



Demographic Correlates of Professional Identity Among Vocational Young Practitioners: A Cross-Sectional Survey of Nursing Interns in a Tertiary Hospital

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ABSTRACT

Professional identity acts as a core psychological predictor of career persistence and turnover intentions among young service workers, constituting a central research topic within vocational psychology and youth socialization (Porfeli & Skorikov, 2010). Recent labor market data reveals pervasive employee outflow in China's frontline care industries, and disorganized professional identity formed during internships has been verified as a primary precursor to post-graduation job switching (Yin et al., 2019). Existing domestic quantitative research exhibits prominent disciplinary bias: most empirical evidence centers on K-12 educators, while stratified analyses of health service intern subgroups remain scarce (Gao et al., 2023). Grounded in the Minneapolis Theory of Work Adjustment (Super, 1960), this cross-sectional descriptive-comparative study recruited a full census sample of 200 nursing interns at a top-tier Sichuan tertiary teaching hospital. Data collection relied on a self-designed demographic questionnaire and Hao Yufang's 17-item Professional Identity Scale for Nursing Students (Hao, 2011), which demonstrated robust internal consistency (Cronbach's $\alpha = 0.827$). Nonparametric Mann-Whitney U and Kruskal-Wallis H tests were deployed to detect intergroup score disparities across demographic subgroups. Results indicated a moderate-to-high overall professional identity mean score among participants. Statistically significant group gaps emerged across four demographic dimensions: gender, self-rated physical health, academic achievement, and intrinsic career motivation. Age, household residential location, family structure, and monthly household disposable income yielded no consistent predictive effects on occupational identity. This research supplements localized stratified empirical data for Chinese youth vocational socialization studies and extends the boundary of person-environment fit theory to domestic care labor cohorts (Saks & Gruman, 2012). Differentiated intervention strategies for vocational colleges, youth career governance, and clinical internship management are proposed accordingly.

Keywords: *professional identity; demographic characteristics; vocational socialization; youth career development; nursing interns*

1. Introduction

Youth labor mobility within China's care and service sectors has evolved into a structural social challenge (Zhao et al., 2022). Multiple longitudinal vocational studies confirm that clinical internship represents the decisive formative window for professional identity construction; fragmented occupational self-perception cultivated during training substantially elevates the risk of early career abandonment (Skorikov & Vondracek, 2011). Nursing, as the archetypal female-dominated care occupation, suffers severe talent retention crises. Domestic cross-sectional surveys report that nearly 43.5% of vocational nursing students intend to abandon clinical work upon graduation (Zheng, 2016), generating massive wasted vocational education resources.

Current scholarship on vocational identity carries two prominent research gaps. First, disciplinary concentration skews heavily toward teacher populations, with systematic multi-variable analyses of health intern demographics largely absent from mainstream

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domestic literature (Gao et al., 2023). Second, prior empirical works examine isolated demographic predictors independently without integrating a comprehensive demographic framework to compare effect sizes across all five identity subdimensions (Wang & Zhang, 2022). To address these limitations, the present study adopts nursing interns as a representative sample of young frontline vocational practitioners and interrogates how divergent individual background traits shape occupational self-concept, anchored in Super's (1960) Minneapolis Theory of Work Adjustment.

Three formal research objectives guide this investigation:

1. To delineate the aggregate and subdimension distribution of professional identity scores within the sampled intern cohort;
2. To test whether statistically meaningful disparities in professional identity emerge when respondents are stratified by multi-dimensional demographic markers;
3. To unpack the internal logical linkage between demographic profiles and youth occupational identity formation and deliver targeted intervention frameworks for vocational education stakeholders.

The null hypothesis for this study states: No statistically significant differences exist in overall or subdimension professional identity levels across demographically stratified participant groups.

