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The Multicultural Healthcare Workforce: Cross-Cultural Competence, Team Climate, Job Satisfaction, and Intention to Stay — A Structural Equation Modeling Study

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Research Article

Keywords: Cross-Cultural Competence, Team Climate, Job Satisfaction, Intention to Stay, Multicultural Healthcare Teams, Structural Equation Modeling

Posted Date: November 16th, 2026

DOI: https://doi.org/10.21203/rs.3.rs-11446962/v1

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Additional Declarations: No competing interests reported.

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Abstract

Background: Healthcare workforces are becoming increasingly culturally and linguistically diverse, raising new demands for multicultural collaboration and staff retention. This is particularly evident in countries where international nurse recruitment is expanding rapidly, such as in Finland. This study examined the associations between cross-cultural competence, team climate, job satisfaction, and intention to stay among healthcare professionals working in multicultural teams.

Methods: A cross-sectional survey (n = 490) was conducted among healthcare professionals in a Finnish wellbeing services county between November 2024 and January 2025. Cross-cultural competence, team climate, and job satisfaction were measured using validated instruments; intention to stay was assessed with a single dichotomous item. Direct and indirect associations were tested using covariance-based structural equation modeling (SEM) with education, gender, and years of work experience as control variables. Model fit was evaluated using the Incremental Fit Index (IFI), Comparative Fit Index (CFI), and Root Mean Square Error of Approximation (RMSEA). Reporting followed the STROBE guidelines.

Results: The model demonstrated an excellent fit (IFI = 0.966, CFI = 0.965, RMSEA = 0.045). Cross-cultural competence dimensions (particularly motivation and skills) were positively associated with several dimensions of team climate and job satisfaction. Job satisfaction mediated the pathways from cross-cultural competence and team climate to intention to stay. Indirect pathways operated particularly through working environment and working welfare. Overall, 75% of respondents reported an intention to stay in their current role.

Conclusions: The findings suggest that culturally competent and inclusive work environments, supported by appropriate leadership practices, may contribute to staff retention in multicultural

healthcare teams. Strengthening cross-cultural competence and team climate through organisational and leadership practices represents a potentially promising strategy for sustaining multicultural healthcare workforces, particularly in countries facing rapid workforce internationalisation.

Keywords: Cross-Cultural Competence; Team Climate; Job Satisfaction; Intention to Stay; Multicultural Healthcare Teams; Structural Equation Modeling

BACKGROUND

Multicultural healthcare workforces—and the teams they form—are becoming increasingly common in high-income countries. However, the history and scale of this development vary widely, ranging from long-established multicultural workforces in countries such as the United States and the United Kingdom to more recent developments in the Nordic countries [1, 2]. Workforce shortages, aging populations, and rising service demands have accelerated the recruitment of internationally educated nurses [2–5], making cultural and linguistic diversity a part of everyday clinical work. In many Organisation for Economic Co-operation and Development (OECD) countries, internationally educated professionals, particularly nurses, now constitute a substantial share of the healthcare workforce [6]. Multicultural healthcare workforces are shaped as much by domestically educated professionals as by their internationally educated colleagues [2, 7]. These teams bring together individuals whose cultural norms, values, and traditions are informed by ethnic background, nationality, and religion [8]; such attributes play a central role in how individuals perceive themselves and others within a healthcare team [5, 8]. Cultural diversity thus influences team dynamics in distinctive ways and often operates at a subconscious level [9]. A lack of cultural understanding within multicultural healthcare teams may result in miscommunication, interpersonal tensions, and increased staff turnover [2, 8]—outcomes that may compromise team cohesion, organisational performance, and the quality of patient care [1, 2].

In healthcare, where effective teamwork is essential for delivering safe and consistent care [2, 10], the unconscious dynamics of cultural categorization and stereotyping require ongoing attention from both leaders and team members [9]. Addressing these dynamics calls for cross-cultural competence, a multidimensional construct encompassing the motivation, attitudes, skills, emotions, and knowledge needed to work effectively across cultures [2, 11–13]. When healthcare professionals perceive their organisation as culturally competent, they report more positive team

climates [12], including improved communication, collaboration, and a stronger sense of belonging [2, 14]. Cultural competence and inclusive team environments therefore contribute not only to multicultural team functioning but also to job satisfaction, a well-established predictor of workforce retention [1, 7].

