role engagement [Khan, 1990, p. 692-724]. Over the past two decades, scholarship has emphasised psychological safety as a gateway for information flow and learning as it lowers the interpersonal risk of expressing opinions and dissenting views, encourages problem reporting and error disclosure, and normalises experimentation, all of which are conducive to engagement [Boikanyo and Naidoo, 2023, p. 1107; Edmondson and Bransby, 2023, p. 70].

Frazier et al. [2017, p. 114] meta-analysis found that psychological safety is positively associated with engagement-indicative behaviours such as knowledge sharing, proactivity, knowledge exchange and learning. In practical terms, this translates into more improvement suggestions generated by employees, greater willingness to

implement changes, faster course correction, and actions that enhance team effectiveness. In studies conducted in services sector, higher psychological safety was associated with higher engagement which, in turn, relates to greater creativity, initiative, and customer orientation, suggesting that psychological safety increases engagement and engagement catalyses further prosocial behaviours [Ge, 2020, p. 1-2; Kim et al., 2020, p. 1-15].

Employee voice is another useful individual-level indicator. When the perceived cost of speaking up is low, people voice concerns more often, which deepens task involvement and ownership of outcomes [Ge, 2020, p. 1; Weiss and Zacher, 2021, p. 6-7]. The leader – member exchange (LMX) literature similarly shows that high-quality supervisory relationships strengthen psychological safety which, consequently, is linked to higher engagement [Mao and Tian, 2020, p. 37]. The more accessible, curious, and learning-oriented the leader, the greater employees' readiness to invest additional time and energy into work at hand [*ibidem*]. Comparable findings emerge for inclusive leadership and perceived organisational support – both enhance psychological safety, thereby supporting engagement [Vakira et al., 2023, p. 826-827; Boikanyo and Naidoo, 2023, p. 1107; Atuahene et al., 2024, p. 4; Dong et al., 2024, p.1-2].

Polish scholarship adds that fair human capital practices, access to development opportunities, and partnership-based communication build trust and organisational identification, supporting both psychological safety and engagement [Moczydłowska, 2013, p. 163-164; Lewicka and Rakowska, 2016, p. 105-107]. This is especially salient in large, complex organisations where the costs of disengagement, reduced innovation or diminished creativity can severely undermine financial and non-financial results.

Meta-analytic evidence illustrates the scale of potential business benefits, most interestingly higher engagement (measured with Q12) correlates positively with productivity, quality, and safety, and negatively with absenteeism and turnover in key roles [Harter et al., 2009, p. 14]. While not causal evidence, the consistency across years and large samples strengthens the hypothesis that by raising psychological safety, organisations have a real opportunity to lift and sustain employee engagement and performance [*ibidem*].

Methodological limitations, however, are to be noted. Many studies are cross-sectional and rely on self-report [Newman et al., 2017, p. 521], complicating causal inference and measures are frequently heterogeneous (e.g., UWES vs Q12) and levels of analysis vary (individual vs team aggregation) [Truss et al., 2013, p. 273-290].

That is why multilevel, repeated measures designs, that combine surveys with administrative and operational data, are recommended to capture dynamics and support generalisations [Newman et al., 2017, p. 530-533].

2. Methodology

This part presents the assumptions and procedures of a concise questionnaire study aimed at describing the relationship between psychological safety and employee engagement in large enterprises and multinational corporations. The unit of analysis is the individual employee, and results are also interpreted at the individual level without aggregation to teams. Psychological safety is measured using Amy Edmondson's short scale, repeatedly validated in empirical research [Edmondson, 1999, p. 363; Edmondson and Lei, 2014, p. 38; Edmondson, 2019, p. 19-20], here adapted for respondent self-report. Engagement is assessed with an adapted Q12 questionnaire [Harter et al., 2009, p. 8-10], which has widely documented reliability and validity and is commonly used in regular corporate engagement surveys. The present study does not include separate psychometric validation, relying on already published evidence and established practice [Edmondson, 2019, p. 19-20].