2. Literature Review & Theoretical Framework

2.1 Empirical Research on Professional Identity and Its Demographic Antecedents

2.1.1 The Causal Link Between Professional Identity and Career Retention

Global vocational psychology research consistently validates the protective function of robust professional identity against turnover behavior (Deppoliti, 2008). Cross-national nursing cohort analyses demonstrate that interns with consolidated occupational self-perception maintain long-term clinical engagement post-graduation, while participants reporting weak identity frequently switch majors or resign within one year of employment (Worthington et al., 2013). Domestic clinical quantitative research further establishes a strong negative correlation between identity strength and turnover intention among care staff: lower occupational recognition correlates with elevated willingness to exit the industry (Zhao A. J. et al., 2013). From an affective psychology lens, elevated professional identity buffers occupational stress, emotional exhaustion, and clinical anxiety (Zhang B. et al., 2015). Lindstrom (1983) first conceptualized professional identity as integrated mastery of occupational ethics and technical competencies forged exclusively through hands-on internship practice, cementing training's central role in identity development.

2.1.2 Measurement Tools for Vocational Professional Identity

Two dominant measurement systems prevail within Chinese nursing education research. The localized 17-item five-dimensional Professional Identity Scale developed by Hao (2011) functions as the primary data instrument for this project. Its five distinct constructs include occupational self-concept, social comparison and self-reflection, retention benefits versus exit risks, career choice autonomy, and social persuasion, with well-documented construct validity and split-half reliability (0.842). Hu (2007) designed an alternative six-dimensional scale focused on professional values, while the international OIMS single-dimension inventory (Brown et al., 1986) prioritizes cross-occupational comparison and lacks nuanced measurement of Chinese youth's layered vocational cognition. For contextual alignment with domestic care intern samples, Hao's (2011) scale was selected as the primary measurement tool.

2.1.3 Demographic Predictors of Youth Vocational Identity

Four core categories of demographic variables emerge from existing international and domestic literature as meaningful predictors of occupational self-concept.

Gender stratification and occupational gender stereotypes: Multiple gender sociology studies of care industries confirm pervasive role conflict for male vocational students (Wang C., 2020). Male nursing undergraduates consistently report moderate-to-low

professional identity due to pervasive societal bias framing care labor as a feminine domain (He X. D. et al., 2021), whereas female interns encounter minimal gendered occupational prejudice and develop stronger belonging (Huang, 2019).

Academic performance and vocational self-efficacy: Consensus across cross-regional studies identifies a positive linear relationship between academic achievement and professional identity (Wang & Zhang, 2022). High-performing students develop stable career self-confidence, while persistent academic frustration erodes belief in long-term occupational prospects (Mau, 1999). Contradictory findings regarding educational attainment exist between Western and Chinese hospital-based research (Frankland, 2010; Duan, 2011), necessitating further contextual verification under unified internship environments.

Intrinsic versus extrinsic career motivation: Voluntary major selection driven by personal interest generates far higher identity scores than enrollment dictated by family pressure or college entrance examination limitations (Li, 2015). Externally imposed career pathways disrupt internal vocational motivation and heighten post-graduation turnover risk (Tomlinson, 2026).

Family and individual physical covariates: Mixed empirical results surround household income, residential origin, and family structure across regional samples, while self-reported physical health remains an understudied antecedent of positive occupational evaluation (Fors Connolly & Gärling, 2024). Healthy young practitioners possess greater psychological resources to process high-intensity clinical labor without developing occupational self-doubt.

2.2 Theoretical Foundation: Minneapolis Theory of Work Adjustment (MTWA)

Super's (1960) MTWA forms this study's core interpretive framework, centered on the person-environment fit paradigm expanded by Saks and Gruman (2012) within organizational socialization scholarship. The theory proposes bidirectional reciprocal interaction between two foundational components: stable pre-employment individual traits and objective workplace environmental conditions. Individual demographic markers represent immutable pre-internship personal characteristics that moderate how youth interpret clinical feedback, thereby creating stratified professional identity outcomes across subgroups (Porfeli & Skorikov, 2010). Within nursing internship contexts, identical hospital training environments serve as controlled contextual constants, isolating demographic background as the primary source of intergroup identity variation. This study operationalizes demographic profiles as independent variables and the five subdimensions of professional identity as dependent variables to construct a testable conceptual model aligned with MTWA's core logic.