The scope and maturity of international recruitment vary considerably across health systems [4, 6, 15], and integration practices have not always kept pace with recruitment growth. Finland represents one such emerging context, where international nurse recruitment is expanding rapidly [7, 16]. Healthcare professionals in these teams often enter complex and unfamiliar work environments [2] in which they are expected to collaborate in a dominant local language and to navigate established professional norms, communication styles, and workplace expectations that may differ from those in their countries of origin [7, 17, 18]. In this context, both cross-cultural competence and the quality of interpersonal and organisational dynamics within healthcare teams become central [7, 13], ultimately shaping whether professionals choose to remain in their roles [2, 16].

A significant share of international healthcare recruitment targets nurses from outside the European Union, particularly from the Philippines, India, and African nations [1, 4, 6]. Sustaining these multicultural teams requires more than filling vacancies; it depends on culturally sensitive leadership that fosters inclusion and psychological safety [5, 19], work environments that enable meaningful participation and career advancement [19], and organisational support for cultural adaptation [5]. Together, these practices have been shown to strengthen retention among both internationally and domestically educated nurses [18]. Higher levels of job satisfaction are likewise associated with a greater likelihood of remaining in one's role, particularly in multicultural care settings [20]. These pathways are likely relevant to other high-income healthcare systems facing

rapid growth in culturally diverse teams and persistent workforce shortages, including in rural areas [1, 2, 6, 16].

Despite growing evidence, prior research has examined these factors largely in isolation. Although bivariate associations between cross-cultural competence, team climate, job satisfaction, and intention to stay have been demonstrated using correlational and group-comparison approaches [21], these constructs have rarely been modeled jointly. Consequently, the mechanisms linking cross-cultural competence and team climate to intention to stay remain poorly understood. Clarifying these pathways is essential for designing targeted interventions to support multicultural healthcare teams, particularly in emerging recruitment contexts [1, 7, 16]. Building on the earlier descriptive findings, the present study extends this work by applying covariance-based structural equation modeling (SEM) to test a theory-driven structural model estimating direct and indirect associations among cross-cultural competence, team climate, job satisfaction, and intention to stay simultaneously.

METHODS

Aim of the study

This cross-sectional survey study aimed to examine the relationships between cross-cultural competence, team climate, job satisfaction, and intention to stay among healthcare professionals working in multicultural healthcare teams in Finland. Based on the conceptual model proposed by Wright et al. [21], we formulated the following hypotheses. The hypothesised model posits that cross-cultural competence and team climate are associated with intention to stay, both directly and indirectly, through job satisfaction (Figure 1).

Hypothesis 1: Cross-cultural competence is positively associated with job satisfaction and intention to stay among healthcare professionals.

Hypothesis 2: Team climate is positively associated with job satisfaction and intention to stay.

Hypothesis 3: Job satisfaction is positively associated with intention to stay.

Hypothesis 4: Job satisfaction mediates the relationship between

(a) cross-cultural competence and intention to stay, and

(b) team climate and intention to stay.

[Figure 1 near here]

Figure. 1 Hypothesised model of associations between team climate, cultural competence, job satisfaction, and intention to stay. Education, gender, and working experience were included as control variables [21].

Study design

This cross-sectional survey study examined the relationships between cross-cultural competence, team climate, job satisfaction, and intention to stay among healthcare professionals working in multicultural teams. Reporting adheres to the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement for cross-sectional studies [22]. The survey was conducted within a large healthcare region in Finland, including both primary and specialized healthcare services, in a well-being services county, between November 2024 and January 2025. The region encompasses urban and rural healthcare settings and involves collaboration between the public health sector and private service providers. One private company offering long-term care services also participated in the study. In Finland, wellbeing services counties collaborate with private

service providers to ensure comprehensive healthcare delivery.

Participants

The target population comprised healthcare professionals working in multicultural healthcare teams within a Finnish wellbeing services county. All eligible professionals employed within the county were invited to participate. Inclusion criteria were: (1) employment in the wellbeing services county at the time of survey administration, and (2) willingness to participate. There were no formal exclusion criteria. Respondents represented a wide range of roles, including registered nurses (midwives, public health nurses, paramedics, and advanced practice nurses), practical nurses, care assistants, and other healthcare staff (e.g., dental nurses, physiotherapists), as well as nurse managers, institutional cleaners, and administrative personnel working in multicultural healthcare settings.

Instruments

The survey included three previously validated and published instruments to measure cross-cultural competence (CCCHP) [23], team climate (TCI) [24] and job satisfaction (KUHJSS) [25]. In addition, a single dichotomous item assessing intention to stay was developed for this study, adapted from Bryant-Lukosius et al. [26] and informed by prior research on turnover intention in healthcare [26]. The same item has previously been applied in a descriptive study [21]. Participants were asked whether they intended to remain in their current work role. The reliability of these instruments has been supported in previous studies, with Cronbach's α values reported as follows: α = .87 for CCCHP [23], α = .91 for TCI [24], and α = .93 for KUHJSS [25]. The survey was administered bilingually (Finnish and English) to support inclusivity and clarity across language groups.