2.1. Objectives of the study

This study examines the relationship between the self-reported level of psychological safety and employee engagement in large enterprises and multinational corporations. The primary aim is to assess the strength and direction of the correlation between these constructs under everyday work conditions, without modelling other, potentially related mediating mechanisms.

The overall objective is to describe the interdependence of the two variables and to verify whether it persists after controlling for basic respondent characteristics and job specifics (e.g., tenure, career level, industry).

The practical objective is to formulate concrete recommendations for management on actions to strengthen psychological safety and employee engagement, based on the study's findings and a systematic review of the literature.

2.2. Research problem hypotheses

The research problem in this study concerns the relationship between psychological safety and employee engagement in large enterprises and multinational corporations. The question to be tested is whether a higher level of an individual's self-

reported psychological safety goes hand in hand with a higher level of their work engagement. The rationale for the expected direction of the relationship follows from prior research showing that psychological safety fosters cooperative behaviours that are a determinant of higher engagement [Frazier et al., 2017, p. 120].

Considering the research problem described above and the previously defined study objectives, the following research hypotheses were formulated:

- Hypothesis 0: Psychological safety is not significantly associated with employee engagement.
- Hypothesis 1: Psychological safety is positively correlated with employee engagement.
- Hypothesis 2: Psychological safety remains a significant positive predictor of employee engagement after controlling for independent variables.

In this study, the number of alternative hypotheses was limited to two to adhere to a simple research design and avoid overcomplicating the analysis. Mediation and causal hypotheses were also omitted, as they would go beyond the purpose of the study and would require a larger and more diverse sample and additional modelling assumptions that are not necessary to address the overall research objective.

2.3. Study population and sample selection

The population comprises employees of large enterprises and multinational corporations employing more than 250 people. The sampling was purposive within the organizations available to the author and the author's business network. The unit of analysis is the individual employee, with no aggregation of data to the team or business unit level. Inclusion criteria were: employment in a large enterprise and at least three months' tenure in the organization – so that the respondent would have real experience of the work environment. Excluded were individuals in a probationary period shorter than three months, those from organizations with fewer than 250 employees, and employees of the public sector or non-profit organizations.

Only essential contextual data were collected, such as tenure with the company, department/function, job level, industry, and organization size, while demographic data were limited to the bare minimum (e.g., gender, age, education) to increase respondents' comfort and reduce the risk of identifying individuals.

The study was designed with an intended sample size of at least $N = 120$[1] to obtain the most reliable possible estimate of the correlation between psychological safety and employee engagement [see: Bedyńska and Cypryańska, 2013, p. 34-40].

[1] With $\alpha = 0.05$ and power = 0.80, the approximate sample sizes are: for $r \approx 0.20$, about 190–200 participants; for $r \approx 0.25$, about 120–130 participants; and for $r \approx 0.30$, about 85–90 participants. Therefore, the target sample size was

2.4. Research tools and design

Two short self-report instruments were used in the study and combined into a single questionnaire:

- Amy Edmondson's scale [Edmondson, 1999, p. 363] includes seven statements describing, among others, willingness to ask questions, report mistakes, and ask for help, rated on a five-point Likert scale (with some items reverse-coded).
- Adapted Q12 questionnaire [Harter et al., 2009, p. 8-10] contains 12 items addressing, among others, key working conditions such as clarity of expectations, access to resources, recognition, and opportunities for development, plus one additional item on overall job satisfaction, all rated on a five-point Likert scale.

A unified questionnaire was prepared in digital form using Google Forms, in both Polish and English, maintaining content and scaling equivalence. Completion should take no more than 5 minutes. To reduce common method bias, the questionnaire was arranged in a fixed order of thematic blocks: first the psychological safety items, followed by engagement items, and finally the demographic section. Within each block, the order of items was fixed, and the instructions emphasized the neutrality of the questions, and full anonymity.

Data were collected via an online survey through: (1) an invitation sent to HR departments of selected organizational units, and (2) individual invitations within the author's business network. Participation was voluntary and anonymous.

