

EMPLOYMENT STATUS, INSTITUTIONAL ACCESS AND THE INDUSTRIAL RELATIONS CLIMATE: EVIDENCE FROM LIQUOR MANUFACTURING UNITS IN WESTERN UTTAR PRADESH

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ABSTRACT

Purpose — Indian industrial relations research has tended to be done from the perspective of the permanent worker, but contract, fixed-term and seasonal work is now an institutional characteristic of manufacturing. This study investigates the relationship between employment status and use of industrial relations institutions, and the relationship between employment status and the industrial relations climate as perceived by respondents, in order to determine whether there is an employment-status association that is independent of respondent characteristics.

Design/methodology/approach — This cross-sectional study involved 240 workers and officers from five liquor manufacturing units located in Western Uttar Pradesh, India, where participation and voice, grievance access, health, safety and welfare, union representation, employment security, industrial relations climate and work outcomes were measured. Analysis consisted of exploratory factor analysis of the newly developed 36-item instrument; planned permanent versus non-permanent contrasts with Holm correction; hierarchical regression on the industrial relations climate with employment status entered as three dummy variables; and bootstrapped tests of indirect association.

Findings — Exploratory factor analysis confirmed the proposed seven-factor structure; all items loaded on their a priori factor and there were no cross-loadings. Four of the seven contrasts between permanent and non-permanent respondents favoured permanent respondents and remained statistically significant after Holm correction — employment security ($d = 0.46$), union representation ($d = 0.37$), participation and voice ($d = 0.36$) and industrial relations climate ($d = 0.36$) — while the remaining three (grievance access, health, safety and

welfare, and work outcomes) did not. The three-dummy employment-status block was not significant when added to the model for industrial relations climate after the inclusion of age, tenure, cadre and unit ($\Delta R^2 = .018$, $F(3,223) = 1.47$, $p = .224$), but the voice and grievance-access block was ($\Delta R^2 = .071$, $F(2,221) = 9.20$, $p < .001$); in the final model voice was individually significant but grievance access was not. Bootstrapped analysis revealed relative indirect associations of contractor-supplied and seasonal status with climate through voice. Because of a strong association between employment status and tenure in this sample, it is not possible to determine from the analysis whether the attenuation of the status coefficient is due to confounding, over-adjustment, or a true absence of an independent status association.

Practical implications — Future intervention research may focus on consultative voice as a target, and voice and formal grievance machinery may need to be treated as distinct issues.

Originality/value — This study is unusual in that it measures institutional access directly rather than relying on contractual categorisation, and provides evidence in industry where quantitative evidence on industrial relations is limited.

Keywords: Industrial relations climate; contract labour; employee voice; grievance procedure; labour market segmentation; scale development; India.

1. Introduction

An assumption has always underpinned the scholarship of industrial relations: an assumption about the worker one is talking about. The systems approach in the work of Dunlop (1958) and the pluralist tradition that emerged after it (Fox, 1966; Budd, 2004) were based on the premise that workers were bound to their employers, were represented by institutions, and were covered by rules that applied to them as a group. That presumption has been carried over into empirical work on industrial relations climate. Those on company rolls are surveyed, those who have access to a grievance system evaluate it, and those entitled to join a union judge it. The picture that results is correct for the people it is about, and it says very little about anyone else.

In the case of manufacturing in India, that silence is hard to justify, because a significant part of manufacturing activity is carried out by workers who are not on the rolls of the principal employer: fixed-term employees, workers supplied by labour contractors, and seasonal hands engaged for peak production. Contract labour has been identified as one of the key unresolved issues in Indian industrial relations time and again (National Commission for Enterprises in the Unorganised Sector [NCEUS], 2007; Shyam Sundar, 2011), and the recent consolidation of central labour legislation into four Codes has added a new dimension to the question. The framework regulating fixed-term and contract employment is being rolled out

as this research is reported: the Industrial Relations Code 2020 took effect on 21 November 2025, with central rules notified in May 2026 and state rules being notified separately (Jain, Ghosh & Misra, 2023).

The segmentation literature predicts that these workers will have a poorer employment relationship, and the policy implication usually drawn from that literature is that contractual status should be regularised. However, there is a conceptual difference between status and access, and the literature has tended to lump the two together. Employment status is a contractual category. Institutional access is whether a specific worker is consulted, whether the grievance machinery can in fact be used, whether the worker actually receives safety training and welfare provision. The two are correlated but not identical. Measuring access directly, rather than inferring it from contractual category, allows the two to be examined separately, as is done here.

Two hundred and forty permanent, fixed-term, contractor-supplied and seasonal workers and officers at five liquor manufacturing units in Western Uttar Pradesh were surveyed. The sector is a useful site: it combines continuous-process operations staffed by permanent technical personnel with labour-intensive work such as bottling and materials handling, which employs large numbers of contract and seasonal workers, so both groups work side by side on one site.

Three questions follow. Is there a difference between permanent and non-permanent workers in reported institutional access and in their assessment of the industrial relations climate? Is any such difference in climate independent of age, tenure, cadre and unit? And is reported access associated with climate over and above employment status?

At the outset it is important to state what the study can and cannot establish. It is cross-sectional and single-source. It can capture associations and the robustness of those associations to statistical adjustment. It cannot establish causal direction, and it cannot determine whether controlling for tenure eliminates confounding or eliminates part of the pathway through which employment status affects the climate — because permanent status is itself the condition that allows tenure to accumulate. This is the context in which the interpretations presented in Section 5 are expressed.

2. Theoretical background

2.1 Segmentation and the divided workforce

Dual labour market theory (Doeringer & Piore, 1971) identified a primary segment of stable jobs with internal promotion and rule-governed treatment, and a secondary segment where jobs were insecure and discretionary treatment was the norm. Atkinson's (1984) flexible firm model expressed this as a logic of managerial strategy: a numerically flexible periphery absorbs fluctuations in demand and protects the functionally flexible core. Later research has reported on the organisational effects of fragmentation, particularly where the periphery is accessed via an intermediary and responsibility for terms and conditions is split between the user firm and the supplier (Rubery et al., 2002; Marchington et al., 2005; Barrientos, 2013).

Kalleberg (2000, 2009) found that non-standard employment is associated with a distinct experience of the employment relationship, including shorter horizons, weaker reciprocity and reduced expectation of fair treatment. Standing (2011) described this as a workforce without an occupational identity anchored in an employer. Breman (1996) documented the mobility and insecurity of labour at the informal margins of Indian industry.

This literature suggests that peripheral workers will be less positive about the industrial relations climate. It does not clearly distinguish between two reasons why. The first is that contractual status means something in and of itself: being designated temporary is a statement about standing. The second is that status is a marker for access, and that it is exclusion from the institutions that shapes perception. The only way to distinguish between them is to observe access directly.

2.2 Voice

In Hirschman's (1970) terms, voice is an effort to alter an undesirable state of affairs from within the system rather than through exit. Industrial relations scholarship considers it instrumental — a way in which workers achieve improvement — but also intrinsic, a legitimate expression of the interest of workers in decisions that affect them (Freeman & Medoff, 1984; Budd, 2004; Dundon et al., 2004). Voice may be direct, exercised one to one with a supervisor or through consultative arrangements, or representative, exercised through a union or works committee (Wilkinson et al., 2020).

Both depend on standing. Direct voice relies on the assumption that speaking is not costly, and the silence literature attributes fear of a negative outcome as its main suppressor (Morrison, 2011). Representative voice depends on eligibility, and in Indian plants the eligibility of contractor-supplied workers for union membership and for consultative machinery is often disputed.

