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Psychological Safety Profile Among Contractor Workers in PT X Bekasi

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ABSTRACT

Introduction: The construction industry is among the highest-risk sectors in Indonesia, with most occupational accidents rooted in behavioural factors linked to low psychological safety. This study aimed to describe the level of psychological safety among contractor employees at PT X Bekasi and its distribution across seven dimensions and demographic characteristics. **Method:** A quantitative descriptive approach was employed with 100 respondents selected via simple random sampling from a population of 300 workers. Measurement utilised the Psychological Safety Scale (Edmondson, 1999) adapted into Indonesian (7 items; Cronbach's Alpha = 0.727). Data were analysed through descriptive statistics, three-tier categorisation, difference tests, and Chi-Square tests using JASP. **Results:** Most respondents (56%) exhibited moderate psychological safety, followed by high (42%) and low (2%) categories. At the dimensional level, all dimensions tended to be high, with comfort in seeking help (66%) and social support (65%) ranking highest, while the safety to voice opinions was comparatively weakest. Chi-Square analysis revealed significant differences by educational level ($p = 0.012$) and job position ($p = 0.001$). **Discussion:** Findings indicate that the foundation of psychological safety has been established yet remains suboptimal. Psychological safety is shaped more by work experience, social relationships, and work context than by individual characteristics; thus, strengthening open communication culture and supportive leadership are prioritised as intervention targets.

Introduction

The construction industry in Indonesia is widely recognised as one of the sectors with the highest occupational burden and risk. Contractor workers are required to complete projects under strict deadlines, work beyond standard working hours, withstand extreme weather conditions, face elevated risks of physical injury, and navigate highly stratified organisational systems. These high-pressure working conditions, compounded by performance targets and cross-functional coordination demands, create fertile ground for occupational behaviours that deviate from organisational standards, including disregard for safety procedures that may result in fatal accidents (Hidayat & Sari, 2022).

Data from BPJS Ketenagakerjaan (Indonesia's national social security agency for employment) indicate a concerning upward trend: workplace accidents rose from 221,740 cases in 2020 to 370,747 cases in 2023. The construction sector consistently accounts for the largest proportion, contributing 31.9% of total national occupational accidents, with the most prevalent incident types being falls from height (26%), struck-by objects (12%), and crush injuries from heavy equipment or materials (9%) (BPJS Ketenagakerjaan, 2023). These figures underscore that the construction sector remains one of the most hazardous work environments in Indonesia.

Among the most noteworthy phenomena underlying these statistics is the pervasive underreporting of occupational accidents, wherein incidents occur but are not formally documented. An investigation involving a construction company in Indonesia revealed that out of 133 recorded occupational accident claims within a single reporting period, only eight cases were officially reported to the local Manpower Office (Indonesia Safety Center, 2024). Research by Ummami et al. (2025) corroborates this finding: workers frequently do not know where to submit reports or deliberately choose not to report due to fear of negative responses from management. Ainin and Jannah (2024) further found that approximately 88% of workplace accidents are caused by unsafe behaviour rather than solely by poor physical conditions. This indicates that the root cause of safety challenges in the construction sector lies in workers' behavioural and psychological factors, not merely in physical infrastructure.

Research by Wulandari and Modjo (2024) demonstrated that the construction sector is among those with the highest levels of work-related stress, driven by deadline pressure, physical work risks, and project instability. This multilayered pressure is referred to in organisational literature as project pressure a multidimensional form of strain arising from tight project deadlines, high productivity demands, rigid hierarchical structures, and fear of sanctions if targets are not met. Goh et al. (2024) found that most construction workers do not feel psychologically safe at the workplace, with workload overload and deadline pressures identified as the primary causes.

Within the context of organisational behaviour, this phenomenon can be understood through the construct of psychological safety. As defined by Edmondson (1999), psychological safety refers to a shared belief among team members that the work environment is safe for interpersonal risk-taking a condition in which individuals can freely express ideas, acknowledge mistakes, ask questions, and seek assistance without fear of punishment, humiliation, or being ignored. Edmondson (1999) operationalised this construct into seven dimensions: safety to express opinions, acceptance of mistakes, social support and appreciation, communication openness, comfort in seeking help, interpersonal trust, and interpersonal risk safety.

