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Professional Identity Formation and Self-Perceived Medical Identity Among Dentists in Türkiye: An Analytical Cross-Sectional Study

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Abstract

Background/Objectives:

Professional identity formation (PIF) is underexplored in dentistry. This study quantified the extent to which practising dentists in Türkiye perceive themselves as competent doctors, identified predictors of this self-perception, and examined differences across career stages.

Methods

A cross-sectional study was conducted among 123 dental professionals (general practitioners, students, and specialists/academics) using a 12-item Likert-scale questionnaire. The primary outcome was self-perceived medical identity (Q12). Group comparisons used one-way ANOVA with Tukey post-hoc tests; a multiple linear regression model identified independent predictors.

Results

The mean Q12 score was 3.02 ± 1.15, reflecting moderate, heterogeneous identity. While 42.3% agreed or strongly agreed, 30.1% disagreed and 27.6% were neutral. Significant between-group differences were found ($F(2,120) = 14.82$, $p < 0.001$, $\eta^2 = 0.12$): students reported the highest scores (3.50 ± 0.86), followed by specialists (3.37 ± 1.03), with general practitioners (GPs) markedly lower (2.58 ± 1.15; $p < 0.01$ vs both groups). Perceived adequacy of medical education was the strongest correlate of identity ($r = 0.602$, $p < 0.001$). The regression model ($R^2 = 0.413$) identified education adequacy ($\beta = 0.54$, $p < 0.001$) and professional status ($\beta = 0.26$, $p = 0.002$) as independent predictors.

Conclusions

Dentists in Türkiye exhibit moderate and heterogeneous medical identity, with GPs demonstrating the most pronounced deficit. Clinical routine may erode the medically integrated identity cultivated during training. Educational reform, simulation-based emergency training, and interprofessional practice models are recommended to strengthen professional identity across all career stages.

1. Introduction

Professional identity formation (PIF) has emerged as a foundational concept in health professions education over the past two decades. It refers to the dynamic, developmental process through which an individual internalizes the values, norms, ethical commitments, and behavioral expectations of their profession. This process ultimately reshapes one's sense of self [1, 2]. Scoping reviews have documented that PIF research across health professions has expanded markedly, yet remains disproportionately concentrated in medicine and nursing, with dentistry substantially underrepresented

[3, 4]. Extensive scholarship has examined PIF among medical students and physicians; however, comparatively little empirical attention has been devoted to professional identity development within dentistry, despite the clinical and societal significance of the dental profession.

The historical trajectory of dentistry is marked by a distinctive professional duality. Although dental practice is deeply rooted in the biomedical sciences—encompassing anatomy, physiology, pharmacology, and pathology—the formal organizational separation of dental and medical education in the nineteenth century established dentistry as a structurally independent profession [5]. This structural divergence has had lasting consequences for the professional self-concept of dental practitioners. They must navigate an identity landscape that simultaneously encompasses the roles of biomedical clinician, surgical technician, and healthcare provider.

In contemporary healthcare environments, the integration of oral and systemic health has become increasingly recognized. Accumulating evidence links oral conditions to cardiovascular disease, diabetes mellitus, adverse pregnancy outcomes, and immunosuppressive conditions [6]. A 2024 European consensus report further affirmed the bidirectional relationships between periodontitis, cardiovascular disease, and diabetes, underscoring the need for integrated medical-dental care [7]. Dentists are correspondingly expected to recognize and manage systemic medical emergencies—including anaphylaxis, acute coronary events, hypoglycaemia, and cardiopulmonary arrest—in their clinical settings [8]. These responsibilities are fundamentally medical in nature and situate the dental professional within the broader healthcare community, yet this positioning is not always reflected in dentists' subjective professional identity.

Sociological analyses of the dental profession highlight an identity tension that is both individually experienced and structurally reproduced. The colloquial distinction between "dentist" and "doctor" in many cultural and linguistic contexts—including Türkiye, where the professional appellation reflects this dichotomy—may reinforce a perceived marginality from mainstream medicine [9]. This linguistic and sociocultural positioning may persistently undermine dentists' sense of belonging to the broader medical community, potentially influencing their clinical confidence, interprofessional relationships, and quality of patient care.

Among the factors theorized to shape professional identity in dentistry, the perceived adequacy of medical training during dental education occupies a central role [7, 8]. Dental students and practitioners frequently report a "professional identity tension" during their transition from comprehensive, medically integrated academic curricula to procedurally focused clinical practice [10]. Comparative analyses of PIF across health professions students confirm that dental students experience distinctive identity challenges arising from the dual positioning of their profession at the intersection of medicine and craft [11]. This tension is compounded by the commercialization of dental services, variable integration of dentistry within national healthcare systems, and the heavy emphasis on manual dexterity and restorative technique that characterizes much of dental clinical training [10, 11].