2.3 Grievance access

Voice, formalised, becomes a grievance procedure, and organisational justice theory provides the evaluative framework. Thibaut and Walker (1975) found that people evaluate outcomes partly in terms of the process that yields them, and that process control carries independent weight. Lind and Tyler (1988) extended this: fair procedure signals standing and respect within the group, over and above any material gain. Meta-analytic evidence supports the link between procedural justice and trust, commitment and cooperation (Colquitt et al., 2001; Greenberg, 1990).

A procedure may fail to deliver procedural justice to the workers concerned for various reasons: the worker does not know how to access it; it is understood to be available to company employees only; or using it is assumed to risk non-renewal. Equal treatment of like cases is a classical fairness criterion, and it is violated by a procedure applied differently according to employment status.

Voice and grievance access are treated here as two dimensions of institutional access, not as a sequence. No causal ordering between them is assumed. Whether they are empirically distinct is an open question, addressed in Section 4.7.

2.4 Welfare, safety and security

Three further conditions bear on inclusion. Social protection: whether statutory entitlements are actually delivered, and whether there is clarity about who is responsible for providing them where a contractor is involved, divided responsibility in triangular relationships being a documented source of entitlement failure (Rubery et al., 2002; Barrientos, 2013). Safety: the links between precarious employment and poorer occupational health and safety outcomes are substantial and international (Quinlan, Mayhew & Bohle, 2001; Underhill & Quinlan, 2011; Benach et al., 2014), and work through weaker induction, unfamiliarity with the specific workplace, reluctance to refuse unsafe work, and less thorough investigation of incidents involving workers off the principal employer's rolls. In a distillery or brewery it is not abstract — confined spaces, pressurised systems, high-speed packaging, flammable spirit. And employment security itself, as the condition that determines whether a worker can afford to make use of any of the other institutions.

2.5 Hypotheses

H1. Non-permanent respondents will report less favourable participation and voice, grievance access, health, safety and welfare, union representation, employment security, industrial relations climate and work outcomes than permanent respondents. The planned test is the permanent versus non-permanent contrast. Because the seven constructs constitute a hypothesis family, Holm correction is applied. Differences among the three non-permanent categories are examined as exploratory analysis.

H2. After controlling for age, tenure, cadre and unit, employment status — entered as three dummy variables with permanent as the reference category — will predict the industrial relations climate.

H3. Reported access, comprising participation and voice and grievance access, will predict the industrial relations climate over and above respondent characteristics and employment status.

H4 (exploratory). Employment status will be indirectly associated with the industrial relations climate through reported access. Employment status is dummy-coded into the same three categories as in H2, with relative indirect effects reported for each non-permanent category against the permanent reference (Hayes & Preacher, 2014); the planned binary permanent versus non-permanent contrast is also reported as a secondary specification. Because the design is cross-sectional and single-source, any indirect effect estimated here is an association and not evidence of a causal pathway (Maxwell & Cole, 2007).

An earlier version of this study hypothesised that voice would predict grievance access and that grievance access would in turn mediate a voice–climate relationship. That ordering was poorly justified: both are introduced above as dimensions of access, and no theory requires one to cause the other. The hypothesis has been withdrawn, and the empirical relationship between the two is reported in Section 4.7 as an unexpected exploratory finding.

3. Method

3.1 Setting and design

The study is a cross-sectional analytical survey conducted in five liquor manufacturing units in Western Uttar Pradesh, reported as Units A–E. The range includes Indian family-owned and professionally managed operations as well as a multinational, and both distillation and brewing technologies. All five have a mix of permanent staff, fixed-term contract staff, contractor-supplied staff and seasonal staff. The unit of analysis is the individual respondent, and the main explanatory variable is employment status.

3.2 Sampling

The researcher was unable to obtain a sampling frame listing workers by employment status: rosters are kept confidential, and contractor-supplied labour does not feature on the company rolls. A quota approach was therefore employed, with access negotiated unit by unit and quotas arranged to yield a sufficient number of non-permanent workers for subgroup comparison rather than in proportion to the number employed at each unit. The deliberate oversampling of non-permanent respondents is justified by the research question; the implications for generalisation are discussed in Section 6.3.

A power analysis was performed to determine the target of 220. At $\alpha = .05$ with power = .80, a medium between-group difference ($f = 0.25$) across four groups requires 179; a hierarchical regression with 16 predictors detecting a medium effect ($f^2 = 0.15$) requires 143 (Cohen, 1988; Faul et al., 2007). The achieved regression sample of 235 exceeds both. Data collection took place between [month] and [month] [year].

3.3 Respondents

Of 248 questionnaires returned, 8 were excluded — 3 for excessive item nonresponse, 3 for an invariant response string across all 36 items, and 2 for an implausible age–tenure combination — leaving 240 for analysis (96.8% of returns).

Respondents comprised 96 permanent (40.0%), 49 fixed-term contract (20.4%), 65 contractor-supplied (27.1%) and 30 seasonal or casual (12.5%). Mean age was 34.75 years (SD 7.40, range 20–56) and mean tenure at the unit 5.43 years (SD 3.71). Of the sample, 191 (79.6%) were male and 96 (40.0%) were trade union members.

The profile by employment status is presented in Table 1, and the gradients in that table govern the interpretation of everything that follows. Tenure drops from 8.95 years for permanent respondents to 2.00 for seasonal; age drops from 40.42 years to 29.37; and union density drops from 64% to 10%. Employment status in these plants is therefore closely bound up with tenure, age and union membership. This is not a nuisance to be adjusted away without comment: permanent status is itself the condition that allows tenure to accumulate, so it is plausible that tenure is in part a consequence of employment status rather than a competing explanation for it. This is considered again in Section 5.1 in relation to the regression results.

Table 1. Respondent profile by employment status

	Permanent	Fixed-term	Contractor	Seasonal	Total
n	96	49	65	30	240
% of sample	40.0	20.4	27.1	12.5	100
Age, mean (yrs)	40.42	33.71	29.63	29.37	34.75
Tenure at unit, mean (yrs)	8.95	4.25	2.68	2.00	5.43
Months worked in last 12	11.89	11.29	11.00	6.53	11.06
Union members (%)	64	41	18	10	40.0

3.4 Instrument

The questionnaire consists of three parts. Part A captures unit, employment status, cadre, age in completed years, gender, education, years at the unit, department, union membership, months worked in the previous year, and whether the respondent previously held a different employment status at the same unit. Age and tenure were recorded as actual values, so that they could be used as continuous covariates.

Part B consists of 36 statements on five-point Likert scales ranging from 1 = strongly disagree to 5 = strongly agree, covering seven constructs: participation and voice (6 items), grievance access (5), health, safety and welfare (6), union representation (5), employment security and fair treatment (6), industrial relations climate (5) and work outcomes (3). Part C contains open-ended prompts. The complete instrument is in the Annexure.

Items were created for this study, as no published instrument measures institutional access as a function of employment status. Following Hinkin (1998) and Hinkin, Tracey and Enz (1997), items were deduced from the construct definitions given in Section 2, framed in terms of the respondent's personal experience rather than formal policy, confined to one idea each, and reviewed for clarity, redundancy and content adequacy by [number] academic and [number] practitioner reviewers prior to administration. Given the instrument's novelty, and as encouraged by current recommendations on construct validation (Lambert & Newman, 2023), its structure is examined empirically in Section 4.2 rather than assumed. Every item is worded positively, and the implications are dealt with in Section 6.3.

The items were administered in [language(s)]; [describe the translation and back-translation procedure].

3.5 Procedure and ethics

Questionnaires were self-administered on paper, with assistance where literacy required it. Each respondent was provided with a written statement of the academic purpose of the study, the voluntary nature of participation, the right to skip

questions or withdraw, the absence of any personal identifier, and the commitment to report only in aggregate. Consent was recorded on the instrument.