Cross-cultural competence was assessed using the CCCHP instrument [23]. The scale consists of 27 items that measure five dimensions: cross-cultural motivation and curiosity (9 items), cross-cultural attitudes (4 items), cross-cultural skills (5 items), cross-cultural emotions and empathy (5 items), and cross-cultural knowledge and awareness (4 items). Items are rated on a five-point Likert scale, ranging from 1 (fully disagree) to 5 (fully agree). Higher mean scores reflect higher cultural competence. Since its development, the instrument has been used in various countries, including Finland [27]. In the Finnish validation study, one factor—knowledge/awareness—was excluded due to psychometric considerations [27]. However, in the present study, all five original factors were retained to preserve the whole conceptual structure of the original instrument. This decision ensured conceptual consistency and relevance in the study's multicultural context.

Team climate was measured using the short version of the Team Climate Inventory (TCI), validated in Finnish healthcare settings [24]. The 14-item scale assesses four key dimensions: vision (4 items), participative safety (4 items), task orientation (3 items), and support for innovation (3 items). Each item is rated on a five-point Likert scale, ranging from 1 (fully disagree) to 5 (fully agree). Higher mean scores reflect a more positive perception of the team climate. The TCI has been widely used in healthcare settings [28, 29].

Job satisfaction was assessed using the Kuopio University Hospital Job Satisfaction Scale (KUHJSS) [25], originally developed and validated in Finland. It comprises 37 items measuring seven dimensions: leadership (7 items), requiring factors of work (8 items), motivating factors of work (6 items), working environment (4 items), working welfare (4 items), participation in decision-making (4 items), and sense of community (4 items). Respondents rated items on a 5-point Likert scale, from 1 (fully disagree) to 5 (fully agree). Higher mean scores reflect higher job

satisfaction. The KUHJSS has been rigorously validated and translated into several languages [25, 30, 31].

Intention to stay was assessed using a single-item measure developed for this study and previously applied in a descriptive study [21], adapted from a five-item instrument by Bryant-Lukosius et al. [26]. Participants were asked to indicate which statement best reflected their current employment intentions within the healthcare sector. Response options ranged from satisfaction with the current role and no plans to seek new employment to actively considering or seeking employment within or outside healthcare. For analysis, responses were dichotomised. Participants who selected "I am satisfied with my current role in the organisation and have no immediate plans to seek new employment" were categorised as intending to stay. In contrast, all other responses were classified as not intending to stay. This dichotomization is consistent with previous healthcare turnover-intention research [26].

In addition, the survey included background variables to describe participants' demographic and professional profiles. Before data collection, healthcare professionals with a healthcare degree and experience in multicultural care settings piloted the questionnaire. The pilot group also included individuals with expertise in language, cultural awareness, and multicultural collaboration in healthcare. The pilot phase feedback was used to refine the questionnaire, ensuring clarity, relevance, and cultural appropriateness.

Data collection

Data were collected between November 2024 and January 2025 using a self-reported online questionnaire administered via Webropol. The survey was distributed through designated contact

243 people in healthcare units, reaching staff working in diverse care environments. Participation was
244 voluntary, and informed consent was obtained prior to data collection.
245
246 **Data analysis**
247 The data were analysed using SEM. First, descriptive statistics summarised participants'
248 demographic characteristics and scores on the study instruments, including cross-cultural
249 competence, team climate, and job satisfaction. Intention to stay in the current work role was
250 assessed as a binary variable (yes/no). Scores were computed for each variable by calculating the
251 mean of the relevant items, in accordance with the scoring guidelines of each instrument. Internal
252 consistency was evaluated using Cronbach's alpha (α) [32].
253
254 SEM was used to test the hypothesised direct and indirect relationships among the study variables,
255 in accordance with the hypothesised model. In the SEM analysis, model adequacy was assessed
256 using multiple goodness-of-fit indices. The Incremental Fit Index (IFI > 0.90) and Comparative Fit
257 Index (CFI > 0.95) were used to evaluate the comparative model fit. Additionally, the Root Mean
258 Square Error of Approximation (RMSEA < 0.05) was used to estimate the approximation error
259 attributable to model simplification. Standardised regression weights (β), as well as standardised
260 total, direct, and indirect effects, were examined to assess the strength and significance of
261 relationships between variables [33]. The structural model included demographic variables (gender,
262 education, and years in current work) as control variables. All analyses were conducted using SPSS
263 Statistics Version 29.0.2 and AMOS version 29.0 [34].
264
265 **Ethical considerations**