Data quality was monitored during dataset preparation for analysis. Empty and duplicate questionnaires and clearly inconsistent responses (e.g., extremely short completion times combined with uniform response patterns) were excluded, while missing data were limited by requiring responses to the core instrument items.

Organizational and ethical issues were addressed in accordance with standards for survey research in the social sciences [Bedyńska and Cypryańska, 2013, p. 35-40]. Participants received information about the purpose of the study, the voluntary nature of participation, the option to withdraw without consequences, and that responses were anonymous and reported only in aggregate. No personally identifying information was collected, and data were stored in a database with access restricted to the authors of the analysis.

set at N = 180–220, with a minimum acceptable N ≈ 120 (assuming an expected effect of r ≈ 0.25). Additionally, a 10–15% buffer was included for missing data and exclusions to maintain the planned size

3. Results

An online questionnaire survey was conducted on a sample of 137 individuals. After excluding eight cases from respondents who did not meet the inclusion criteria, i.e., tenure in the current organization below three months and/or employment in an organization with fewer than 250 employees and/or employment in a public-sector or non-profit organization. 129 observations were retained for the final analysis.

3.1. Methodological remarks

The purpose of the analysis was to examine whether psychological safety is associated with higher employee engagement in large organizations, and whether this relationship holds after controlling for basic respondent characteristics and work context. The operationalization of the dependent variables followed the methods section, and aggregate scores from each scale are shown in Figure 1:

- Primary dependent variable: Psychological safety (PS), treated as the mean of items PS1–PS7 on a 1–5 scale, with reverse-coded items recoded as appropriate.
- Primary dependent variable: Employee engagement (EE), treated as the mean of items G1–G12 on a 1–5 scale.
- Additional dependent variable: Overall job satisfaction (SAT), measured with a single rating as the score on item G0 on a 1–5 scale.

Descriptive statistics were computed first and linear associations between variables were examined. The mean level of psychological safety was 3.98 (SD = 0.91), employee engagement 3.87 (SD = 0.95), and overall job satisfaction 3.60 (SD = 1.15). Distributions were moderately close to normal which, given the sample size, permitted the use of parametric tests. However, to check the robustness of results, nonparametric measures were also employed.

The following statistical methods were used: Pearson's r correlation (for linear associations among continuous variables), Spearman's rho (robust to deviations from normality), ordinary least squares (OLS) regression, Welch's t-test for two-group comparisons with unequal variances, and one-way ANOVA for multi-group comparisons [see: Bordens and Abbott, 2010, p. 442-452]. For significant ANOVA effects, post-hoc comparisons were performed using Tukey's HSD test, which is less conservative than the Scheffé test [*ibidem*]. For the relationships of both focal constructs with overall job satisfaction, partial correlations were also calculated to examine their associations net of co-occurrence with the other main variables.

