PSYCHOLOGY AND COGNITIVE SCIENCES
ISSN: 3080-1893. eISSN: 3104-4611

IRSTI 15.41.31
Scientific article

https://doi.org/10.32523/3080-1893-2025-153-4-7-16

A study of the psychological determinants of employee work engagement in organizations

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Abstract. This study investigates the macro-level determinants of job mobility across 28 countries, focusing on the roles of employee involvement, stress prevalence, labor market openness, negative emotional climate, and advancement of the national AI technology sector. Drawing on internationally harmonized survey data and composite indices, an ordinary least squares regression model reveals that higher daily stress and negative emotions within the workforce are robust predictors of increased intent to leave among employees. Employee involvement and labor market openness do not show significant effects once emotional and technological factors are accounted for. These findings highlight the critical importance of fostering positive emotional climates and investing in technology-driven environments to enhance employee retention. The results provide new evidence for policymakers and organizational leaders seeking to understand and manage workforce stability in an era of rapid technological and social change. Work engagement is included in the model not as the primary dependent variable, but as a potential psychological antecedent of job mobility, allowing the study to connect individual-level motivational constructs with country-level behavioral outcomes.

Keywords: Artificial intelligence, social perceptions, social representations, trust, fears, Kazakhstan, workplace emotions.

Introduction

Workplace mobility, understood as the desire of employees to seek new professional paths or consider ending current employment relationships, is gradually becoming a key issue for organizational psychology and labor economics. Changing employee expectations, accelerated technological advancements, and the dynamics of the international labor market increase the instability of personnel systems and reduce the predictability of personnel behavior (Froehlich et al., 2014; Van Hooft et al., 2004). Therefore, the study of the reasons that determine the

Received: 17.11.2025; Revised: 26.11.2025; Accepted: 03.12.2025; Available online: 29.12.2025

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propensity of employees to move to another workplace is of particular importance for the development of reliable strategies for retaining qualified specialists at the organizational and national levels.

Modern research provides an extensive body of data on individual characteristics associated with job change intentions. Among the most studied variables are job satisfaction, the degree of commitment to the organization, and a subjective assessment of the availability of alternative employment options (Griffeth et al., 2000; Mauno et al., 2007). Chronic occupational stress and negative emotional experiences have also been repeatedly described as elements that increase the likelihood of withdrawal (Podsakoff et al., 2007; Schaufeli & Bakker, 2004). The state of the labor market also plays a crucial role: the perception of openness, availability of vacancies, and employment prospects creates confidence among employees in the possibility of moving to other structures (Van Hooft et al., 2004).

At the theoretical level, job mobility is shaped not only by workplace conditions but also by societal emotional climates and technological transformations. Emotional strain reduces employees' psychological resources, making job change more likely, while advanced AI environments may enhance perceived career stability. These mechanisms justify the inclusion of both emotional and technological indicators in the model.

At the same time, there remains a limited understanding of how changes in the technological environment at the macro level, especially the development of national artificial intelligence systems, affect employee behavior patterns. The growth of digitalization is transforming the content of professional activity, the structure of industries, and the nature of career paths. Technological shifts simultaneously create the risk of employee displacement and form new career directions, which increases uncertainty in the long-term stability of personnel (Autor, 2015; Bessen, 2019). Comparative international research that considers the interaction of technological change with the emotional and organizational characteristics of the work environment remains fragmented, hindering a comprehensive understanding of labor mobility dynamics.

The present study aims to fill this gap by building a cross-country analysis covering 28 economies. The subject of consideration is the proportion of employees who are actively assessing the possibility of moving to a new job. The analysis system includes indicators of staff engagement, the prevalence of daily stress, perceptions of labor market openness, the level of national technological development, and the prevalence of negative emotional experiences. The combined inclusion of these parameters allows us to form a multidimensional understanding of which elements of the work, emotional, and technological environment increase the likelihood of professional mobility. The results obtained are of interest to specialists involved in developing personnel policy, improving organizational practices, and forming national strategies for the sustainable development of the workforce in the context of accelerating structural changes.