The X Committee of Research Ethics approved this study (number X), in accordance with the principles outlined in the Declaration of Helsinki. Additionally, research permissions were obtained from the healthcare organisations from which the data were collected. Participants were informed of the study's purpose at the beginning of the online questionnaire. By clicking the “Agree, approval to participate” button, they confirmed their understanding of the study’s aim and gave their informed consent. Participation was voluntary, and all responses were treated anonymously. The study complied with the European Union’s General Data Protection Regulation (GDPR). No personally identifiable information was collected, and all responses were stored securely and processed anonymously. Participants were informed about data protection practices, and the data was used solely for research purposes.

RESULTS

Participant characteristics

A total of 490 participants from healthcare teams responded to the questionnaire. Of these, n = 440 reported being born in Finland, and n = 427 (95%) also provided gender information. Others were born in countries including the Philippines, Sweden, Russia, Estonia, Sri Lanka, Lithuania, Morocco, Romania, Germany, Israel, and Tanzania. To protect participant anonymity and in accordance with ethical guidelines, countries of origin other than Finland are not reported for individuals representing small subgroups. Most participants were women born in Finland (n = 352, 89%). Respondents ranged in age from 22 to 67 years, with the largest group aged 51–60 years (n = 159, 34%). The majority were employed in nursing roles (73%), primarily as practical nurses (n = 161) or registered nurses (n = 152). Regarding employment duration, 43% (n = 180) had worked in their current position for 2–10 years. Of the respondents, 75% reported an intention to remain in their current work role. (Table 1). The internal consistency of the CCCHP, TCI, and KUHJSS

instruments demonstrated good to excellent internal consistency across all scales. Supplementary file 1 presents the means, standard deviations (SD), and Cronbach α values for the scales.

Table 1. Participant Demographic Information

Participant Demographics	**Female (n, %)**	**Male (n, %)**	**Total (n, %)**
Country of birth			
Finland	352 (89 %)	75 (20 %)	427 (95 %)
Other	20 (5 %)	3 (1 %)	23 (5 %)
Age *(Mean= 47.18 ± SD= 11.17)*			
≤30 years	39 (8 %)	6 (1 %)	45 (9 %)
31–40 years	82 (18 %)	19 (4 %)	101 (22 %)
41–50 years	91 (19 %)	20 (4 %)	111 (24 %)
51–60 years	132 (28 %)	26 (6 %)	159 (34 %)
≥61 years	43 (9 %)	9 (2 %)	52 (11 %)
Education			
Vocational degree or lower	161 (34 %)	32 (7 %)	193 (41 %)
University of applied sciences degree or higher	226 (48 %)	49 (10%)	275 (59 %)
Healthcare work position			
Care Assistant	5 (1 %)	2 (0.4 %)	7 (1 %)
Practical Nurse	138 (31 %)	23 (5 %)	161 (36 %)
Registered Nurse (incl. midwives, public health nurses, paramedics and advanced practice nurses)	125 (28%)	27 (6 %)	152 (34 %)
Other healthcare professionals (incl. dental nurses. physiotherapists, occupational therapists)	7 (2 %)	1 (0.2 %)	8 (2 %)
Nurse manager	17 (4 %)	3 (1 %)	20 (4 %)
Non-clinical healthcare personnel (incl. environmental services workers, administrative staff and other specialists)	82 (19 %)	20 (4 %)	102 (23 %)
Years in current healthcare position *(Mean=9.15 ± SD=9.35)*			
≤1 year	61 (15 %)	14 (3 %)	75 (18 %)
2-10 years	143 (34 %)	37 (9 %)	180 (43 %)
11-20 years	97 (23 %)	15 (4 %)	112 (27 %)
≥21	48 (11 %)	5 (1 %)	53 (12 %)
Intention to stay in the current work role			
Yes	292 (63%)	58 (13 %)	350 (75 %)
No	91 (20%)	23 (5 %)	114 (25%)

SD =Standard deviation

Structural associations between cross-cultural competence, team climate, job satisfaction, and intention to stay

Figure 2 presents the SEM examining the effects of cross-cultural competence (CCCHP), team climate (TCI), and job satisfaction (KUHJSS) factors, along with background variables and healthcare professionals' intention to stay (binary: yes/no). The model demonstrated excellent fit to the data, with IFI = 0.966, CFI = 0.965, and RMSEA = 0.045.