Two safeguards were adopted, given the vulnerability of the population. All questionnaires were returned directly to the researcher and were not seen by management or by any labour contractor; they were stored [describe]. Respondents were assured that no unit would be identified in a way permitting attribution of responses to individuals, and the units are therefore reported as A–E. [State the ethics approval body, reference number and date.] Site access was granted by [describe].

3.6 Analysis

Missing item responses were coded 9 and declared user-missing. Item nonresponse was 156 responses out of 8,640 item cells (1.81%), highest on the union items (3.25%), consistent with non-members declining to answer them. Construct scores are means of the constituent items where the respondent answered at least $k-1$ of k items; 235 of 240 cases are complete on all seven constructs.

Structure was examined by exploratory factor analysis using principal axis factoring with promax rotation, the number of factors determined by parallel analysis against the 95th percentile of eigenvalues from 500 random datasets rather than by the eigenvalue-greater-than-one rule (Horn, 1965; Fabrigar et al., 1999; Conway & Huffcutt, 2003; Watkins, 2018). Because listwise deletion across all 36 items would have reduced the sample to 130, the principal solution was estimated on data completed by iterative regression (EM-type) imputation, with pairwise, listwise and mean-substitution solutions reported as sensitivity checks (Newman, 2014). Internal consistency was assessed by Cronbach's alpha with 95% confidence intervals.

For H1, mean differences, 95% confidence intervals and Cohen's d are reported for the planned permanent versus non-permanent contrast, using Welch's t test. The seven constructs form a hypothesis family, so Holm's (1979) sequentially rejective procedure was applied to the seven p values, and both uncorrected and corrected values are reported. Differences among the four status categories were examined separately as exploratory analysis, using one-way analysis of variance with Welch's correction and Games–Howell comparisons.

For H2 and H3, employment status was entered as three dummy variables (fixed-term, contractor-supplied, seasonal; permanent as reference) so that differences among the non-permanent categories were not masked. Cadre is also a three-category variable and is dummy-coded, since no linear ordering from worker to supervisor to officer can be assumed. Following the recommendations of Becker et al. (2016) and Bernerth and Aguinis (2016), control variables were selected on theoretical grounds and reported in full at every step. Age, tenure, two cadre dummies (supervisor and officer, worker as reference) and four unit dummies were entered at step 1; the status block at step 2; voice and grievance access at step 3; and the remaining access constructs at step 4. An omnibus Wald test of the three status coefficients is reported alongside the individual coefficients. Unstandardised coefficients, standard errors, 95% confidence intervals and standardised betas are reported for the final model.

H4 was tested by bootstrapped estimation of relative indirect effects for a multicategorical antecedent (Hayes & Preacher, 2014), using the three status dummies as predictors, voice and grievance access as parallel mediators, and bias-corrected 95% confidence intervals throughout. To keep the adjustment consistent across hypotheses, models were estimated unadjusted and with the same covariate set used in H2 and H3 — age, tenure, the cadre dummies and the unit dummies. The binary permanent versus non-permanent specification is reported alongside. No *p* values are reported for indirect effects; the criterion is whether the bootstrap confidence interval excludes zero. Following Maxwell and Cole (2007), these estimates are presented as cross-sectional associations rather than as evidence of a temporal or causal sequence.

Robustness was checked by re-estimation on workers only, reporting the binary Welch contrast and the four-group *F* separately since they test different hypotheses. Because respondents are nested within five plants, the intraclass correlation of the outcome across plants was computed and the final model re-estimated with cluster-robust standard errors.

Common method variance was examined using Harman's single-factor test, with the limitations of that diagnostic acknowledged in Section 6.3.

Data were analysed in Python 3.12.3 using numpy 2.4.4, pandas 3.0.2, scipy 1.17.1, statsmodels 0.14.6 (regression and diagnostics), scikit-learn 1.5.2 (iterative imputation), factor_analyzer 0.5.1 (factor extraction and rotation) and pingouin 0.6.1. Analysis scripts are available from the author. One software-specific issue affecting the factor-correlation matrix is described in Section 4.2.

4. Results

4.1 Screening

Screening produced no duplicate response rows, no out-of-range codes and no age–tenure impossibilities among the retained cases. Across the seven construct scores, skewness ranged from –0.34 to 0.04 and kurtosis from –0.74 to –0.53, all within conventional limits for parametric analysis.

4.2 Structure of the instrument

The principal solution is computed on the iteratively imputed data (*N* = 240), and sensitivity to the treatment of missing data is reported below. Sampling adequacy was acceptable (*KMO* = .837, minimum item *KMO* = .678) and Bartlett's test of sphericity was significant, $\chi^2(630) = 3191.2$, $p < .001$. Parallel analysis indicated seven factors: the seventh observed eigenvalue was 1.540 against a random criterion of 1.446, and the eighth was 0.867 against 1.394. The seven-factor promax solution explained 48.5% of the common variance.

The pattern matrix was congruent with the intended structure. All 36 items loaded on their intended factor at .55 or above, and no item loaded at .30 or above on more than one factor. The solution is summarised in Table 2, and the complete 36 × 7 pattern matrix is given in Appendix A.

Table 2. Exploratory factor analysis: summary of the seven-factor solution (principal axis factoring, promax rotation, N = 240)

Construct	Items	Factor	Primary loading range	Cross-loadings ≥ .30
Health, safety and welfare	HS1–HS6	F1	.59 – .77	0
Employment security	ES1–ES6	F2	.60 – .80	0
Participation and voice	PV1–PV6	F3	.57 – .74	0
Industrial relations climate	IR1–IR5	F4	.69 – .79	0
Union representation	UN1–UN5	F5	.64 – .68	0
Grievance access	GR1–GR5	F6	.55 – .71	0
Work outcomes	WO1–WO3	F7	.59 – .82	0

Sensitivity to the treatment of missing data. Item nonresponse was 1.81%, but listwise deletion across all 36 items would have left 130 cases. The solution was therefore estimated four ways: with iterative regression imputation (N = 240, reported above), on the pairwise correlation matrix (N = 240), on listwise-complete cases (N = 130), and with item-level mean substitution (N = 240). All four yielded the same seven-factor structure, with every item loading on its intended factor and no cross-loadings at .30 or above; primary loading ranges were .55–.82, .55–.81, .53–.83 and .55–.81 respectively. The structure is robust to the treatment of missing data (Newman, 2014). All analyses other than the factor analysis use the unimputed data.

Factor correlations. Correlations among the seven oblique factors ranged from .047 to .353. The weakest was between the voice factor and the grievance-access factor (.047); the strongest between the industrial relations climate factor and work outcomes (.353). None approached a level that would raise questions of discriminant validity.

One software-specific problem must be documented, since it will affect any reader attempting to reproduce this analysis with the same package. In factor_analyzer 0.5.1, the rotated loading matrix is reordered by explained variance before it is stored, and the structure matrix is reordered with it, but the factor-correlation matrix is stored without the same permutation applied. The row and column order of the returned factor-correlation matrix therefore does not match the column order of the returned loading matrix. Applying the identical permutation to the factor-correlation matrix aligns the two. This is an indexing correction, not a re-estimation: the values are the native promax factor correlations, simply rearranged into the order matching the loadings.

The correction was verified in two ways. First, the corrected matrix lowers the root-mean-square residual between observed and model-implied item correlations, across all off-diagonal elements, from .043 to .025. Second, independently re-estimating the factor correlations by least squares against the observed correlation matrix, with the pattern matrix held fixed, reproduces the permuted matrix to within .0005 on every element. Uncorrected, the output would have placed the voice–grievance factor correlation at .219 and the grievance–security correlation at .051; corrected, these are .047 and .223, which correspond to the observed scale correlations of .045 and .187. Researchers using this package should apply the same permutation before interpreting oblique factor correlations.