Empirical research consistently demonstrates that psychological safety exerts a significant influence on work behaviour and outcomes. May et al. (2004) established that psychological safety directly enhances employee engagement and reduces the likelihood of dysfunctional work behaviour. In the Indonesian context, Pertiwi et al. (2025) found that psychological safety significantly and negatively correlates with deviant behaviour in

structured institutional settings, with psychologically safe environments enhancing motivation and compliance among members. Saputra, Pertiwi, and Fitriani (2026) similarly demonstrated that psychological safety exerts a significant positive effect on employees' perceived work productivity in a publication setting, and that work stress mediates this relationship underscoring the dual role of psychological safety in buffering stress and enabling performance outcomes. Furthermore, Pertiwi, Muminin, and Saputra (2026) showed that psychological safety in the family context is shaped by parental emotional readiness and balanced interpersonal interaction, further demonstrating the construct's sensitivity to the quality of relational dynamics regardless of organisational domain. Additionally, Hutahaean, Pertiwi, Saimima, and Aulia (2024) found that gender shapes individuals' needs and perceptions regarding psychological safety, with female individuals being comparatively more vulnerable to psychological unsafety due to emotion-related stereotypes. Earlier, Pertiwi and Perdini (2022) established that structural power dynamics between educators and students directly predict obedience and commitment, suggesting that hierarchical relationships moderate individuals' sense of psychological safety a dynamic particularly salient in the construction sector's rigid command structure.

Although psychological safety has been proven to play a critical role in workplace safety and project success, research specifically examining its descriptive profile among contractor workers in Indonesia including the dimensional distribution of the construct remains limited. An understanding of which dimensions are weakest under conditions of high project pressure can serve as the empirical foundation for targeted, evidence-based interventions. On this basis, the present study aims to describe the level of psychological safety among contractor employees at PT X Bekasi, along with its distribution across dimensions and respondent demographic characteristics.

Method

Research Design

This study adopted a quantitative approach employing a descriptive method. The quantitative approach was selected because the data obtained are numerical and were analysed statistically, while the descriptive method was applied to systematically portray the level of psychological safety among contractor workers in Bekasi without examining.

Population and Sample

The study population comprised 300 contractor employees at PT X Bekasi, of whom 200 were assigned to operational field departments (Engineering, Production Planning and Inventory Control, Mapping, and Operations) characterised by elevated occupational accident risk. The sample size was determined using the Slovin formula (Wahyuni, 2024) with a 10% margin of error, yielding 75 individuals, which was subsequently rounded up to 100 respondents. Sampling was conducted using probability sampling with simple random sampling, ensuring that each employee had an equal probability of selection.

Measurment

Measurement utilised the Psychological Safety Scale (PSS) developed by Edmondson (1999) and adapted into Indonesian via back-translation (Hidayat et al., 2020). The scale

comprises seven items representing the seven dimensions of psychological safety, using a five-point Likert format ranging from Strongly Disagree (1) to Strongly Agree (5). Item validity ranged from 0.216 to 0.607, with a Cronbach's Alpha reliability coefficient of 0.727, confirming that the instrument is reliable.

Data Analysis Technique

Data were analysed using descriptive statistics encompassing mean calculation, percentages, and frequency distribution. Interpretation was conducted through three-tier categorisation (low, moderate, high) based on the hypothetical mean and hypothetical standard deviation. Analysis based on respondent characteristics was performed through difference tests (independent sample t-test and ANOVA) and Chi-Square tests to examine the distribution of psychological safety levels across groups. Data processing was conducted using JASP statistical software.

Results and Discussion

The study involved 100 contractor workers at PT X Bekasi. The respondent profile indicated that the majority were aged 24–28 years (59%), male (77%), unmarried (76%), held a bachelor's degree (54%), resided in Bekasi (38%), and had a tenure of 1–3 years (50%). Most respondents worked in the Operations/Field department (87%) and occupied Operator/Field Worker positions (38%). Table 1 presents a summary of the respondent profile.