The novelty of this study lies in integrating macro-level technological indicators (AI sector advancement) with national emotional climate measures to predict job mobility. Existing cross-national studies rarely combine emotional, technological, and labor market perceptions in a single analytical model. Furthermore, the inclusion of 28 economies expands the empirical coverage compared to previous research, which typically focuses on fewer countries.

AI sector advancement is interpreted not only as a technological indicator but also as a psychological context variable that reflects national capacity for innovation, perceived job security in technology-driven environments, and availability of long-term career pathways.

Methods

This study utilizes cross-sectional data from 28 countries to investigate the predictors of job mobility at the national level. The analysis draws on internationally harmonized survey data and composite indices that capture key aspects of workplace experience, emotional climate, labor market conditions, and technological advancement. The methodological approach combines descriptive analysis with multivariate regression to identify the independent contributions of each factor to the prevalence of employees intending to leave their jobs. Details on data sources, variable construction, and statistical procedures are provided below.

Indicators of workplace mobility, employee engagement, stress prevalence, job market openness, and negative emotions are derived from the Gallup State of the Global Workplace 2025 report (Gallup, 2025). The report presents standardized international indicators of working conditions, employment perception, and the emotional state of the population. The indicator of the development of the national sector of artificial intelligence technologies is based on the component of the technological infrastructure of the Oxford Insights AI Government Readiness Index for 2024, reflecting the state's ability to innovate and operationally integrate AI. The final sample includes only countries for which complete data are available for each indicator used in the model.

Workplace mobility is defined as the proportion of employees who have declared their intention to leave their current organization, encompassing both active searches for alternatives and passive consideration of employment opportunities. Higher values of the variable indicate a less stable employment structure. The engagement indicator reflects the degree of involvement of employees in their professional activities and their interest in the organization's tasks. The prevalence of stress measures the proportion of respondents who reported feeling stressed for most of the previous day, allowing for an assessment of the level of psychological stress in society. The openness of the labor market reflects the perception of job availability and economic flexibility, that is, the subjective ease of finding a new job. Negative emotions describe the prevalence of affective states such as sadness or anger, capturing the emotional background of daily experience.

Based on established theoretical frameworks and prior empirical research, the following hypotheses were formulated to guide the analysis of factors influencing job mobility intentions across countries:

1) It is hypothesized that **higher employee involvement** will be associated with lower job mobility, as prior research has shown that employees with greater engagement tend to develop stronger organizational identification and commitment, which in turn reduces their intentions to leave (Saks, 2006; Mauno et al., 2007).

2) **A greater prevalence of daily stress** is expected to predict higher job mobility, consistent with findings that stress increases turnover intentions and actual turnover rates among employees (Podsakoff et al., 2007; Griffeth et al., 2000).

3) In line with prior international research, it is anticipated that **higher perceived labor market openness** – that is, employees' perception that alternative job opportunities are readily available – will be linked to greater job mobility, as easier access to alternative employment increases the likelihood of turnover (Van et al., 2004; De Cuyper et al., 2011).

4) With regard to technological context, **greater advancement in the AI technology sector** is expected to correspond with lower job mobility, as technology-driven work environments

can offer enhanced growth, learning, and satisfaction, thereby promoting retention (Autor, 2015; Bessen, 2019).

5) Finally, an **increased prevalence of negative emotions –** such as daily experiences of sadness or anger – is hypothesized to be positively associated with job mobility, as emotional strain has been shown to prompt intentions to leave and drive actual turnover (Judge & Watanabe, 1993; Schaufeli & Bakker, 2004).

To address the research problem – identifying macro-level predictors of job mobility – the study applies an OLS regression model that simultaneously evaluates psychological, emotional, labor market, and technological determinants. This approach allows quantifying the relative contribution of each factor to cross-national variation in mobility intentions.

While the study's title highlights engagement, the dependent variable in the model is job mobility. Engagement is treated as an explanatory factor reflecting employees' psychological involvement in their work.

The sample includes 28 countries for which complete data were available across all indicators used in the regression model. The countries represent diverse economic, cultural, and technological contexts, allowing for externally valid cross-national comparisons. The inclusion criteria were: (1) availability of Gallup 2025 emotional and workplace indicators; (2) availability of AI readiness data from Oxford Insights 2024; (3) harmonized labor market openness metrics. A full list of countries is provided in Appendix A.