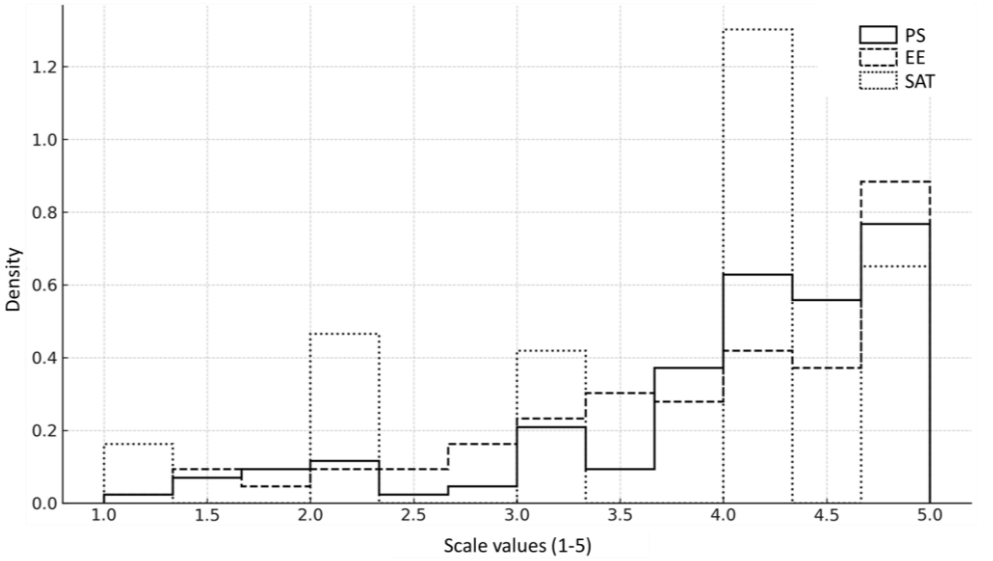

Fig. 1. Distribution of scores in the sample for psychological safety (PS), employee en-gagement (EE), and job satisfaction (SAT). SAT exhibits greater variability compared with the primary dependent variables (PS: M = 3.98, SD = 0.91; EE: M = 3.87, SD = 0.95; SAT: M = 3.60, SD = 1.15).

Source: Author's own elaboration based on the results of the present analysis.

3.2. Hypotheses testing

Verification began with hypothesis H1. The results indicate a very strong, positive association between psychological safety and employee engagement ($r = 0.877$; $p < 0.001$). This means that a one standard deviation increase in PS is correlated with a pronounced increase in EE. The result was confirmed by Spearman's correlation (rho = 0.820; $p < 0.001$), indicating that the relationship is not merely an artifact of a few extreme values. For comparison, PS correlated with SAT at $r = 0.740$ ($p < 0.001$), and EE with SAT at $r = 0.793$ ($p < 0.001$). A simple linear regression model in which EE was predicted solely by PS explained as much as 76.9% of the variance in EE ($R^2 = 0.769$). The regression coefficient was $b = 0.921$ (SE = 0.045; $t = 20.54$; $p < 0.001$), corroborating the strength and direction of the effect from the correlation, depicted in Figure 2. From a practical standpoint, this implies that a one-point increase in the self-reported sense of safety on the five-point scale corresponds, on average, to about a 0.92-point increase on the engagement scale. The above analysis therefore provides no basis for rejecting hypothesis H1; the results support the conclusion that psychological safety is positively correlated with employee engagement.

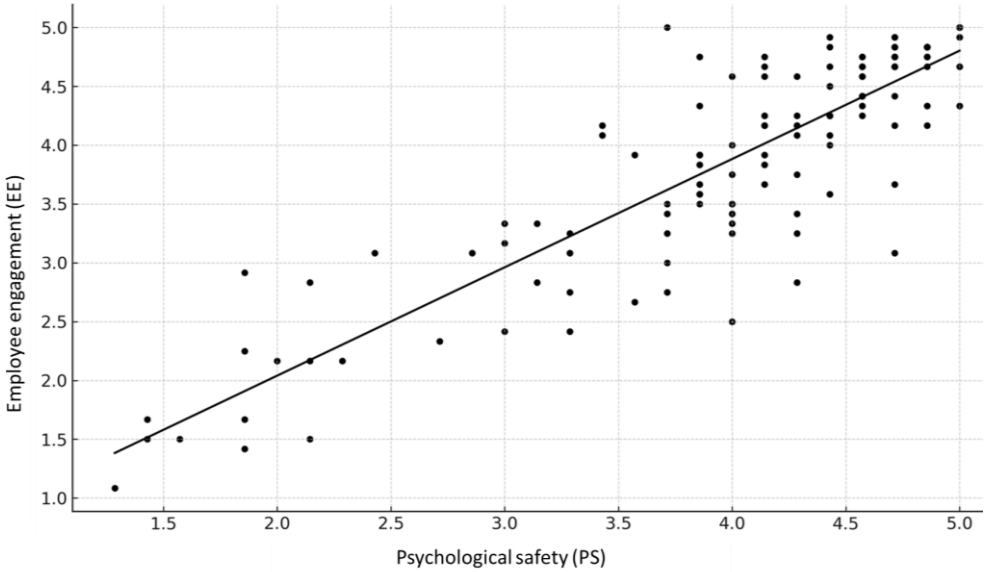

Fig. 2. Strong, positive correlation (r = 0.877; p < 0.001) between psychological safety and employee engagement with fitted regression line.