Table 1. Respondent Demographic Profile

Characteristic	Category	N	%
Age	19–23 Years	22	22.0%
	24–28 Years	59	59.0%
	29–33 Years	17	17.0%
	>39 Years	2	2.0%
Gender	Male	77	77.0%
	Female	23	23.0%
Marital Status	Married	24	24.0%
	Unmarried	76	76.0%
Education	Senior High School/Vocational	27	27.0%
	Diploma	16	16.0%
	Bachelor's Degree (S1)	54	54.0%
	Master's Degree (S2)	3	3.0%
Tenure	< 1 Year	28	28.0%
	1–3 Years	50	50.0%
	3–5 Years	12	12.0%
	> 5 Years	10	10.0%
Department	Business/Commercial	5	5.0%
	Operations/Field	87	87.0%
	Corporate Support	8	8.0%
Job Level	Operator/Field Worker	38	38.0%
	Technician	18	18.0%
	Staff	36	36.0%
	Supervisor	8	8.0%

Prior to categorisation, assumption tests were conducted. The Shapiro-Wilk normality test yielded a significance value of 0.061 ($p > 0.05$), confirming that the data were normally distributed. The Levene homogeneity test indicated that the data were not homogeneous across certain categories.

Level of Psychological Safety

Variable categorisation was performed using the hypothetical mean ($\mu = 20$) and hypothetical standard deviation ($\sigma = 5$). Results indicated an empirical mean of 24.92, falling within the moderate category. As presented in Table 2, most respondents (56%) demonstrated moderate psychological safety, 42% reported high psychological safety, and only 2% fell within the low category.

Table 2. Categorisation of Psychological Safety Scores

Category	Score Limit	N	Percentage
Low	$x < 15$	2	2.0%
Moderate	$15 \leq x \leq 25$	56	56.0%
High	$x > 25$	42	42.0%
Total		100	100%

Dimensional Profile of Psychological Safety

Dimensional analysis revealed that all psychological safety dimensions tended to fall within the high category. Dimensions with the highest proportion of high-category ratings were comfort in seeking help (66%) and social support and appreciation (65%), while interpersonal risk safety (48%) and safety to express opinions (50%) were comparatively weakest. This pattern aligns with the characteristics of a hierarchical construction environment, in which workers are relatively comfortable seeking technical assistance but exhibit greater caution when required to express disagreement or challenge established procedures. Hutahaean et al. (2024) noted that gender-based differences in psychological safety needs particularly the heightened vulnerability of female employees to interpersonal risk may also partly explain variation in specific dimensional scores, including those related to voicing opinions and interpersonal safety. Table 3 presents the detailed breakdown.

Table 3. Categorisation Across Seven Dimensions of Psychological Safety

Dimension	Low	Moderate	High
Safety to Express Opinions	24%	26%	50%
Acceptance of Mistakes	25%	21%	54%
Social Support and Appreciation	8%	27%	65%
Communication Openness	20%	25%	55%
Comfort in Seeking Help	24%	10%	66%
Interpersonal Trust	21%	17%	62%
Interpersonal Risk Safety	21%	31%	48%

Psychological Safety by Respondent Characteristics

Chi-Square analysis was conducted to examine the distribution of psychological safety levels across respondent groups. Results revealed significant associations with

education level (p = 0.012) and job level (p = 0.001), while other characteristics including age, gender, marital status, tenure, employment status, department, supervisory role, and number of subordinates did not yield significant associations (p > 0.05). A summary of the findings is presented in Table 4.