This addresses the most serious risk in using a newly developed instrument: the seven constructs are not arbitrary divisions of a general evaluative factor but seven separate dimensions in respondents' replies. It does not demonstrate nomological or predictive validity, which would require external criteria not collected in this study, and the solution would need to be confirmed by replication in an independent sample before the instrument could be considered established (Hinkin, 1998; Lambert & Newman, 2023).

4.3 Reliability and descriptive statistics

All seven scales achieved conventional levels of reliability, with alphas ranging from .755 to .846 (Table 3). No item was deleted.

Table 3. Reliability and descriptive statistics (N = 240)

Construct	k	α	95% CI	M	SD	Skew	Kurtosis
Participation and voice (PV)	6	.828	[.79, .86]	3.33	0.88	−0.25	−0.57
Grievance access (GR)	5	.762	[.71, .81]	3.21	0.82	−0.13	−0.74
Health, safety and welfare (HS)	6	.839	[.80, .87]	3.29	0.88	−0.22	−0.63
Union representation (UN)	5	.797	[.75, .84]	3.23	0.86	0.04	−0.65
Employment security (ES)	6	.835	[.80, .87]	3.21	0.89	−0.09	−0.53
Industrial relations climate (IR)	5	.846	[.81, .88]	3.33	0.94	−0.34	−0.72
Work outcomes (WO)	3	.755	[.69, .81]	3.30	0.97	−0.23	−0.62

4.4 Correlations

Inter-construct correlations (Table 4) vary from .141 to .312, except that voice and grievance access correlate at $r = .045$, $p = .488$. All other pairs are significant at $p < .05$. This is explored in Section 4.7.

Table 4. Inter-construct correlations (N = 240)

	PV	GR	HS	UN	ES	IR	WO
PV	—						
GR	.045	—					
HS	.141*	.203**	—				
UN	.240***	.182**	.266***	—			
ES	.237***	.187**	.249***	.252***	—		
IR	.250***	.184**	.212**	.214**	.236***	—	
WO	.245***	.223***	.154*	.310***	.185**	.312***	—

Note. * denotes $p < .05$, ** denotes $p < .01$, *** denotes $p < .001$. Pairwise deletion.

4.5 H1: permanent versus non-permanent

Planned contrasts with Holm-corrected p values are presented in Table 5.

Table 5. Planned permanent versus non-permanent contrast, Holm-corrected

Construct	Permanent M	Non-perm M	Difference	95% CI	t	p	p (Holm)	Cohen's d
Employment security	3.45	3.05	0.396	[0.171, 0.622]	3.46	.0006	.005	0.456
Union representation	3.42	3.10	0.314	[0.096, 0.533]	2.83	.0051	.030	0.372
Participation and voice	3.52	3.20	0.316	[0.090, 0.541]	2.76	.0063	.032	0.364
Industrial relations climate	3.53	3.19	0.332	[0.092, 0.573]	2.73	.0069	.032	0.359
Grievance access	3.34	3.13	0.216	[0.006, 0.426]	2.03	.0439	.132	0.265
Health, safety and welfare	3.42	3.21	0.209	[-0.019, 0.437]	1.81	.0724	.145	0.239
Work outcomes	3.38	3.25	0.123	[-0.130, 0.377]	0.96	.3388	.339	0.127

H1 is partially supported. Four of the seven contrasts survive Holm correction: employment security, union representation, participation and voice, and the industrial relations climate, all with small to moderate effect sizes ($d = 0.36$ to 0.46). Three

do not. Grievance access was significant uncorrected ($p = .044$) but not after correction ($p = .132$), and should be treated as at most suggestive. Health, safety and welfare was not significant either way, and work outcomes did not differ at all ($d = 0.13$).

4.6 Differences among the four status categories (exploratory)

The four-group comparison is shown in Table 6. These analyses are exploratory rather than the planned test of H1, so no multiplicity correction is applied and the results should be read as descriptive.

Table 6. Construct means by employment status (exploratory)

Construct	Permanent M (SD)	Fixed-term M (SD)	Contractor M (SD)	Seasonal M (SD)	F(3,236)	p	η^2
Participation and voice	3.52 (0.87)	3.34 (0.81)	3.14 (0.93)	3.11 (0.80)	3.23	.023	.039
Grievance access	3.34 (0.79)	3.20 (0.88)	3.13 (0.83)	2.98 (0.74)	1.79	.150	.022
Health, safety and welfare	3.42 (0.88)	3.18 (0.84)	3.17 (0.84)	3.34 (1.00)	1.35	.259	.017
Union representation	3.42 (0.82)	3.06 (0.93)	3.05 (0.78)	3.29 (0.92)	3.20	.024	.040
Employment security	3.45 (0.87)	3.02 (0.81)	3.09 (0.92)	3.04 (0.89)	4.02	.008	.049
Industrial relations climate	3.53 (0.92)	3.32 (0.92)	3.25 (0.92)	2.87 (0.92)	4.14	.007	.050
Work outcomes	3.38 (0.98)	3.35 (0.94)	3.16 (1.09)	3.30 (0.69)	0.70	.555	.009

Levene's test was non-significant for every construct except work outcomes ($p = .047$); Welch's correction did not alter any conclusion. Games–Howell comparisons localised the differences: on voice, contractor-supplied scored below permanent (-0.381 , $p = .047$); on union representation, the same contrast was significant (-0.364 , $p = .027$); on employment security, fixed-term scored below permanent (-0.430 , $p = .020$); and on the industrial relations climate, the only significant pair was permanent against seasonal ($+0.659$, $p = .007$). No comparison among the three non-permanent categories was significant on any construct. The seasonal group has the lowest climate score of the four (2.87), which is the main reason for retaining the disaggregated coding in the regression that follows.

4.7 Voice and grievance access are empirically distinct

That there is a near-zero correlation between voice and grievance access ($r = .045$, $p = .488$) is not an artefact of how the scales were constructed. Both scales have acceptable reliabilities ($\alpha = .828$, $.762$); the factor analysis produced no cross-loadings between them; the factor correlation between the two is $.047$, the lowest of the 21 factor pairs and close to the

observed scale correlation; and at item level no cross-construct correlation is larger than .146 or smaller than $-.100$, with a mean absolute value of .058. At both observed and latent level the two constructs are, in this sample, close to independent. The implications, and why the result needs replication, are explored in Section 5.3.

4.8 H2 and H3: predicting the industrial relations climate

Table 7. Hierarchical regression on industrial relations climate (N = 235)

Step	Predictors added	R ²	Adj. R ²	ΔR^2	F for ΔR^2	p
1	Age, tenure, cadre (2 dummies), unit (4 dummies)	.054	.020	.054	F(8,226) = 1.60	.125
2	Employment status (3 dummies)	.072	.026	.018	F(3,223) = 1.47	.224
3	Voice, grievance access	.143	.093	.071	F(2,221) = 9.20	<.001
4	Health/safety, union, employment security	.180	.120	.037	F(3,218) = 3.26	.023

H2 is not supported. The three-dummy employment-status block did not add significant variance at step 2 ($\Delta R^2 = .018$, $F(3,223) = 1.47$, $p = .224$). An omnibus Wald test of the three status coefficients in the final model was also not significant, $F(3,218) = 1.32$, $p = .270$. The disaggregated coding matters here: the seasonal coefficient is the largest of the three and remains non-significant ($B = -0.361$, 95% CI $[-0.898, 0.176]$, $p = .186$), which shows that the null is not an artefact of collapsing heterogeneous categories.