[Figure 2 near here]

Figure. 2 Structural equation modeling results for the relationships between Cross-Cultural Competence of Healthcare Professionals (CCCHP), Team Climate Inventory (TCI), Job Satisfaction (KUHJSS), intention to stay, and background variables among healthcare professionals. Note: Model fit prerequisites: Incremental Fit Index (> 0.90), Comparative Fit Index (> 0.95), and Root Mean Square Error of Approximation (< 0.05).

The SEM model demonstrated significant associations between cross-cultural competence, team climate, job satisfaction, and intention to stay. Regarding cross-cultural competence and job satisfaction, cross-cultural motivation was positively associated with motivating factors of work. In contrast, cross-cultural skills were positively associated with working welfare and perceptions of leadership. In addition, aspects of job satisfaction were linked to cross-cultural competence, as the working environment was positively associated with cross-cultural skills, and participation in decision-making was positively associated with cross-cultural motivation. Hypothesis 1 was partially confirmed.

Team climate was positively associated with job satisfaction; however, it was not associated with intention to stay, making Hypothesis 2 partially confirmed. Team participatory safety was also positively associated with cross-cultural motivation.

Regarding job satisfaction, the structural model revealed small negative direct effects of motivating factors of work and leadership on intention to stay (Table 2, Supplementary File 2, Figure 2). Hypothesis 3 was partially confirmed. In addition, job satisfaction mediated the relationships between both cross-cultural competence and intention to stay, and team climate and intention to stay. For cross-cultural competence, indirect pathways operated particularly through the working environment, which showed a small indirect association with cross-cultural emotions. For team climate, indirect pathways were evident, especially through working welfare, which demonstrated indirect effects from climate dimensions of support for innovation, participatory safety, and team vision. This pattern supports Hypothesis 4. Detailed total, direct, and indirect effects for all independent and dependent variables are presented in Table 2 and Supplementary File 2.

Table 2. Regression paths between Cross-Cultural Competence (CCCHP) [23], Team Climate (TCI) [24], Job Satisfaction (KUHJSS) [25], and Intention to stay with demographic information among healthcare professionals working in multicultural healthcare teams

Regression Path ----------->		**Estimates**	**S.E**	**C.R**	**p**
Independent Variable	**Dependent variable**				
Gender	Cross-Cultural Knowledge	0.258	0.071	3.657	< .001
	Cross-Cultural Attitudes	0.347	0.088	3.956	< .001
	Cross-Cultural Motivation	0.325	0.065	4.982	< .001
	Leadership	0.183	0.084	2.177	0.029
Education	Innovation	0.353	0.057	6.233	< .001
	Intention to Stay	0.126	0.033	3.814	< .001
Current Work Years (≤ 30)	Job Motivation	0.187	0.070	2.685	0.007
Current Work Years (≥ 30)	Intention to Stay	-0.221	0.078	-2.833	0.005
Cross-Cultural Attitudes	Innovation	0.076	0.032	2.330	0.020
Cross-Cultural Emotions	Sense of Community	0.049	0.028	1.752	0.080
Cross-Cultural Knowledge	Job Motivation	-0.133	0.040	-3.310	< .001
Cross-Cultural Motivation	Vision	0.124	0.029	4.256	< .001
	Job Motivation	0.162	0.026	6300	< .001
Cross-Cultural Skills	Working Welfare	0.098	0.033	2.972	0.00
	Leadership	0.093	0.044	2.122	0.034
Sense of Community	Participatory Safety	0.759	0.038	19.772	< .001
	Innovation	0.692	0.045	15.543	< .001
	Vision	0.409	0.036	11.412	< .001
Support for Innovation	Participation in Decision-Making	0.194	0.032	5.996	< .001
Participatory Safety	Cross-Cultural Motivation	0.110	0.032	3.425	< .001
Vision	Working Environment	0.303	0.047	6.439	< .001
	Job Motivation	0.212	0.033	6.409	< .001
Task Orientation	Leadership	0.342	0.043	8.037	< .001
Job Motivation	Intention to Stay	-0.270	0.031	-8.843	< .001
Leadership	Intention to Stay	-0.40	0.018	-2.202	0.028
Participation in Decision-Making	Cross-Cultural Motivation	0.114	0.033	3.495	< .001
Requiring Factors of Work	Intention to Stay	-0.998	0.026	-3.763	< .001
Working Environment	Cross-Cultural Skills	0.103	0.033	3.097	0.002
Working Welfare	Cross-Cultural Emotions	0.192	0.046	4.151	< .001
	Intention to Stay	0.089	0.027	3.237	0.001