Source: Author's own elaboration based on the results of the present analysis.

The next area of analysis concerned hypothesis H2, i.e., testing whether the positive correlation between PS and EE is not due to demographic or organizational differences. In an OLS linear regression where EE was predicted from PS and a set of control variables (gender, tenure in the current company, total professional experience, industry, firm size, job level, education, and age), the model was significant overall ($F(26, 102) = 15.71$; $p < 0.001$) and explained 80.0% of the variance in EE ($R^2 = 0.800$; adjusted $R^2 = 0.749$). Notably, the PS parameter remained high and statistically significant: $b = 0.900$ ($SE = 0.058$; $t = 15.56$; $p < 0.001$; 95% CI: 0.785–1.015). This result indicates that PS may be an independent, strong predictor of EE even after accounting for typical individual and contextual differences. The above results thus provide no basis for rejecting hypothesis H2; they support the conclusion that psychological safety remains a significant positive predictor of employee engagement after controlling for independent variables.

Given the verification of H1 and H2 – showing positive, strong, and statistically significant correlations between psychological safety and employee engagement – the null hypothesis (H0) should be rejected.

3.3. Individual and contextual differences findings

This section organizes additional noteworthy findings that consider differences across respondent subgroups, which may have additional implications for management practice.

First, job level differentiated both PS and EE. For PS, the highest means were recorded among those in director roles and the lowest among junior-level employees. The most pronounced contrast was between directors and specialists (Tukey test mean difference: meandiff = −0.795; 95% CI: −1.477; −0.113; $p_{(adj)} = 0.015$). This means the average PS score was 0.80 points higher among directors than specialists. A similar effect appeared for EE in the director vs. specialist pair (meandiff = −0.876; 95% CI: −1.600; −0.153; $p_{(adj)} = 0.011$), i.e., those in director positions reported engagement higher by 0.88 points than specialists. This may indicate that moving from an individual contributor role to a managerial role is associated both with greater freedom to voice opinions and propose solutions, and with a greater willingness to invest additional energy in work and discretionary activities for the organization.

Second, total professional experience showed significant differences. For PS, the largest difference concerned the 3-5 years vs. >10 years brackets (meandiff = 0.829; 95% CI: 0.144; 1.513; $p_{(adj)} = 0.011$), meaning respondents with more than 10 years' experience reported approximately 0.83 points higher PS than those with 3-5 years. For EE, the effect of total experience was significant globally (ANOVA $p < 0.05$), and post-hoc pairs trended in the same direction, but after adjustment did not reach stable significance – differences were smaller and more dispersed across categories.

Third, industry significantly differentiated PS in particular. The strongest contrast was between manufacturing and training and development (meandiff = 1.612; 95% CI: 0.189; 3.035; $p_{(adj)} = 0.014$), i.e., PS in training and development was 1.61 points higher than in manufacturing. Additionally, the difference between consulting and manufacturing was significant (meandiff = −1.493; 95% CI: −2.891; −0.094; $p_{(adj)} = 0.027$), indicating that those employed in consulting reported PS higher than in manufacturing by about 1.49 points. For EE, industry differences were generally weaker, but the manufacturing vs. training and development pair reached statistical significance (meandiff = 1.619; 95% CI: 0.096; 3.141; $p_{(adj)} = 0.028$), confirming that environments oriented toward development and learning promote not only open communication but also higher engagement in tasks performed.

Fourth, firm size differentiated PS for the pair 250-1,000 employees vs. >1,000 employees (meandiff = 0.537; 95% CI: 0.126; 0.948; $p_{(adj)} = 0.011$), indicating PS

higher by 0.54 points in the largest organizations. For EE, differences moved in the same direction but were not significant after adjustment (meandiff = 0.384; 95% CI: −0.054; 0.821; $p_{(adj)} = 0.085$). This suggests that the formalization and predictability of processes in very large organizations may positively reinforce the overall work climate that makes it easier to speak up about problems, whereas the translation into engagement is weaker and likely more dependent on other contingencies.