H3 is supported at block level. Voice and grievance access added $\Delta R^2 = .071$ at step 3 ($p < .001$), and the remaining access constructs a further $\Delta R^2 = .037$ ($p = .023$). Within the final model, however, only voice was individually significant ($B = 0.190$, 95% CI $[0.050, 0.330]$, $\beta = .178$, $p = .008$); grievance access was not ($p = .185$). The block-level and coefficient-level conclusions thus differ and are reported separately throughout.

Table 8. Final regression model on industrial relations climate (N = 235)

Predictor	B	SE	95% CI	β	t	p
Age	0.006	0.012	$[-0.017, 0.029]$	.044	0.48	.632
Tenure at unit	-0.008	0.028	$[-0.063, 0.046]$	-.032	-0.29	.769
Supervisor	0.243	0.165	$[-0.082, 0.568]$	.097	1.47	.142
Officer	0.332	0.240	$[-0.141, 0.806]$	.096	1.38	.168

Predictor	B	SE	95% CI	β	t	p
Unit B	−0.155	0.187	[−0.525, 0.214]	−.066	−0.83	.408
Unit C	0.044	0.181	[−0.313, 0.401]	.019	0.24	.808
Unit D	−0.041	0.187	[−0.410, 0.327]	−.017	−0.22	.825
Unit E	0.011	0.185	[−0.353, 0.376]	.005	0.06	.951
Fixed-term	0.019	0.205	[−0.384, 0.422]	.008	0.09	.925
Contractor-supplied	0.017	0.235	[−0.446, 0.479]	.008	0.07	.943
Seasonal/casual	−0.361	0.272	[−0.898, 0.176]	−.127	−1.33	.186
Participation and voice	0.190	0.071	[0.050, 0.330]	.178	2.67	.008
Grievance access	0.099	0.074	[−0.047, 0.245]	.086	1.33	.185
Health, safety and welfare	0.108	0.071	[−0.032, 0.249]	.101	1.52	.131
Union representation	0.118	0.075	[−0.029, 0.266]	.108	1.58	.116
Employment security	0.100	0.072	[−0.041, 0.242]	.096	1.40	.163

Note. $R^2 = .180$, adjusted $R^2 = .120$, $F(16,218) = 2.99$, $p < .001$. Worker cadre, Unit A and permanent employment are the reference categories. An omnibus Wald test of the two cadre dummies was non-significant, $F(2,218) = 1.64$, $p = .197$.

The only access construct individually significant is voice. The other four carry small positive coefficients of roughly similar magnitude, none individually significant, though they contribute jointly at step 4.

Diagnostics were satisfactory. Variance inflation factors ranged from 1.11 to 3.26, the highest being the contractor-supplied dummy (3.26) and tenure (3.15), which reflects the status–tenure entanglement described in Section 3.3. Durbin–Watson was 1.79, Breusch–Pagan $p = .938$ and Shapiro–Wilk on the residuals $p = .244$.

4.9 H4: indirect association of status with climate through access (exploratory)

Relative indirect effects were calculated for each non-permanent category against the permanent reference, with voice and grievance access as parallel mediators (Hayes & Preacher, 2014). Table 9 reports them. The criterion for an indirect effect is whether the bootstrap confidence interval excludes zero.

Table 9. Relative indirect associations of employment status with the industrial relations climate (5,000 bootstrap resamples, bias-corrected 95% CI)

Status category (vs permanent)	Via	Unadjusted indirect	95% CI	Adjusted indirect	95% CI
Fixed-term	Voice	-0.039	[-0.129, 0.022]	-0.062	[-0.180, 0.023]
Fixed-term	Grievance access	-0.024	[-0.104, 0.018]	-0.020	[-0.126, 0.040]
Contractor-supplied	Voice	-0.087	[-0.197, -0.024]	-0.121	[-0.273, -0.021]
Contractor-supplied	Grievance access	-0.037	[-0.119, 0.001]	-0.032	[-0.164, 0.033]
Seasonal/casual	Voice	-0.093	[-0.220, -0.023]	-0.143	[-0.323, -0.030]
Seasonal/casual	Grievance access	-0.062	[-0.165, -0.008]	-0.057	[-0.212, 0.016]

Note. Adjusted models include age, tenure, the two cadre dummies and the four unit dummies, matching the covariate set used in H2 and H3. Bold intervals exclude zero. N = 239.

H4 receives partial support. Relative indirect associations through voice were distinguishable from zero for contractor-supplied and for seasonal/casual respondents, both unadjusted and after adjustment for age, tenure, cadre and unit. No indirect association was found for fixed-term respondents on either pathway, and the grievance-access pathway was distinguishable from zero only for seasonal respondents in the unadjusted model.

In the secondary binary specification, adjusted for the same covariates, the indirect association through voice was -0.086 , bias-corrected 95% CI $[-0.209, -0.003]$, and through grievance access -0.027 , CI $[-0.138, 0.033]$. The binary interval for voice excludes zero but is wide relative to the point estimate, so the association is distinguishable from zero while imprecisely estimated.

These are estimates of cross-sectional covariation. They fit a pathway in which employment status is related to climate perceptions through reported voice, and the pattern is orderly — the two categories furthest from the permanent core show the association, the one closest to it does not. However, a cross-sectional design cannot establish that sequence, and estimates of longitudinal mediation from single-occasion data can be substantially biased in either direction (Maxwell & Cole, 2007).

4.10 Robustness

Restricting the analysis to workers (cadre = 1, $n = 181$; 56 permanent, 125 non-permanent) strengthened the voice result. On the planned binary contrast, voice gave $t = 3.08$, $p = .003$, $d = 0.485$, up from $d = 0.364$ in the full sample; grievance access $t = 1.99$, $p = .050$, $d = 0.321$; and the industrial relations climate $t = 1.59$, $p = .114$, $d = 0.263$. The corresponding four-group comparisons, which test a different hypothesis and are reported separately, gave $F(3,177) = 3.13$, $p = .027$ for voice; $F = 1.49$, $p = .220$ for grievance access; and $F = 2.50$, $p = .061$ for the climate. The climate difference is therefore not statistically detectable among workers alone on either test, consistent with a modest effect losing precision in a smaller sample.

Respondents are nested within five plants. The estimated plant-level intraclass correlation for the industrial relations climate was .006, suggesting limited between-plant variation, and no unit dummy approached significance in any model. Re-estimating the final model with standard errors clustered by plant did not alter the conclusion regarding employment status. With only five plants, however, both the intraclass correlation and cluster-robust inference are imprecise, and the practical consequence of clustering also depends on cluster size (Cameron & Miller, 2015; McNeish & Stapleton, 2016). These analyses are therefore treated as sensitivity checks rather than as evidence that clustering is absent.

4.11 Common method variance

An exploratory Harman single-factor analysis showed that no single factor dominated the item covariance structure: the first unrotated component accounted for 20.53% of variance, and eight components exceeded unit eigenvalue. This procedure cannot rule out common method bias, particularly in a cross-sectional single-source design, and is reported only as a minimal screen (Podsakoff et al., 2003, 2024). It is treated as a limitation in Section 6.3.

4.12 Summary of hypothesis tests

Table 10. Summary of hypothesis tests

	Hypothesis	Result
H1	Non-permanent respondents report less favourable scores	Partially supported: 4 of 7 contrasts survive Holm correction (employment security, union representation, voice, IR climate)
H2	Employment status predicts IR climate after adjustment	Not supported ($\Delta R^2 = .018$, $F(3,223) = 1.47$, $p = .224$; omnibus Wald in final model $p = .270$)
H3	Access predicts IR climate over and above status	Supported at block level ($\Delta R^2 = .071$, $p < .001$); within the final model only voice is individually significant
H4	Status indirectly associated with climate via access	Partially supported: relative indirect associations via voice for contractor-supplied and seasonal categories, adjusted and unadjusted; none for fixed-term. Associational only

5. Discussion

5.1 What the attenuation of the status coefficient can and cannot show

The descriptive picture is in line with the literature on segmentation. Compared with their permanent counterparts, non-permanent respondents in these five plants feel less secure in their employment, less well supported by a union, have less

voice, and report a less favourable industrial relations climate — all four effect sizes falling between 0.36 and 0.46, and all four contrasts withstanding correction for multiplicity.