3. Methodology

3.1 Research Design

A cross-sectional descriptive-comparative quantitative design was implemented, the standard methodological paradigm for demographic subgroup comparison within vocational psychology (Babaročić & Šverko, 2016). Descriptive statistical procedures summarize sample demographic distribution and aggregate identity scores; inferential nonparametric testing evaluates the null hypothesis of uniform identity levels across stratified participant cohorts.

3.2 Participants

The target population encompassed all nursing interns completing full clinical rotations at the study's tertiary hospital during data collection, totaling $N = 200$. A complete census sampling strategy eliminated random sampling bias by distributing questionnaires to every eligible trainee. All distributed surveys were fully recovered with zero invalid responses following data cleaning, yielding a final valid sample of 200 participants.

3.3 Measurement Instruments

Two closed-ended questionnaire modules were integrated for online data capture:

Self-designed demographic survey: Single-choice items measuring nine individual background variables: gender, age bracket, rural/urban residence, self-rated physical health, two-parent/single-parent household structure, primary motivation for selecting nursing, academic performance tier, and monthly household disposable income.

Hao Yufang's (2011) 17-item Professional Identity Scale: 5-point Likert response format ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Item 12 utilizes reverse scoring to counter response bias, with higher aggregate scores indicating stronger overall professional identity. The scale's five subdimension structures and psychometric properties are referenced directly from the original doctoral dissertation (Hao, 2011).

3.4 Data Analytical Procedures

All statistical calculations were executed via SPSS 26.0 for social science quantitative analysis. Two tiers of statistical testing were applied:

Descriptive statistics: Frequency counts, percentages, weighted means (M), and standard deviations (SD) summarize sample demographic composition and subdimension identity scores. A five-tier Likert interpretive framework standardized score evaluation: 1.00–1.79 = Very Low Identity; 1.80–2.59 = Low Identity; 2.60–3.39 = Moderate Identity; 3.40–4.19 = High Identity; 4.20–5.00 = Very High Identity.

Nonparametric inferential tests: Mann-Whitney U tests analyzed two-category demographic variables; Kruskal-Wallis H tests evaluated multi-group demographic stratifications. The statistical significance threshold was fixed at $\alpha = 0.05$ for all comparisons, consistent with standard youth vocational research protocols (Tiley et al., 2025). Parametric testing was abandoned due to non-normal scale score distribution across subdimensions.

3.5 Ethical Compliance Statement

Formal ethical clearance for this research was granted by Silliman University's University Research Ethics Committee prior to data collection. All participants received anonymous electronic informed consent disclosing voluntary participation rights, unrestricted withdrawal privileges, and exclusive academic data usage restrictions. No personally identifiable information was collected within survey instruments to guarantee full respondent anonymity, in compliance with APA 7 human subjects research standards.

4. Results

4.1 Sample Demographic Composition

Table 1 outlines frequency and percentage distributions for all measured demographic variables. The sample reflects the gender imbalance typical of Chinese nursing vocational cohorts: female interns constitute 87.5% (n=175), while male participants account for only 12.5% (n=25). Age distribution concentrates within the 18–20 bracket (55.5%, n=111), consistent with standard vocational intern age ranges. 60.5% of respondents originate from rural household registration backgrounds, and 83.5% grow within intact two-parent families. Regarding career motivation, family pressure represents the single largest enrollment driver (35%), with only 33.5% selecting nursing out of personal vocational interest. Over half of participants reported excellent academic performance during vocational coursework. Minority ethnic subgroups were excluded from intergroup testing due to insufficient cell sample sizes.