For completeness, no gender differences were found for PS and EE (Welch's t-test, $p = 0.679$ and $p = 0.984$, respectively), and differences by tenure in the current organization and by education were statistically non-significant or represented trends that did not meet the significance criterion ($p < 0.05$).

A final notable finding, presented in Figure 3, concerns the relationship of the two main dependent variables with overall job satisfaction. SAT correlated strongly and positively with both PS ($r = 0.740$; $p < 0.001$) and EE ($r = 0.793$; $p < 0.001$). To disentangle the simultaneous influence of the two main variables, partial correlations were computed. The PS - SAT association did not reach the assumed significance level after controlling for EE ($p > 0.05$). By contrast, EE - SAT remained significant after controlling for PS (partial $r = 0.444$; $p < 0.001$). In other words, part of the association between overall job satisfaction and psychological safety runs through employee engagement, whereas the level of employee engagement remains clearly associated with overall job satisfaction even after patriating out psychological safety.

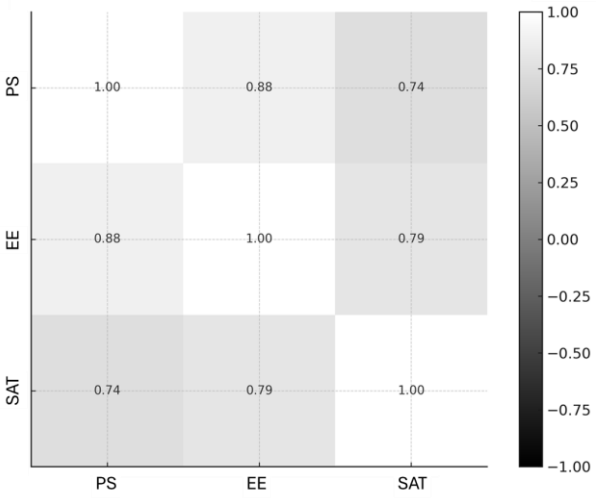

Fig. 3. Pearson correlation coefficients between psychological safety (PS), employee engagement (EE), and job satisfaction (SAT).

Source: Author's own elaboration based on the results of the present analysis.

4. Discussion

This study examined and analysed the relationship between psychological safety and employee engagement in large organizations and systematized insights from the literature and management practice to derive clear recommendations for management. The overarching aim was to empirically test whether a higher sense of psychological safety in workplace relationships and day-to-day interactions co-occurs with stronger employee engagement, and whether this association holds after accounting for basic contextual and individual differences. The hypotheses posited a positive association between these two constructs, and their testing formed the core of the empirical analyses. Additionally, the study focused on how recent qualitative and quantitative findings explain the mechanisms through which a climate conducive to open communication, speaking up about difficulties, rapid learning, and aligning expectations can translate into a greater willingness to exert effort and more constructive team behaviours [Edmondson, 1999, p. 35].

The statistical analyses confirmed that psychological safety is positively associated with employee engagement in the study sample, which supports the proposed hypotheses and aligns with the dominant thrust of conclusions in the literature. The results are consistent with work describing a chain of relationships in which psychological safety facilitates taking interpersonal risks without fear of criticism from others. In turn, such behaviours translate into higher motivation and task focus, as well as a readiness to undertake discretionary, extra role activities [Frazier et al., 2017, p. 120]. At the same time, it should be emphasized that causal inference rests on the broader research record summarized in the literature [Ge, 2020, p. 1-2; Mao and Tian, 2022, p. 36], while the present study confirmed co-occurrence rather than causality.

Further segmentation of the study's results revealed clear differences by job level, professional experience, organizational size, and industry profile. Individuals with longer tenure and members of senior management positions reported relatively higher psychological safety and higher engagement than specialists and less experienced employees, pointing to the potential role of access to information, decisional agency, and the predictability of the work environment. In the largest organizations, average levels of psychological safety were higher than in smaller firms, and sectors more strongly oriented toward consulting, learning, and development achieved more favourable outcomes than manufacturing. It can be cautiously inferred that in workplaces where interpersonal risk is more salient and employees have fewer resources – such as limited access to support, limited influence over decisions, or little control

over task content – targeted development initiatives should be prioritised for junior staff and operational functions.