After the age, tenure, cadre and unit controls were added, the employment-status block failed to increase the variance accounted for in the industrial relations climate ($\Delta R^2 = .018$, $F(3,223) = 1.47$, $p = .224$). This held whether status was modelled as a binary indicator or as three dummies capturing the differences among fixed-term, contractor-supplied and seasonal respondents.

This might be read as showing that contractual status makes no difference and that tenure is the real cause. That is not a warranted reading, and the reason is clearly visible in Table 1. Permanent respondents average almost nine years at the unit; seasonal respondents average two. Permanent status is precisely the condition that allows long tenure to accumulate, so tenure is potentially a result of employment status rather than an alternative explanation for perceptions of climate. Adjusting for it may therefore remove part of the pathway through which status operates — over-adjustment — rather than removing confounding. Statistically, the variance inflation factors register the same problem: 3.26 for the contractor-supplied dummy and 3.15 for tenure.

The defensible statement is narrower than the claim this study set out to make. The observed status difference in the industrial relations climate was not statistically discernible after adjustment for age, tenure, cadre and unit. Because employment status and tenure are strongly intertwined in this sample, the analysis cannot distinguish whether that attenuation reflects confounding, over-adjustment, or a true absence of an independent status association. Distinguishing them would require a design that deliberately sampled long-tenured non-permanent workers and short-tenured permanent workers, which this study did not do.

5.2 Access and its association with climate

What can be said with greater confidence is that reported access accounts for variance in the industrial relations climate that is not accounted for by respondent characteristics and employment status. Voice and grievance access together contributed 7.1% ($p < .001$). This is a block-level result, and it should not be interpreted as evidence that both predict climate individually: only voice was significant in the final model ($B = 0.190$, 95% CI [0.050, 0.330], $\beta = .178$, $p = .008$), while grievance access was not ($p = .185$). The voice difference was more pronounced among workers considered alone ($d = 0.485$, $p = .003$).

A qualification belongs here that the earlier version of this paper did not make. The access constructs did not render employment status non-significant, because status was already non-significant at step 2. The regression therefore cannot show that access "explains away" a status effect: after adjustment there was no status coefficient left to explain. What the regression shows is that access has incremental predictive value alongside status and demographic characteristics.

The exploratory analysis in Section 4.9 speaks more directly to the pathway, and the pattern there is orderly. Relative indirect associations through voice were distinguishable from zero for contractor-supplied and for seasonal respondents, both unadjusted and after adjustment for age, tenure, cadre and unit, but not for fixed-term respondents. No comparable pathway existed for grievance access once adjusted. This is compatible with voice carrying a status–climate association, but the design does not permit the temporal ordering that mediation language implies, and cross-sectional estimates of such pathways can be seriously biased in either direction (Maxwell & Cole, 2007). It is reported as an association worth testing with a longitudinal design, not as a demonstrated mechanism.

The results are consistent with the intrinsic reading of voice in the industrial relations literature (Budd, 2004; Dundon et al., 2004), which treats being consulted not only as a route to better outcomes but as a statement of standing. They are equally consistent with reverse or reciprocal influence, in which workers who see relations as cooperative report more voice for that reason.

5.3 Voice and grievance access as independent dimensions

Perhaps most surprisingly, voice and grievance access are almost unrelated ($r = .045$) in a matrix where every other pair correlates between .14 and .31. It holds at every level of analysis: the factor solution produced no cross-loadings between the two, the factor correlation between them is .047 — the lowest of the 21 possible pairs — the mean absolute item-level cross-correlation is .058, and both scales are reliable. This is not a measurement artefact in any way the present data can detect.

A likely interpretation is that these are distinct goods in these plants. A worker who is consulted about how the work is organised is no more likely than any other worker to believe that a grievance would be dealt with fairly. The institutions may genuinely be separate in practice: consultative arrangements run by line management, grievance machinery run by human resources or through the union, with different reach and different reputations. Alternatively the constructs may tap different objects: voice as an everyday relationship that most respondents experience directly, grievance access as a formal process with which they have little first-hand experience and which they judge by reputation.

This is an interesting finding, but it needs replication before much weight is placed on it. If it holds, it cautions against treating employee voice as a single latent good of which the grievance procedure is merely one indicator, which is how the two are frequently bundled in climate instruments. It also explains why the causal ordering hypothesised in an earlier version of this study was untenable, and why that hypothesis has been withdrawn rather than reported as a failed test.

5.4 Where no status difference appeared

Two constructs showed no difference, and both deserve comment rather than silence.

Health, safety and welfare did not differ significantly ($p = .072$ uncorrected, $p = .145$ after Holm), and seasonal respondents rated it above both fixed-term and contractor-supplied respondents. This is surprising given the international evidence that precarious employment is associated with poorer occupational health and safety outcomes (Quinlan et al., 2001; Underhill & Quinlan, 2011). One possible explanation is that safety and welfare provision in a licensed distillery is more rigidly standardised through statutory requirement and external oversight than discretionary consultative arrangements are, so that inclusion follows enforcement rather than employment. Inspection intensity, compliance mechanisms and enforcement activity were not measured, so the present data cannot test this. It is offered as a hypothesis for further research, not as a demonstrated mechanism.

Work outcomes did not differ at all ($d = 0.127$, $p = .339$). Non-permanent respondents were about as satisfied, and as willing to recommend the unit, as permanent ones. This sits somewhat at odds with the notion that precarious status simply and directly depresses job attitudes. One explanation is a reference-group effect — workers comparing the job with the alternatives realistically available to them rather than with the permanent contract beside them — but comparison standards were not measured and the study cannot adjudicate.

5.5 Implications for measuring the industrial relations climate

The mean industrial relations climate score for permanent respondents alone was 3.53, against a pooled sample figure of 3.33. The pooled figure cannot be interpreted as a workforce population mean for any unit, because the quota sample deliberately oversampled non-permanent workers and is not proportionate to actual workforce composition.

The defensible implication concerns method rather than magnitude. Where perceptions differ systematically between employment-status groups within one establishment, an aggregate climate score will depend on the composition of the group surveyed. Two studies of the same plant could report materially different climate estimates purely as a function of whom they reached. Studies drawn from company rolls will tend to sample disproportionately from the permanent segment, and studies such as this one deliberately do the opposite. Future research should therefore report the employment-status composition of its samples as a matter of routine and, where population proportions are known, consider appropriate weighting before presenting an establishment-level figure.

6. Implications, limitations and conclusion

6.1 Theoretical implications

The study measures institutional access directly, as distinct from contractual category, and finds the two to be conceptually and empirically separable. It further finds that access in these plants is not unitary: voice and grievance machinery operate as distinct dimensions. Both findings suggest that the productive unit of analysis for industrial relations climate in segmented workplaces may be the particular institution and its reach, rather than the contractual category of the worker.

6.2 Practical implications

Four implications follow, stated at the level of confidence the design supports.

The results identify consultative voice as a promising target for future intervention research. It was the only access construct individually associated with the industrial relations climate after adjustment, and the association strengthened among shop-floor workers. Whether extending voice arrangements would change climate perceptions is an intervention question this study did not test.