DISCUSSION

This study examined the structural relationships between cross-cultural competence, team climate, job satisfaction, and intention to stay among healthcare professionals working in multicultural healthcare teams in Finland. To investigate these associations, validated instruments with established psychometric properties were used. The use of SEM provided a rigorous analytical framework, enabling the simultaneous estimation of multiple direct and indirect effects [35]. This approach was particularly well suited to capturing the complexity of interactions within multicultural healthcare teams, where cross-cultural competence, team climate, and job satisfaction are interrelated and may influence retention outcomes through multiple pathways. The excellent model fit indices further support the validity of the proposed relationships and the relevance of the selected constructs. Whereas the earlier descriptive analysis [21] demonstrated bivariate associations among these constructs, the present SEM analysis extends those findings by disentangling direct and indirect pathways and by identifying job satisfaction as a mediating mechanism.

In multicultural healthcare teams, cultural competence plays a central role in shaping professionals' interactions and team dynamics [14]. Additionally, openness to cultural diversity is known to enhance team collaboration and foster a shared sense of purpose [9, 12]. In the present study, cross-cultural motivation, reflecting curiosity and openness toward cultural diversity, was positively associated with motivating factors of work and shared team vision, suggesting that cultural motivation not only enhances individual engagement at work but also contributes to a shared vision within teams. Prior research indicates that individual team member characteristics, such as age, ethnicity, experience, and role, also influence cultural competence and perceived teamwork climate within the broader organisational context [12]. Similarly, the results indicated that cultural skills were positively associated with perceptions of leadership and working welfare, suggesting that

culturally skilled professionals may be better equipped to navigate diverse team dynamics, which in turn fosters perceptions of leadership and well-being at work. This finding may also reflect the influence of culturally competent leadership practices—such as acknowledging religious holidays and using inclusive language—in enhancing team cohesion and psychological safety [8]. Such practices may strengthen the positive effects of cultural diversity, which culturally skilled health professionals may be more attuned to and appreciative of.

Regarding job satisfaction, participation in decision-making was positively associated with cross-cultural motivation. This finding supports the idea that inclusive decision-making processes may activate and sustain cultural motivation among team members. Consistent with this, Pressley et al. [13] reported that involvement in decision-making enhances the job satisfaction and commitment of internationally educated nurses, indicating that culturally motivated employees may engage more positively with their teams when included in organisational decisions. Furthermore, a sense of community was positively associated with shared team vision and participatory safety. These associations reinforce the notion that psychological safety, belonging, and shared purpose are central to effective multicultural healthcare teamwork [5, 8]. When health professionals feel safe expressing themselves and see their contributions as valued, team cohesion and motivation are likely to strengthen [5, 7].

Regarding intention to stay, education showed a positive direct effect, consistent with prior studies that have linked education, as well as bridging programs, to workforce retention in multicultural healthcare settings [1, 16]. By contrast, job motivation and leadership demonstrated small negative associations with intention to stay. One possible interpretation is that highly motivated professionals may actively seek new opportunities or environments that better align with their values and expectations [9]. The negative association between leadership and intention to stay may further

indicate that supportive and development-oriented leadership alone does not necessarily translate into stronger retention in multicultural healthcare teams. Notably, the leadership subscale applied in this study captured general managerial support (fairness, communication, professional development) but did not explicitly measure culturally responsive leadership behaviours. As Teixeira et al. [5] note, leadership in such settings requires more than transformational practices—it also demands elements such as cultural competence and effective communication. Similarly, Pelasoja et al. [19] highlight that culturally and linguistically diverse healthcare workplaces benefit from culturally sensitive leadership, which includes cultural mediation, inclusive communication, and responsiveness to intercultural dynamics. Further research is therefore needed to clarify how culturally sensitive leadership influences retention in multicultural teams.

In smaller, rural areas in countries such as Finland, where multicultural healthcare teams are still emerging and international recruitment is expanding [1, 2, 6, 7], the findings of this study offer timely and practical insights. The SEM model indicates that cultural competencies, including cross-cultural attitudes, emotions, knowledge, motivation, and skills, are linked to dimensions of team climate and job satisfaction that, in turn, may shape retention. In response to workforce challenges in rural healthcare settings, retention strategies should therefore acknowledge and strengthen these competencies as part of everyday team practices and organisational development.