Results

This study advances the literature by demonstrating that national AI development and emotional climate jointly explain variations in job mobility across countries-an analytical combination not previously tested in large-scale comparative research.

The following section presents the empirical findings of the study. The results of the multivariate regression model are then discussed, highlighting the independent effects of workplace, emotional, labor market, and technological factors on job mobility intention at the national level.

The solution to the stated research problem is operationalized through a multivariate regression model that estimates the independent effects of key macro-level predictors on job mobility.

Table 1

OLS results – dependent variable is Job Mobility

Variable	Coefficient	Std. Error	t-value	p-value	95% CI (Lower)	95% CI (Upper)
Intercept	63.31	7.37	8.59	<0.001	48.72	77.89
Involvement	0.17	0.13	1.32	0.19	-0.08	0.43
Stress Prevalence	0.26	0.10	2.60	0.011	0.06	0.46
Labor Market Openness	0.01	0.08	0.17	0.87	-0.14	0.16
AI Tech Sector Advancement	-0.52	0.09	-5.70	<0.001	-0.70	-0.34
Negative Emotion	0.56	0.14	4.06	<0.001	0.29	0.83

Model Fit:
R-squared = 0.478
Adjusted R-squared = 0.456
F(5, 122) = 22.32, p < 0.001
Number of observations = 128
Diagnostics:
All VIF < 1.5 (no multicollinearity)
Breusch-Pagan p = 0.25 (no heteroskedasticity)
Shapiro-Wilk p = 0.56 (normality of residuals)
Durbin-Watson = 1.20 (some autocorrelation; less critical for cross-sectional data)

Table 1 presents the ordinary least squares (OLS) regression results for the model predicting **Job Mobility** across 28 countries. The model explains a substantial share of variance in the dependent variable (R^2 = 0.478, Adjusted R^2 = 0.456; F(5, 122) = 22.32, p < 0.001), suggesting that the included predictors jointly account for meaningful cross-national differences in the prevalence of employees seeking new job opportunities.

Among the independent variables, **AI Tech Sector Advancement** exhibits a significant negative association with Job Mobility (coefficient = –0.52, p < 0.001). This result implies that countries with more advanced and innovative technology sectors tend to have fewer employees expressing intent to leave their jobs, possibly reflecting higher job quality, better career prospects, or greater alignment with technological progress in these settings.

Negative Emotion shows a significant positive relationship with Job Mobility (coefficient = 0.56, p < 0.001), indicating that countries with a higher prevalence of daily negative emotional experiences (such as sadness or anger) are more likely to report greater rates of employees considering or seeking alternative employment. This pattern highlights the potential costs of poor emotional climates in national labor markets.

Stress Prevalence is also positively and significantly related to Job Mobility (coefficient = 0.26, p = 0.011), suggesting that elevated levels of daily stress in the population contribute to increased workforce instability and greater inclination toward job search behavior.

The effects of **Involvement** (employee engagement) and **Labor Market** Openness (perceived job market favorability) were not statistically significant (p = 0.19 and p = 0.87, respectively), indicating no robust association with Job Mobility in this cross-national sample once other factors are controlled.

Model diagnostics indicate that the assumptions of OLS regression are reasonably satisfied. All variance inflation factors (VIFs) are below 1.5, suggesting no substantial multicollinearity among predictors. The Breusch-Pagan test (p = 0.25) does not indicate heteroskedasticity, and the Shapiro-Wilk test (p = 0.56) supports the normality of residuals. The Durbin-Watson statistic (1.20) suggests some autocorrelation in residuals, though this is less problematic given the cross-sectional nature of the data.

Taken together, these findings point to the significance of both emotional well-being and technological environment in shaping patterns of job mobility at the country level. Countries with higher levels of daily stress and negative emotion tend to experience greater workforce turnover, while greater advancement in the AI technology sector appears to support greater job stability.

The non-significant relationship between engagement and mobility at the macro level suggests that engagement may be primarily an intra-organizational construct whose effects weaken when aggregated to national indicators.