Because voice and grievance access behave as separate dimensions, grievance machinery appears to warrant attention in its own right rather than treatment as an extension of voice. In practice that means a stated route, a stated timeline, and an explicit statement of whether and how contractor-supplied workers may use it.

On this evidence, regularisation of contractual status cannot be assumed to carry industrial relations climate benefits. Equally, this study provides no basis for arguing against regularisation, which rests on grounds of security and entitlement it did not examine, and the absence of an adjusted association is not evidence that status has no effect.

The absence of a status difference on statutorily governed provision, alongside differences on discretionary provision, is a pattern worth exploring as the Industrial Relations Code 2020 is put in place. The Code took effect on 21 November 2025, with central rules notified in May 2026 and state rules notified separately, and it formalises fixed-term employment while extending certain statutory entitlements to fixed-term workers (Jain, Ghosh & Misra, 2023). If inclusion in practice follows enforcement rather than contractual designation, as the pattern here tentatively suggests, the Code's effect on the industrial relations climate will depend less on how it classifies workers than on how its provisions are inspected. The present study cannot attribute the pattern to enforcement and offers this as a question rather than a conclusion.

6.3 Limitations

Eight limitations qualify these findings.

Sampling. The design is non-probabilistic. Access to the shop floor in an excise-regulated industry is negotiated rather than guaranteed, and contractor-supplied workers appear on no available frame. The quota design supports subgroup comparison but not inference to the sector's workforce, and deliberate oversampling means the composition does not reflect the actual headcount distribution at any unit.

Status–tenure entanglement. This sample does not allow employment status and tenure to be separated. This is the most consequential limitation and it bounds the central argument, as set out in Section 5.1.

Cross-sectional design. Associations are reported; causal direction is not established. This applies with particular force to the indirect-effect estimates in Section 4.9, since cross-sectional data can yield substantially wrong estimates of a process that unfolds over time (Maxwell & Cole, 2007).

Common method variance. All constructs were reported on one instrument at one point in time. Harman's test is a weak diagnostic and cannot establish the absence of bias (Podsakoff et al., 2003, 2024; Jordan & Troth, 2020). Procedural remedies were limited to anonymity assurance and separation of construct blocks within the instrument. A multi-source or temporally separated design would be required to address this properly.

Instrument development. The factor structure was clean and robust across four missing-data treatments, and reliabilities were adequate, but validation rests on a single sample with no independent criterion and on exploratory rather than confirmatory analysis. Content, structural and reliability evidence is present; nomological and predictive validity are not demonstrated (Hinkin, 1998; Lambert & Newman, 2023). Replication with confirmatory analysis in an independent sample is required. All items are worded positively, so acquiescence bias is uncontrolled; future versions should include reverse-scored items.

Multiplicity. Holm correction was applied to the seven planned H1 contrasts. The exploratory four-group comparisons, Games–Howell tests and relative indirect-effect analyses were not corrected and should be read accordingly.

Control variables. Age, tenure, cadre and unit were selected on theoretical grounds and retained at every step regardless of significance, in line with current recommendations (Becker et al., 2016; Bernerth & Aguinis, 2016). None was individually significant in the final model, and the possibility that adjusting for tenure removes part of the status pathway is discussed in Section 5.1.

Response candour. Workers whose continuation depends on a contractor's decision may understate problems even under anonymity, and the most excluded may have been the hardest to reach. Both biases would work toward understating the differences reported here.

6.4 Future research

Four directions follow. A design deliberately constructed to break the status–tenure confound would resolve what this study could not. A longitudinal or multi-wave design would permit proper testing of the access pathway. A multi-source design pairing worker reports with institutional records of committee membership and grievances filed would reduce the common-method concern and test whether perceived access tracks actual access. The enforcement hypothesis in Section 5.4 is testable by comparing institutions that differ in inspection intensity within the same plants. And the near-independence of voice and grievance access is a single-sample result on a new instrument; it should be replicated with confirmatory factor analysis before it is built upon.

6.5 Conclusion

Permanent and non-permanent workers in these five liquor manufacturing units differ in their perceptions of several dimensions of the employment relationship, including the industrial relations climate. These differences are inextricably

bound up with substantial variations in tenure and in workforce characteristics. After statistical adjustment the employment-status block does not independently predict the industrial relations climate, whereas the voice and grievance-access block explains additional variance — with voice, not grievance access, individually significant. But the entanglement of status with tenure means this study cannot determine whether that reflects a genuine absence of a status association or the removal, by adjustment for tenure, of part of the pathway through which status operates. The cross-sectional design likewise cannot establish whether access shapes climate perceptions or merely substitutes statistically for contractual regularisation. What the study establishes more securely is that institutional access can be measured separately from contractual category, that in these plants voice and grievance machinery are close to independent of one another, and that voice retains an association with the industrial relations climate which respondent characteristics and employment status do not account for.

Declarations

Funding. [State.]

Conflicts of interest. [State.]

Ethics approval. [State the approving body, reference number and date. This manuscript must not be submitted until this is complete and accurate.]

Consent to participate. All respondents provided informed consent prior to participation.

Data availability. [State where the anonymised dataset is held and on what terms it is available.]

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[Verify every entry against the target journal's reference style before submission.]

Appendix A: Full pattern matrix and factor correlations

Table A1. Pattern matrix, seven-factor principal axis solution with promax rotation (N = 240, iterative imputation)

Item	F1	F2	F3	F4	F5	F6	F7
PV1	0.02	-0.04	0.57	0.01	0.04	0.05	0.04
PV2	0.04	-0.03	0.74	-0.03	0.02	0.02	-0.12
PV3	0.01	0.08	0.65	-0.08	0.06	-0.08	0.06

Item	F1	F2	F3	F4	F5	F6	F7
PV4	0.05	-0.01	0.74	-0.01	0.03	-0.04	-0.01
PV5	0.02	0.02	0.68	0.09	-0.18	0.06	0.04
PV6	-0.17	0.00	0.72	0.03	0.07	-0.01	-0.03
GR1	-0.01	0.01	-0.03	-0.05	-0.01	0.71	0.02
GR2	0.07	0.08	0.10	0.02	-0.05	0.61	0.02
GR3	0.01	0.00	0.06	-0.01	-0.03	0.64	-0.05
GR4	0.05	-0.09	-0.01	0.02	-0.02	0.55	0.13
GR5	-0.08	0.00	-0.10	0.03	0.16	0.62	-0.14
HS1	0.69	0.09	-0.09	-0.01	-0.07	0.05	-0.00
HS2	0.70	-0.06	0.05	0.02	0.08	-0.02	-0.03
HS3	0.77	-0.13	0.07	-0.03	-0.02	0.01	-0.01
HS4	0.59	0.09	0.01	0.11	-0.07	-0.04	0.00
HS5	0.75	0.02	0.00	-0.11	0.09	-0.03	-0.05
HS6	0.60	0.01	-0.06	-0.02	0.05	0.04	0.04
UN1	-0.03	0.02	0.06	-0.00	0.68	0.07	-0.09
UN2	0.08	-0.09	0.00	0.06	0.65	0.03	0.01
UN3	-0.09	0.01	0.00	-0.15	0.64	0.07	0.09
UN4	0.11	0.04	-0.03	-0.01	0.64	-0.08	0.11
UN5	0.03	0.04	0.02	0.17	0.66	-0.08	-0.05
ES1	-0.01	0.62	-0.03	-0.02	0.03	0.06	0.07
ES2	-0.03	0.80	-0.06	0.01	-0.01	0.06	-0.10
ES3	0.00	0.70	-0.04	0.03	0.08	-0.02	-0.01
ES4	-0.04	0.69	-0.01	-0.01	-0.00	-0.04	0.07
ES5	0.04	0.68	0.04	0.08	-0.05	-0.02	-0.05
ES6	0.03	0.60	0.09	-0.09	-0.03	-0.03	-0.01
IR1	-0.09	0.03	0.07	0.70	0.02	0.03	0.02
IR2	0.03	-0.01	-0.01	0.79	0.05	-0.04	-0.04
IR3	0.00	-0.01	0.02	0.70	-0.13	0.01	0.04
IR4	-0.00	-0.02	-0.06	0.74	0.07	0.00	0.05
IR5	0.01	0.00	-0.02	0.69	0.04	-0.00	-0.05
WO1	0.05	0.03	0.07	0.07	0.04	0.05	0.59
WO2	-0.05	0.06	-0.06	0.02	-0.02	0.08	0.73
WO3	-0.03	-0.08	-0.00	-0.04	0.04	-0.12	0.82

Note. F1 = health, safety and welfare; F2 = employment security; F3 = participation and voice; F4 = industrial relations climate; F5 = union representation; F6 = grievance access; F7 = work outcomes. No item loads at .30 or above on more than one factor.