It is also worth noting that analysis of the additional indicator – overall job satisfaction – suggested its co-occurrence with psychological safety and employee engagement. However, interpreting the direction and magnitude of these associations requires caution. This result should be treated as a prompt for further research into whether, and to what extent, job satisfaction mediates the development of psychological safety and engagement or is rather their outcome. In this sense, satisfaction can be a useful monitoring metric for development programs, but it should not substitute for measures more directly tied to team- and manager-level practices.

Bringing the literature together with the results of the present study, leadership practices that emphasize communicative openness, availability, clarity of expectations, and responsiveness appear to promote a climate of psychological safety and improve the quality of team relationships and supervisor - employee relations [Nembhard and Edmondson, 2006, p. 941-966; Mao and Tian, 2022, p. 36-37]. Convergent evidence from studies in service sectors indicates that consistent norms of open communication and regular short work reviews are associated with higher team productivity indicators. Meanwhile, research on HR process design underscores that a lack of transparent criteria, excessive competition, and inconsistent enforcement of organizational or team rules weaken both psychological safety and engagement [Ali and Anwar, 2021, p. 21-30]. Conversely, clear promotion rules, whistleblower protections, and an emphasis on providing feedback strengthen both constructs [*ibidem*].

Despite the positive and coherent results, several limitations should be considered when interpreting the findings. The study used a single time-point, self-report design, which increases the risk of common method variance and limits causal inference. The sampling frame primarily reflected the realities of large enterprises and multinational corporations; therefore, generalizing the results to the SME sector and public organizations requires additional validation. Industry composition and job-level structure may have influenced response distributions – as discussed in the subgroup analyses – yet this does not eliminate the risk of under- or overestimating effects in specific subgroups. In addition, psychological safety and employee engagement were measured with short, repeatedly validated scales, which enhances practical utility but necessarily simplifies complex phenomena and does not capture the influence of other organizational variables. Finally, the cultural context and the prevailing hybrid work mode may have shaped respondents' experiences, so cross-national comparisons with foreign studies should be interpreted with caution.

Summary

The significance of the findings has a dual dimension. For theory, they provide additional evidence for the usefulness of frameworks that link organisational climate with employee engagement and goal-directed behaviour, thereby supporting models that emphasize the role of relationships and the quality of information exchange in complex work systems [Edmondson, 1999, p. 365-366; Frazier et al., 2017, p. 119]. For management practice, the results offer a roadmap indicating potential areas for improving existing processes and managerial practices without the need to implement large-scale transformation programs. High-quality leader—team relationships, explicit communication rules in project work, simple mechanisms for giving and using feedback, and transparent processes strengthen psychological safety, support engagement, and consequently improve task execution while reducing organizational costs. These conclusions align with other studies showing relationships among psychological safety, openness in communication, creativity, and team outcomes, and they underscore the complementarity of these processes [Edmondson, 1999, p. 365-366; Ge, 2020, p. 1-2; Kim et al., 2020, p. 1-2].

The practical implications of the study can be clustered into three complementary areas of recommended actions:

- Strategic decisions should connect business objectives with working conditions that support learning, problem solving, and ongoing corrective actions. Accordingly, it is justified to include psychological safety and engagement indicators in the performance evaluations of managers at all levels.
- The day-to-day practices of team leaders should entrench habits that lower the interpersonal costs of speaking up and increase predictability (including inviting contributions during meetings, closing the loop on agreements, and holding regular one-on-one conversations focused on development and clarifying expectations).
- The HR function should close the gap between expectations and current work experience by redesigning assessment tools, linking promotions to behaviours that build a socially safe work environment, and providing secure channels for reporting issues along with protections for those who use them.