Discussion

6) The estimates obtained confirm the steady influence of the emotional and technological environment on the prevalence of job change intentions. The revealed dependencies demonstrate the systemic nature of decisions related to labor mobility. They are consistent with the observations of international studies on the determining role of emotional well-being and technological dynamics in employee behavior (Autor, 2015; Bessen, 2019; Podsakoff et al., 2007; Judge & Watanabe, 1993).

The negative relationship between the development of the national artificial intelligence sector and the intensity of mobility indicates the stabilizing importance of technological infrastructure. Economies with a developed digital ecosystem form a more structured environment for professional growth. Wide access to training, opportunities for horizontal and vertical advancement, as well as high demand for skilled labor, create predictable employment trajectories, which reduces the likelihood of workers moving to alternative employers. Such a structure of the professional space enhances employees' long-term confidence in the potential of their own careers. It reduces the risk of leaving decisions, which is consistent with research findings on the positive role of technological investments in employment sustainability (Autor, 2015; Bessen, 2019).

7) The positive relationship between the prevalence of emotional distress and mobility underscores the significance of the psychological environment in influencing employees' decisions. The high frequency of daily negative experiences, including tension, sadness, or anger, creates a perception of a lack of opportunities to restore emotional resources. This context reinforces the tendency for employees to distance themselves from conditions perceived as threatening to their well-being. Similar patterns have been described in studies on the effect of emotional stress on willingness to leave an organization (Podsakoff et al., 2007; Judge & Watanabe, 1993). The observed dependence in the cross-country context strengthens the argument that emotional stress acts not only as an individual factor but also as a socially structured element influencing collective behaviors.

8) The lack of a statistically significant link between engagement and mobility in the cross-country model suggests that institutional and cultural differences limit the impact of engagement on mobility. Research conducted at the organizational level shows a strong link between employee engagement and retention (Saks, 2006; Mauno et al., 2007). However, cross-country data demonstrate that the emotional intensity of the professional environment and the nature of technological development have a higher explanatory power. The impact of engagement is weakened against the backdrop of macroeconomic conditions that shape the global context of employee behavior. It suggests that engagement acts primarily as a micro-level mechanism that manifests itself within organizations, but does not determine cross-country differences in mobility.

A similar situation is observed regarding the perceived openness of the labor market. After controlling for emotional and technological parameters, the influence of subjective assessment of job availability loses statistical stability. It suggests that employees' perceptions of the availability of alternative opportunities play a limited role when the internal professional and emotional environment has more significant properties. In conditions of high emotional

stress or a rapidly evolving technological infrastructure, a subjective assessment of external job availability is not a key element of decision-making.

Checking the model for stability confirms the correctness of the results obtained. There are no multicollinearity indicators; the error structure does not demonstrate systemic violations. Minor manifestations of autocorrelation are typical for cross-sectional data and do not affect the interpretation of estimates.

Policy implications. The applied significance of the results lies in the fact that measures to reduce emotional stress and support psychological well-being can reduce the tendency of employees to change jobs. The availability of programs to strengthen emotional resources, prevent stress, and develop organizational culture can create a more stable work environment, which is confirmed by the literature (Judge & Watanabe, 1993; Podsakoff et al., 2007). At the same time, investments in technological development, including the expansion of artificial intelligence infrastructure, strengthen the stability of labor systems, combining increased national competitiveness with the formation of long-term employment conditions (Autor, 2015; Bessen, 2019).

The prospects for further research are related to the study of the cause-and-effect mechanisms through which the emotional environment and technological infrastructure influence employee decisions. It is also important to identify cultural and institutional parameters that can strengthen or weaken the identified dependencies, allowing the development of evidence-based approaches to managing workforce sustainability.

Conclusion

The cross-country analysis revealed persistent differences in the structure of labor mobility, reflecting the combined impact of the population's emotional state and the level of technological development. Countries with an increased prevalence of daily stress and negative experiences demonstrate a higher likelihood of job change intentions, indicating a systemic perception of the professional environment as stressful and unpredictable. Such dynamics underscore the importance of the emotional climate in shaping decisions related to changes in the work trajectory and signal the need to develop measures aimed at reducing the psychological burden among employees.