Table A2. Factor correlations (promax), with the ordering correction described in Section 4.2 applied

	PV	GR	HS	UN	ES	IR	WO
PV	—						
GR	0.047	—					
HS	0.180	0.233	—				
UN	0.252	0.227	0.278	—			
ES	0.281	0.223	0.298	0.268	—		
IR	0.295	0.225	0.271	0.222	0.282	—	
WO	0.292	0.271	0.204	0.340	0.217	0.353	—

Note. PV = participation and voice; GR = grievance access; HS = health, safety and welfare; UN = union representation; ES = employment security; IR = industrial relations climate; WO = work outcomes. Values are the native promax factor correlations with the row/column permutation aligned to the loading matrix; see Section 4.2.

Annexure: Survey Instrument as Administered

Reproduced as administered. Units are named here as A–E; the instrument as issued to respondents carried no unit identifier beyond a field completed by the researcher.

Participant information and consent

This questionnaire forms part of independent academic research on industrial relations in the alcoholic beverage manufacturing industry. Your answers will be analysed only in aggregate. Your name is not recorded, your employer will not see your individual responses, and participation is entirely voluntary. You may stop at any point without giving a reason.

() I have read and understood the purpose of this study and I agree to take part voluntarily.

How to answer. Please give one answer for every statement. Use the scale 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree. Answer about your own experience at this unit, not about what the rules say should happen. If a statement does not apply to you at all, mark NA and move on.

Section A: Background information

No.	Item	Response options
A1	Unit	Units A–E (recorded by researcher)
A2	Employment status	1 Permanent (on company rolls); 2 Fixed-term contract (direct with company); 3 Engaged through a labour contractor; 4 Seasonal / casual
A3	Cadre	1 Worker / operative; 2 Supervisor; 3 Officer / executive

No.	Item	Response options
A4	Age	Actual age in completed years
A5	Gender	1 Male; 2 Female; 3 Other / prefer not to say
A6	Education	1 Up to Class 8; 2 Class 9–12; 3 ITI / Diploma; 4 Graduate; 5 Postgraduate or above
A7	Years worked at this unit	Actual years
A8	Department	1 Distillation / Production; 2 Bottling & Packaging; 3 Maintenance; 4 Quality Control / Lab; 5 Stores & Logistics; 6 HR / Administration; 7 Other
A9	Trade union membership	1 Yes; 2 No; 3 There is no union at this unit
A10	Months actually worked at this unit in the last 12	0–12
A11	Previously worked here under a different employment status	1 Yes; 2 No

Section B: Participation and Voice

Code	Statement	1 SD	2 D	3 N	4 A	5 SA
PV1	I am asked for my opinion before changes are made to how my work is done.	()	()	()	()	()
PV2	Suggestions from people in my position are actually acted upon.	()	()	()	()	()
PV3	I can raise a concern with a manager without needing permission from anyone else.	()	()	()	()	()
PV4	I am included in departmental or shift meetings where work is discussed.	()	()	()	()	()
PV5	I am invited to participate in safety or welfare committees at this unit.	()	()	()	()	()
PV6	People in my employment category are listened to as much as others here.	()	()	()	()	()

Section C: Grievance Access

Code	Statement	1 SD	2 D	3 N	4 A	5 SA
GR1	I know exactly whom to approach if I have a complaint about my work or pay.	()	()	()	()	()
GR2	I could make a formal complaint here without fearing for my job.	()	()	()	()	()
GR3	Complaints from people in my position are dealt with as seriously as those from others.	()	()	()	()	()
GR4	Grievances at this unit are settled within a reasonable time.	()	()	()	()	()
GR5	The outcome of a grievance here does not depend on who you know.	()	()	()	()	()

Section D: Health, Safety and Welfare

Code	Statement	1 SD	2 D	3 N	4 A	5 SA
HS1	I am given the protective equipment I need for my job, in good condition.	()	()	()	()	()
HS2	I received proper safety training before being put on my current work.	()	()	()	()	()
HS3	I can use the canteen, drinking water and washroom facilities on the same terms as everyone else.	()	()	()	()	()
HS4	First-aid and medical help are available to me during my shift.	()	()	()	()	()
HS5	The statutory benefits I am entitled to (PF, ESI, bonus, gratuity) are actually paid to me.	()	()	()	()	()
HS6	If I were injured at work, this unit would take proper responsibility.	()	()	()	()	()

Section E: Union Representation

Code	Statement	1 SD	2 D	3 N	4 A	5 SA
UN1	The union at this unit takes up the concerns of people in my employment category.	()	()	()	()	()
UN2	People in my position are able to attend union meetings without difficulty.	()	()	()	()	()
UN3	The union has been able to secure real improvements for people like me.	()	()	()	()	()
UN4	Union representatives are approachable to me personally.	()	()	()	()	()
UN5	Management takes the union seriously when it raises an issue.	()	()	()	()	()

Section F: Employment Security and Fair Treatment

Code	Statement	1 SD	2 D	3 N	4 A	5 SA
ES1	I have a reasonable idea whether I will still be working here in twelve months.	()	()	()	()	()
ES2	The terms of my engagement were explained to me clearly before I started.	()	()	()	()	()
ES3	My wages are paid in full and on time.	()	()	()	()	()
ES4	I am paid fairly compared with others doing similar work at this unit.	()	()	()	()	()
ES5	Rules and discipline are applied to me in the same way as to everyone else.	()	()	()	()	()
ES6	My employment status here does not affect how I am treated day to day.	()	()	()	()	()

Section G: Industrial Relations Climate

Code	Statement	1 SD	2 D	3 N	4 A	5 SA
IR1	Relations between workers and management at this unit are cordial.	()	()	()	()	()
IR2	This unit is generally free of disputes and stoppages.	()	()	()	()	()
IR3	There is mutual trust between management and the workforce here.	()	()	()	()	()
IR4	Problems between workers and management are settled by discussion rather than confrontation.	()	()	()	()	()
IR5	Taking everything together, industrial relations at this unit are effective.	()	()	()	()	()

Section H: Work Outcomes

Code	Statement	1 SD	2 D	3 N	4 A	5 SA
WO1	I am satisfied with my job at this unit.	()	()	()	()	()
WO2	I would recommend this unit as a place to work to a friend or relative.	()	()	()	()	()
WO3	I intend to still be working at this unit a year from now.	()	()	()	()	()

Section I: In your own words

1. In your experience, does your employment status (permanent, contract, seasonal) change how you are treated at this unit?
Please explain.
2. What is the single most important thing management could do to improve relations at this unit?
3. Is there anything else you would like to add?

Thank you for your time and for taking part in this study.