Strengths and Limitations

One of the main strengths of this study was its substantial sample size (n = 490), which represented healthcare professionals working in multicultural teams. Including a statistician on the author team ensured the fidelity and transparency of the statistical analysis. All instruments used—CCCHP, TCI, and KUHJSS—were standardised and previously validated in the Finnish healthcare context, supporting the reliability and contextual relevance of the measurements. The SEM model

demonstrated excellent fit indices, indicating that the theoretical structure aligned well with the empirical data. Additionally, the STROBE checklist strengthened methodological rigor and reporting quality.

However, several limitations should also be acknowledged. The study was conducted in a single wellbeing service county in Finland, which may limit the transferability of the findings to countries with different types of healthcare systems. Moreover, most respondents were born in Finland, with only a small number born abroad. This reflects the setting's demographic reality and limits the sample's cultural diversity, which should be considered when interpreting findings related to multicultural team functioning. As the data were analysed as a single group, this demographic composition may also affect the generalisability of the findings to more culturally diverse healthcare settings. Additionally, the cross-sectional design restricts causal interpretations.

CONCLUSIONS

This study provides empirical evidence on the structural relationships between cross-cultural competence, team climate, job satisfaction, and intention to stay among healthcare professionals working in multicultural healthcare teams in Finland. Using validated instruments and Structural Equation Modeling, the findings suggest that cross-cultural competence—encompassing attitudes, emotions, motivation, knowledge, and skills—is associated with key dimensions of team climate and job satisfaction, which may in turn influence professionals' intention to remain in their roles. The results underscore the importance of fostering culturally competent and inclusive work environments, supported by culturally sensitive leadership practices, particularly in regions facing acute staffing shortages. By identifying the pathways through which individual and organisational factors interact, this study contributes to the understanding of how multicultural healthcare teams can be supported to function effectively and sustainably.

Implications for practice

Although this study was conducted in Finland, the findings have broader relevance for health systems undergoing rapid workforce internationalisation. The pathways identified—linking cross-cultural competence to retention through team climate and job satisfaction—suggest that investments in cultural competence should not be framed solely as individual-level training, but as an organisational strategy embedded in leadership, team processes, and inclusion policies. For nursing practice, education, and policy internationally, this reframing may support more sustainable retention of multicultural healthcare teams, particularly in high-income countries facing acute staffing shortages.

LIST OF ABBREVIATIONS

ANOVA: Analysis of Variance

CCCHP: Cross-Cultural Competence of Healthcare Professionals

GDPR: European Union's General Data Protection Regulation

KUHJSS: Kuopio University Hospital Job Satisfaction Scale

OECD: Organisation for Economic Co-operation and Development

STROBE: Strengthening of the Reporting of Observational Studies in Epidemiology

TCI: Team Climate Inventory

DECLARATIONS

Ethics approval and consent to participate: This research was conducted in adherence to the principles of the Declaration of Helsinki and approved by the University of Eastern Finland's ethics board (statement number: BLINDED) on the 18th of September 2024. Research permits were also retrieved from each participating organisation, and informed consent was obtained from all participants.

Consent for publication: Not applicable.

Availability of data and materials: The datasets generated and analysed during this study are not publicly available due to concerns regarding participant privacy. However, they are available from the corresponding author upon reasonable request.

Competing interests: The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this manuscript.

Funding: This study was funded by the X.

Authors' contributions: Study concept and design: X, Acquisition of data. X, Analysis and interpretation: X, Drafting of the manuscript: X, Critical revision of the manuscript for important intellectual content: X. All authors meet the criteria for authorship. All authors read and approved the final manuscript

Acknowledgements: The research team thanks all healthcare professionals who participated in this study for their time and valuable input.

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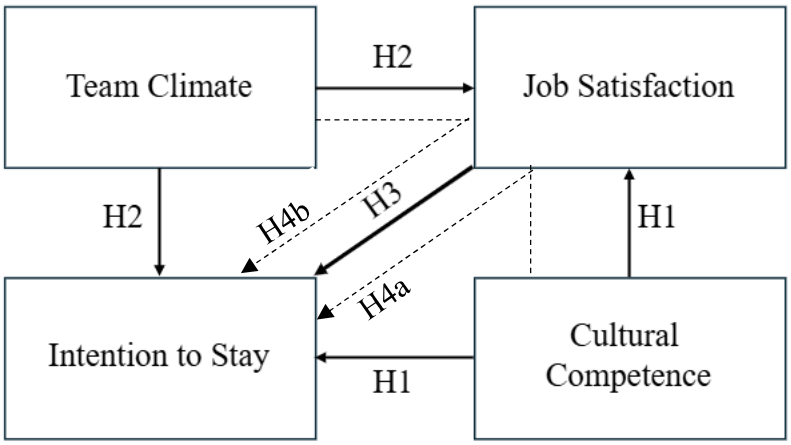


Figure 1. Hypothesized model of associations between team climate, cultural competence, job satisfaction, and intention to stay. Education, gender, and working experience were included as control variables [21].