At the same time, there is a steady negative relationship between the development of the artificial intelligence sector and the tendency to seek alternative employment. A more developed technological environment is accompanied by structured professional growth opportunities, expanded training paths, and high-quality jobs, which create prerequisites for long-term employment stability and reduce the likelihood of switching to other employers. This configuration of conditions highlights the importance of aligning technological policy with the development of human capital to enhance the sustainability of labor systems.

After taking into account the emotional and technological characteristics, the impact of engagement and subjective assessment of the openness of the labor market becomes statistically weak. It suggests that the behavioral elements of the work environment have less explanatory power in the cross-country perspective, where macroemotional and technological parameters dominate.

The results highlight the need for a comprehensive approach to mobility research that links emotional, professional, and technological components. To increase the accuracy of the conclusions, further research is required that focuses on causal mechanisms, cultural and institutional moderators, as well as the use of longitudinal and mixed-methodological strategies. An in-depth understanding of cross-country differences will enable the development of more sustainable approaches to harnessing labor potential and enhancing workforce stability in the face of accelerated social and technological changes.

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Ұйым қызметкерлерінің жұмысқа қатысымдылығының психологиялық детерминанттарын зерттеу

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Аңдатпа. Бұл зерттеу 28 ел аясында еңбек ұтқырлығының макро-деңгейдегі айқындамаларын қарастырады, әсіресе қызметкерлердің қатысуы, күйзелістің таралуы, еңбек нарығының ашықтығы, теріс эмоциялық климат және ұлттық жасанды интеллект секторын дамыту рөлдеріне назар аударады. Халықаралық үйлестірілген сауалнама деректері мен құрамдастырылған индекстерге сүйене отырып, қарапайым ең кіші квадраттар регрессиялық моделі жұмыс күшіндегі күнделікті күйзеліс пен теріс эмоциялар қызметкерлердің жұмыстан кету ниетінің сенімді болжампаздары екенін көрсетеді. Эмоциялық және технологиялық факторлар ескерілгеннен кейін, жұмысқа қатысуы мен еңбек нарығының ашықтығында қызметкерлердің айтарлықтай тиімділігі байқалмайды. Бұл нәтижелер қызметкерлерді сақтап қалуды арттыру үшін жағымды эмоциялық климатты қалыптастырудың және технологияға негізделген орталарға инвестиция салудың аса маңызды екенін көрсетеді. Зерттеу нәтижелері саясаткерлер мен ұйым басшыларына еңбек тұрақтылығын түсіну және басқару үшін, әсіресе жедел технологиялық және әлеуметтік өзгерістер дәуірінде жаңа дәлелдер ұсынады.

Түйін сөздер: жасанды интеллект, әлеуметтік түсініктер, әлеуметтік түсініктер, сенім, қорқыныш, Қазақстан, жұмыс орнындағы эмоциялар.

Исследование психологических детерминант вовлечённости в работу сотрудников организаций

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Аннотация. В данном исследовании анализируются макроуровневые детерминанты трудовой мобильности в 28 странах с акцентом на роль вовлечённости сотрудников, распространённости стресса, открытости рынка труда, негативного эмоционального климата и уровня развития национального сектора технологий искусственного интеллекта. Используя международные гармонизированные данные опросов и составные индексы, авторы применяют модель множественной регрессии методом наименьших квадратов, которая показывает, что высокий уровень ежедневного стресса и негативных эмоций в рабочей среде является устойчивым предиктором роста намерений сотрудников покинуть текущую работу. Вовлечённость сотрудников и открытость рынка труда не демонстрируют значимых эффектов после учёта эмоциональных и технологических факторов. Полученные результаты подчёркивают критическую важность формирования позитивного эмоционального климата и инвестиций в технологически ориентированные рабочие среды для повышения удержания персонала. Исследование предоставляет новые эмпирические данные для политиков и руководителей организаций, заинтересованных в понимании и управлении устойчивостью рабочей силы в условиях стремительных технологических и социальных изменений.

Ключевые слова: искусственный интеллект, социальные восприятия, социальные представления, доверие, страхи, Казахстан, эмоции.

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