Table 4. Chi-Square Test Results by Respondent Characteristics

Characteristic	p-value	Interpretation
Age	0.139	Not significant
Gender	0.430	Not significant
Marital Status	0.312	Not significant
Education Level	0.012	Significant
Domicile	0.496	Not significant
Tenure	0.131	Not significant
Employment Status	0.374	Not significant
Department	0.790	Not significant
Job Level	0.001	Significant
Having Subordinates	0.107	Not significant
Number of Subordinates	0.289	Not significant

Discussion

The findings indicate that the level of psychological safety among contractor workers at PT X Bekasi is in the moderate category. This finding suggests that employees have experienced a sufficiently safe work environment for interaction, opinion sharing, help-seeking, and communication; however, this sense of safety has not been consistently established across all work situations. Employees may still experience hesitation when expressing divergent ideas, acknowledging mistakes, or taking interpersonal risks that could invite negative evaluation.

These findings are consistent with Edmondson's (1999) conceptualisation of psychological safety not as the mere absence of conflict, but as the belief that individuals can express themselves without fear of humiliation. Edmondson and Bransby (2023) further noted that this construct develops through social interaction, the quality of working relationships, and an organisational culture that supports openness. The moderate categorisation accordingly indicates that the organisation has established a reasonably solid foundation, yet continued reinforcement of open communication culture and social support remains necessary. The relevance of this finding extends to multiple organisational domains: Pertiwi et al. (2026) demonstrated that when psychological safety in the family environment is only at moderate level, it is associated with inconsistencies in parental emotional readiness a parallel that illustrates how moderate psychological safety, whether at home or in the workplace, represents a transitional state requiring deliberate developmental intervention.

Saputra, Pertiwi, and Fitriani (2026) demonstrated that in Indonesian organisational contexts, psychological safety is significantly linked to how employees perceive their own productivity, and that work stress acts as a mediating variable in this

relationship. This finding is particularly relevant to the construction sector, where psychological safety does not merely affect communication or error-reporting, but also shapes workers' fundamental capacity to perform under pressure. In the same vein, Pertiwi et al. (2025) confirmed that psychological safety significantly reduces deviant behaviour in structured institutional settings, suggesting that strengthening psychological safety in construction environments may likewise reduce unsafe behaviours and procedural non-compliance both of which have been identified as core contributors to occupational accidents.

At the level of respondent characteristics, significant differences were identified with respect to education level and job level. Differences based on job level can be explained through structural positioning: employees with greater authority tend to have broader access to information and closer proximity to management, making them more likely to feel secure in taking interpersonal risks (Edmondson & Bransby, 2023). This aligns with Pertiwi and Perdini's (2022) earlier finding that power-laden hierarchical relationships moderate individuals' compliance and sense of safety an insight that directly informs why psychological safety scores differ systematically across job levels in the current study. Meanwhile, the non-significant results for other characteristics reinforce the view that psychological safety is a collective phenomenon determined more by the quality of team interactions than by individual attributes. This is consistent with Bransby et al. (2025), who demonstrated that psychological safety develops dynamically through work experience and social context.

Overall, the findings suggest that psychological safety in contractor organisations in Bekasi is shaped more by work experience, social relationships, and work context than by formal academic credentials or positional seniority. The practical implication is that safety improvement interventions should prioritise the reinforcement of open communication culture, supportive leadership, and error management as a learning process, rather than focusing exclusively on physical infrastructure improvements.

Conclusion

Based on the study's findings, the overall level of psychological safety among contractor workers at PT X Bekasi falls within the moderate category (56%). At the dimensional level, all dimensions tended to be high, with comfort in seeking help and social support identified as the strongest, while safety to express opinions and interpersonal risk safety were comparatively weakest. Chi-Square testing revealed significant differences based on education level and job level, while other demographic characteristics did not yield significant differences.

These findings affirm that psychological safety is a social phenomenon shaped through organisational interactions, work culture, and day-to-day work experience. As demonstrated across multiple contexts from the workplace (Saputra et al., 2026) to educational institutions (Pertiwi et al., 2025) and family settings (Pertiwi et al., 2026) moderate psychological safety represents an incomplete foundation that must be actively developed. The organisation is recommended to establish routine communication forums,

provide leadership training that supports openness, and cultivate a culture of learning from mistakes. Future research is recommended to incorporate predictor variables such as leadership style and organisational culture, and to adopt a longitudinal design to examine changes in psychological safety across tenure trajectories.

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