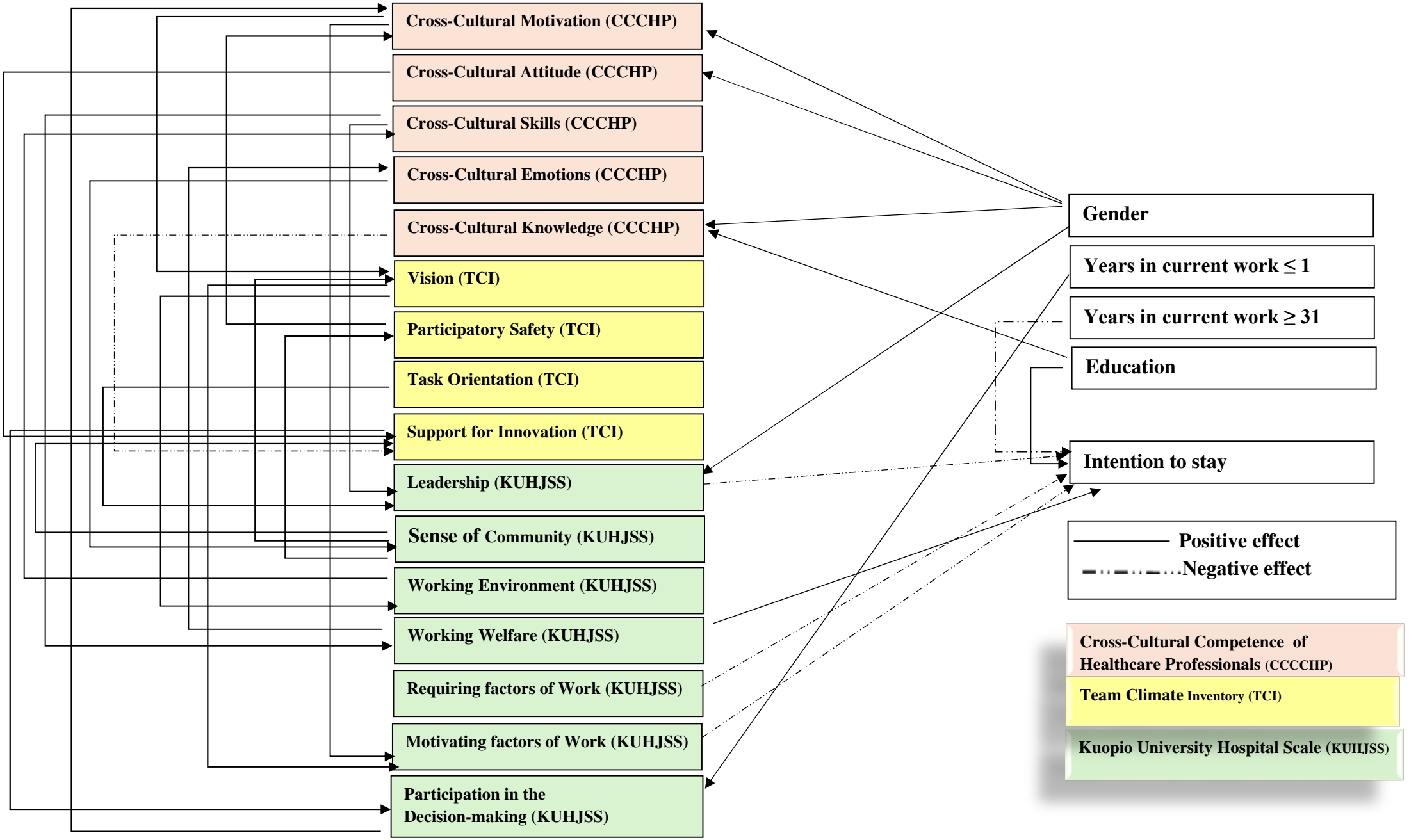


Figure 2. Structural Equation Modeling results for the relationships between Cross-Cultural Competence of Healthcare Professionals (CCCHP), Team Climate Inventory (TCI), Job Satisfaction (KUHJSS), Intention to Stay and background variables among healthcare professionals.

Note. Prerequisites for model: incremental fit index (> 0.90), comparative fit index (> .95), and rootmean square error of approximation test (< .05).

Supplementary Files

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