These practical dimensions can be reflected in an integrated implementation model, which outlines actions in four complementary domains. The first domain is leadership, understood as a set of observable behaviours that reduce interpersonal risk and provide predictable frames for dialogue about work. The second domain covers team practices that translate leadership standards into principles of collaboration. The third domain is HR support that closes the cycle between expectations

and employee experience, including criteria for recruitment, promotion, development, conflict resolution, and the creation of safe channels for information exchange. The fourth domain encompasses communication and education, which convert agreed standards into everyday behaviours and work routines.

When it comes to the future research directions, they follow directly from the study's limitations and practical needs, and may include:

- Longitudinal studies to distinguish co-occurrence from causal sequences and to test whether increases in psychological safety precede increases in employee engagement, whether these processes mutually reinforce each other, or whether they can occur separately and independently.
- Controlled experimental or quasi-experimental managerial and team interventions to assess their impact on building and maintaining psychological safety and engagement within teams.
- Multilevel analyses with cross-industry comparisons to better understand the contexts in which each mechanism is strongest.
- Incorporation of additional process and business indicators, such as the number and closure rate of issue reports, the frequency of one-on-one conversations, the accuracy of project decisions, turnover metrics, the number of performance improvement plans, etc.

In conclusion, previous studies indicate that psychological safety is associated with higher employee engagement, both directly and indirectly. This relationship appears to operate, among other channels, through greater openness and willingness to speak up, as well as through improved supervisor—employee relationships. In the present study, the relationship with overall job satisfaction, was also observed, which suggests that part of the effect of psychological safety on overall job satisfaction likely operates via engagement. In practice, this means that an organizational context that lowers the costs of speaking up and asking for help not only increases willingness to exert effort but also indirectly improves the subjective experience of work.

Thus, implementing an integrated programme within the organisation – combining inclusive leadership behaviours, measures to strengthen team effectiveness, clear communication and education, and targeted HR support – should create a coherent work system in which psychological safety serves as the foundation for sustained employee engagement. Such a programme should include regular monitoring of climate, behaviours, and outcomes, as well as periodic reviews to support decision-making and course correction. The ultimate aim for management is to activate employees' readiness to take initiative and to assume shared responsibility for results, while at the organisational level establishing a more stable basis for achieving both operational and developmental goals.

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Bezpieczeństwo psychologiczne i jego wpływ na zaangażowanie pracowników. Implikacje dla kadry zarządzającej

Streszczenie

Celem artykułu jest usystematyzowanie wiedzy na temat bezpieczeństwa psychologicznego w zespołach funkcjonujących w dużych organizacjach oraz rozpoznanie zależności między

bezpieczeństwem psychologicznym a zaangażowaniem pracowników, z uwzględnieniem różnic wynikających z poziomu stanowiska, stażu pracy w organizacji, wielkości organizacji oraz profilu branżowego. Badanie przeprowadzono metodą ankietową wśród 137 pracowników reprezentujących różne branże i szczeble zawodowe, wykorzystując standaryzowane narzędzia pomiaru obu konstruktów: (1) skalę bezpieczeństwa psychologicznego Amy Edmondson oraz (2) zaadaptowaną wersję kwestionariusza zaangażowania pracowników Gallupa Q12. Analizy statystyczne potwierdziły istnienie istotnej dodatniej korelacji między bezpieczeństwem psychologicznym a zaangażowaniem pracowników. Wyższe wartości obu wskaźników zaobserwowano u osób zajmujących wyższe stanowiska menedżerskie oraz o dłuższym stażu pracy, a także w sektorach konsultingowych i zorientowanych na rozwój oraz w największych organizacjach; nie stwierdzono różnic ze względu na płeć. Uzyskane wyniki sugerują, że bezpieczeństwo psychologiczne i zaangażowanie pracowników należy traktować jako komplementarne mechanizmy kształtujące pozytywne i produktywne warunki pracy. W związku z tym sformułowano praktyczne rekomendacje dla kadry zarządzającej, wpisane w zintegrowany program rozwojowy..

Słowa kluczowe

bezpieczeństwo psychologiczne, zaangażowanie pracowników, satysfakcja z pracy