Table 1

Demographic Profile of Survey Participants (N=200)

Variable	Category	Frequency	Percentage
Gender	Male	25	12.50
	Female	175	87.50
Age	18–20	111	55.50
	21–23	65	32.50
	Over 23	24	12.00

Residence	Rural	121	60.50
	Urban	79	39.50
Self-rated Health	Excellent	130	65.00
	Very Good	67	33.50
Career Motivation	Personal Interest	67	33.50
	Family Arrangement	70	35.00
Academic Performance	Exam Score Restriction	24	12.00
	Other Reasons	39	19.50
Household Monthly Income	Excellent	104	52.00
	Very Good	83	41.50
Household Monthly Income	Over 2000 RMB	56	28.00
	1500–2000 RMB	32	16.00
	1000–1499 RMB	51	25.50
Household Monthly Income	Below 1000 RMB	61	30.50

4.2 Aggregate Professional Identity Level

The full-sample weighted average professional identity score reached $M = 3.95$ ($SD = 0.66$), falling within the “High Identity” interpretive band (3.40–4.19). Subdimension mean rankings from highest to lowest: Social Persuasion ($M=4.17$, Very High) > Social Comparison & Self-Reflection ($M=4.04$, High) > Occupational Self-Concept ($M=3.98$, High) > Retention Benefits & Separation Risks ($M=3.82$, High) > Career Choice Autonomy ($M=3.73$, High). The lowest-scoring item within the autonomy subdimension (reverse-scored Item 12) registered $M=3.28$ (Moderate), illustrating widespread passive major selection among the sample (Qi & Cao, 2025). All positively framed scale items averaged above 3.5, indicating broad baseline positive valuation of nursing’s vocational purpose.

4.3 Intergroup Demographic Difference Outcomes

Statistical testing identified four demographic variables generating consistent significant identity disparities across most subdimensions, while four covariates demonstrated no stable predictive relationships with occupational identity:

Gender: Significant gaps within Occupational Self-Concept ($p=0.02$) and Retention Benefit Awareness ($p=0.03$); female interns achieved higher rank-order scores, consistent with gendered care labor research (Wang C., 2020).

Self-rated physical health: Significant differences across all five identity subdimensions ($p < 0.01$); participants reporting excellent health outperformed peers with “Very Good” self-assessments on every measured construct (Fors Connolly & Gärling, 2024).

Academic performance: Significant disparities across four subdimensions ($p < 0.001$); top-performing students maintained stronger occupational self-efficacy throughout all identity domains (Mau, 1999).

Intrinsic career motivation: Significant gaps across four subdimensions ($p < 0.001$); participants who selected nursing voluntarily for personal interest produced the highest identity scores of all motivation subgroups (Li, 2015).

Age bracket, rural/urban residence, family structure, and household disposable income exhibited no consistent significant intergroup differences (all $p > 0.05$). Household income yielded marginal significance exclusively within the Career Choice Autonomy subdimension ($p=0.03$) without broader cross-subdimension effects.

5. Discussion

5.1 Interpretation of Aggregate Identity Scores

The sample’s moderate-high overall professional identity contrasts sharply with multiple domestic cross-sectional studies documenting low-to-moderate identity levels among nursing intern cohorts (Wang X., 2020). Two contextual boundary conditions explain this divergence, consistent with internship-stage identity fluctuation research (Zhang W. H. et al., 2017). First, the study site functions as a nationally ranked top-tier teaching hospital delivering standardized, positive clinical mentorship systems that reinforce

occupational value recognition (Qi & Cao, 2025). Second, over half of participants occupy early internship stages (18–20 years old) without cumulative long-term clinical burnout that erodes identity in mid-to-late training phases. Social Persuasion emerged as the highest-scoring subdimension, confirming that positive role model narratives serve as the most accessible source of occupational belonging for young vocational trainees (Sun & Wang, 2022). Conversely, the low autonomy subdimension score highlights a systemic flaw within domestic vocational enrollment systems: widespread externally dictated career choices create latent identity confusion that elevates long-term turnover risk (Tomlinson, 2026).

5.2 Socio-Scientific Analysis of Significant Demographic Stratifications

5.2.1 Occupational Gender Stereotype Stratification

Female interns' elevated identity metrics align with global gender sociology research focused on feminized service occupations (Wang C., 2020). Cultural discourse frames nursing as naturally aligned with female caregiving social roles, minimizing role conflict and external discriminatory feedback during clinical practice. Male nursing trainees continuously confront societal assumptions framing male care labor as anomalous, suppressing occupational pride and collective belonging (He X. D. et al., 2021). This subgroup disparity expands gender stratification research beyond general undergraduate populations to frontline youth vocational cohorts and delivers localized Chinese empirical support for occupational gender bias theory (Badwy & Do, 2025).