Within the framework of communities of practice theory [1], professional identity is co-constructed through participation in professional communities, exposure to role models, and socialization into shared norms and practices [12]. General dental practitioners operate predominantly in outpatient, procedurally intensive environments with limited interprofessional interaction. As a result, they may experience a progressive erosion of the medically grounded identity cultivated during dental school. Dental specialists and academics, by contrast, may engage more systematically with systemic disease management and multidisciplinary collaboration, thereby sustaining a stronger identification with a medical doctor's role.

Despite the clinical and educational importance of professional identity in dentistry, empirical data on how dentists cross different career stages—students, general practitioners, and specialists—subjectively evaluate their medical identity remain scarce. The present study addresses this gap by investigating four objectives: (i) the overall level of medical self-identification among dentists in Türkiye; (ii) its variation across career stages; (iii) the association between perceived adequacy of medical education and medical identity; and (iv) the independent predictors of medical identity through a multivariate analytical framework. Understanding these dynamics is essential for informing curriculum reform, interprofessional education policy, and professional development strategies in dentistry.

2. Materials and Methods

2.1. Study Design and Ethical Considerations

This study was designed as a cross-sectional analytical study to evaluate the self-perceived medical identity of dental professionals in Türkiye. A cross-sectional design was selected as appropriate for examining the prevalence and distribution of self-reported professional identity at a single point in time across a heterogeneous professional population. This design permits efficient data collection across career stages and enables comparisons between professional subgroups, which aligns with the exploratory objectives of the study. Its primary inherent limitation, the inability to establish temporal or causal relationships, is explicitly acknowledged in the Limitations section.

The study adhered to the principles outlined in the Declaration of Helsinki. Ethical approval was granted by the Nevsehir Haci Bektas Veli University Ethics Committee (Date: 29.12.2025, Approval No: 2025.12.16). Participation was entirely voluntary and anonymous. Informed consent was embedded within the survey instrument; respondents were informed of the study's aims, voluntary nature, and data handling procedures prior to completing the questionnaire. No identifiable personal data was collected.

2.2. Study Population and Sampling

The target population comprised dental professionals actively engaged in clinical practice in Türkiye. This included: (i) final-year dental students in their clinical training years, who possessed a minimum of two years of supervised hands-on patient care experience and were thus considered active clinical practitioners for the purposes of this study; (ii) registered general dental practitioners; and (iii) dental

specialists and academic staff who, in addition to their academic or research roles, maintained active patient care responsibilities. The inclusion of final-year students and clinically active academics was a deliberate sampling decision grounded in the premise that meaningful professional identity formation occurs within—and is shaped by—active clinical practice environments. Data collection was conducted between 12 January 2026 and 24 February 2026. A total of 123 participants were recruited using convenience sampling, whereby the electronic survey was distributed through professional dental networks, academic institutions, and dental society communication channels.

It is further noted that the grouping of dental specialists and academic staff into a single analytical category reflects their shared characteristic of active clinical patient engagement. Dental academics in Türkiye typically maintain dual clinical-academic roles, providing direct patient care in university-based dental clinics while simultaneously conducting research and teaching. This clinical engagement distinguishes them from non-practicing academic administrators and justifies their inclusion within a clinically active professional population.

Convenience sampling was employed due to the absence of a comprehensive national registry of dental practitioners and the resource constraints inherent to the study. While this approach facilitated rapid data collection across diverse professional subgroups, it carries a risk of self-selection bias: individuals with strong views on professional identity—either strongly affiliated or strongly alienated—may be disproportionately represented relative to the broader dental workforce. Generalizability of the findings is therefore limited, and the results should be interpreted as hypothesis-generating rather than definitively representative.

The minimum sample size was estimated to be a priori based on detecting a medium effect size ($f = 0.25$) in a one-way ANOVA with three groups at $\alpha = 0.05$ and power = 0.80, which required approximately 52 participants per group (total $n = 156$). The achieved sample size ($n = 123$) falls slightly short of this estimate—particularly for the student subgroup ($n = 34$)—but was deemed adequate for the descriptive and exploratory purposes of this study. Future confirmatory research should target larger, probability-based samples.

2.3. Data Collection Instrument

The survey instrument was developed following a systematic review of existing literature on professional identity in health professions education and dentistry-specific identity research. The questionnaire was piloted with a small group of dental practitioners ($n = 10$) prior to full deployment to assess clarity, face validity, and response burden. Minor linguistic refinements were made following piloting, and the instrument was finalized.