5.2.2 Physical Well-Being as a Vocational Psychological Resource

Self-reported excellent physical health predicted superior identity across all five measured constructs, a covariate largely overlooked within prior domestic vocational identity meta-analyses (Gao et al., 2023). Positive psychology's resource spillover framework contextualizes this result: stable physical functioning supplies sufficient emotional and physical reserves to endure clinical labor's dual physical and emotional intensity. Trainees with suboptimal physical condition readily develop clinical fatigue and occupational self-doubt that directly suppress identity formation (Fors Connolly & Gärling, 2024). This study fills a notable literature gap by validating physical status as a core antecedent of youth vocational self-concept.

5.3 Academic Achievement and Vocational Self-Efficacy Reciprocity

Superior academic performance correlated with elevated identity across most subdimensions, reinforcing reciprocal self-efficacy theory (Mau, 1999). Mastery of specialized vocational knowledge builds stable internal confidence regarding future industry competitiveness, generating positive occupational self-concept as a feedback loop. Students experiencing persistent academic underachievement accumulate chronic learning frustration that diminishes optimistic career forecasting and weakens overall professional identification (Garrison & Yang, 2017). This cyclic interaction delivers actionable evidence for targeted academic tutoring within vocational college curricula.

5.4 Intrinsic Career Motivation as Primary Identity Protector

Voluntary personal interest as the primary enrollment driver produced the highest identity rankings across nearly all subdimensions, fully validating vocational motivation theory's central premise (Porfeli & Skorikov, 2010). Extrinsically imposed career pathways (family mandates, exam score limitations) sever the alignment between individual vocational preference and occupational trajectory, lowering intrinsic valuation of career purpose and increasing post-graduation exit willingness (Tomlinson, 2026). This finding establishes pre-enrollment career counseling as a critical intervention node for reducing care industry labor turnover.

5.3 Theoretical Interpretation of Non-Significant Covariates

Age, residential origin, household structure, and income failed to generate consistent identity disparities, diverging from several regional domestic survey outcomes (Zhou et al., 2019). Two boundary conditions rooted in MTWA (Super, 1960) resolve this inconsistency. First, all participants experience identical standardized clinical internship environments at a single institutional site, buffering the moderating influence of pre-existing family economic and residential background differences (Saks & Gruman, 2012). Second, the sample's tightly constrained youth age bracket (18–24) eliminates developmental identity gaps observed across multi-age

cohort comparisons. This outcome refines MTWA's contextual applicability by demonstrating that unified workplace training environments partially neutralize demographic background's impact on youth occupational psychology.

5.4 Theoretical Contributions

Three distinct theoretical advancements emerge from this empirical investigation:

This research extends Minneapolis Work Adjustment Theory's empirical scope to Chinese youth care vocational samples, verifying interactive mechanisms between pre-internship demographic traits and standardized workplace environments (Saks & Gruman, 2012).

Multi-dimensional stratified quantitative data supplements vocational socialization scholarship's localized Chinese evidence base, clearly delineating which individual background markers function as stable identity predictors during early career training (Porfeli & Skorikov, 2010).

The gender subgroup comparison enriches vocational psychology's gender stratification literature with domestic care industry cohort data, documenting tangible occupational identity gaps created by pervasive societal gender stereotypes (Badwy & Do, 2025).

5.5 Practical Social Science Implications

5.5.1 Higher Vocational Education Intervention Guidance

Vocational colleges must redesign pre-major career guidance curricula to prioritize cultivating intrinsic vocational interest rather than passively accommodating exam or family-driven major selection (Li, 2015). Targeted academic remediation programs should be implemented for low-performing students to strengthen vocational self-efficacy (Garrison & Yang, 2017). Integrated physical and mental wellness counseling systems ought to be embedded within routine vocational training to preserve the physical psychological resources required for positive occupational evaluation (Fors Connolly & Gärling, 2024). Dedicated peer support collectives for male nursing students can mitigate gender stereotype harm and strengthen minority care trainees' occupational belonging (He X. D. et al., 2021).

5.5.2 Youth Labor Market Social Governance

Public media and youth career service institutions must dismantle pervasive gendered stereotypes toward care vocational tracks to eliminate discriminatory social feedback for male frontline practitioners (Wang C., 2020). Municipal youth career counseling centers can develop differentiated intervention protocols prioritizing high-risk trainee subgroups: students with passive enrollment motivation, chronically underperforming academics, and poor physical self-assessment, all identified as vulnerable to identity confusion and early labor outflow (Tiley et al., 2025).

5.5.3 Clinical Teaching Hospital Management Optimization

Teaching hospitals should formalize standardized clinical mentorship frameworks to deliver uniform positive occupational feedback across all intern cohorts, mitigating identity-eroding negative clinical encounters (Qi & Cao, 2025). Institutional internship psychological support systems must be constructed to alleviate high-intensity emotional labor and physical exhaustion throughout rotation cycles, sustaining consistent positive vocational self-evaluation among trainees.

5.6 Research Limitations

Three core methodological limitations constrain the generalizability of this study's conclusions:

Single-center census sampling restricts cross-regional extrapolation; the sample cannot represent nursing intern cohorts across varying hospital tiers, vocational school types, or geographic regions (Gao et al., 2023).

Cross-sectional static measurement cannot establish causal directional relationships between demographic covariates and identity development, only correlational subgroup disparities are verifiable (Skorikov & Vondracek, 2011).

The survey instrument excludes key moderating variables documented in recent qualitative research, including negative internship encounters, mentorship quality, and familial attitudes toward care labor (Sun & Wang, 2022).

5.7 Directions for Subsequent Vocational Social Science Research

Three structured future research trajectories are proposed to address identified limitations:

Multi-site longitudinal tracking research: Expand sampling across geographically dispersed vocational colleges and tiered hospitals, implementing repeated identity measurements across early/mid/late internship phases to unpack causal demographic developmental pathways (Tiley et al., 2025).

Mixed-methods triangulation design: Integrate quantitative demographic subgroup testing with semi-structured qualitative interviews to excavate the deep psychological mechanisms driving significant gender, health, and motivation identity gaps (Babarović & Šverko, 2016).

Multi-variable integrated modeling: Incorporate internship experience, familial vocational attitudes, and mentorship quality as moderating variables to construct a comprehensive multi-factor predictive framework for youth vocational identity (Saks & Gruman, 2012).

6. Conclusion

This cross-sectional MTWA-grounded quantitative investigation analyzed occupational identity among a full census of 200 nursing interns at a Chinese top-tier teaching hospital. Descriptive statistics confirmed the sample's moderate-to-high aggregate professional identity with clear layered differentiation across the five measurement subdimensions. Nonparametric intergroup testing validated consistent statistically significant identity stratification along four demographic axes: gender, self-reported physical health, academic performance, and intrinsic career motivation. Age, residential location, family structure, and household disposable income demonstrated no sustained predictive influence on occupational self-concept.

From vocational psychology and youth social development frameworks, intrinsic personal career interest, robust physical mental functioning, and positive academic self-efficacy operate as core protective factors generating elevated professional identity for frontline service youth. Passive externally dictated major selection and persistent occupational gender prejudice constitute primary risk factors for identity confusion and post-graduation labor turnover. This study delivers localized stratified empirical evidence for domestic youth vocational socialization scholarship and expands the applied boundary of person-environment fit theory within Chinese service labor cohorts, offering multi-layered differentiated intervention frameworks for vocational educators, youth governance administrators, and clinical training hospital administrators. Multi-center longitudinal mixed-method inquiry is required in subsequent scholarship to fully unpack the dynamic causal mechanisms linking long-term demographic background trajectories to sustained youth professional identity formation.

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