The questionnaire comprised three sections:

Section A – Sociodemographic Information

Age, gender, professional title (student, general practitioner, specialist/academic), and years of clinical experience.

Section B – Clinical Competency Self-Assessment (Q1–Q10): Ten items assessing participants' self-reported confidence in medical competencies relevant to dental practice, including: (Q1) acute chest pain management; (Q2) CPR competency; (Q3) anaphylaxis management; (Q4) hypoglycaemia recognition; (Q5) intravenous access; (Q6) vital sign monitoring; (Q7) laboratory result interpretation; (Q8) pharmacological management of systemic conditions; (Q9) systemic disease knowledge; and (Q10) bleeding control.

Section C – Professional Identity and Education (Q11–Q12)

(Q11) "I believe the medical training provided during my dental education was adequate to enable me to manage medical emergencies effectively"; (Q12) "As a dentist, I consider myself fundamentally a competent doctor." Both items were rated on a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree).

Measurement Validity Considerations: Internal consistency of the 10-item clinical competency subscale (Q1–Q10) was evaluated using Cronbach's alpha, yielding an acceptable coefficient of $\alpha = 0.81$, indicating adequate reliability as a composite measure. Exploratory factor analysis (EFA) was not formally conducted; however, item content suggests at least two underlying dimensions: (i) acute emergency management competencies (Q1–Q5) and (ii) broader clinical medical knowledge (Q6–Q10). Future research should employ EFA to formally evaluate instrument dimensionality.

Critical Note on Primary Outcome Measurement

The primary outcome variable—perceived medical identity (Q12)—is operationalized as a single Likert item. Single-item measures carry inherent psychometric limitations, including reduced reliability, susceptibility to framing effects, and limited construct validity relative to multi-item validated scales. All interpretations of Q12-based findings are therefore made with explicit acknowledgment of this limitation. Future studies should employ validated, multi-item professional identity scales such as the Professional Identity Status Inventory (PISI) or the Macleod Clark Professional Identity Scale. Cross-sectional studies employing the Macleod Clark scale have demonstrated its utility in quantifying professional identity across diverse health professional groups [13]. A recent scoping review of tools for assessing professional identity in health professions education further identified the need for psychometrically robust, purpose-designed instruments applicable across clinical disciplines [14].

2.4. Statistical Analysis

All statistical analyses were performed using SPSS version 26.0 (IBM Corp., Armonk, NY, USA). The normality of continuous variables was assessed using the Kolmogorov-Smirnov test. Although Likert-scale data are ordinal in nature, parametric statistical tests were considered justifiable based on convergent methodological arguments: the five-point scale generates sufficient response categories to

approximate interval-level measurement; sample sizes per group were adequate (n > 30 in two of three groups); and the central limit theorem supports approximate normality of group means. This approach is consistent with widely accepted practice in health sciences research [15].

Descriptive statistics (means, standard deviations, frequencies, and percentages) were calculated for all variables. One-way ANOVA was used to compare Q12 scores across professional groups, with Tukey's HSD post-hoc test applied to identify pairwise differences. Effect sizes were calculated as eta squared (η^2): $\eta^2 \geq 0.01$ (small), $\eta^2 \geq 0.06$ (medium), $\eta^2 \geq 0.14$ (large). Pearson correlation analysis examined linear associations between Q12 and each clinical competency item (Q1–Q10) and the education adequacy item (Q11). All correlational findings are interpreted as indicative of association rather than causation.

A multiple linear regression model was constructed with Q12 as the dependent variable and the following predictors: Q11 (perceived education adequacy), professional status (dummy-coded; GPs as reference), years of clinical experience, and gender. Standardized coefficients (β) are reported to facilitate comparison of relative predictor contributions. Residual analysis indicated no major violations of linear regression assumptions, including normality, linearity, and homoscedasticity. No influential outliers were detected. A p-value of less than 0.05 was considered statistically significant throughout. Given the exploratory nature of this study, no correction for multiple comparisons was applied to the correlation analyses involving Q1–Q10 and Q12; results are therefore interpreted with appropriate caution and should be regarded as hypothesis-generating rather than confirmatory.

3. Results

3.1. Demographic Characteristics

A total of 123 participants completed the survey. The sample comprised 50 general practitioners (40.7%), 39 specialists or academic dental staff (31.7%), and 34 dental students (27.6%). The mean age of respondents was 33.7 ± 9.1 years. The gender distribution was approximately balanced, with 65 male (52.8%) and 58 female (47.2%) participants. The demographic profile of the study sample is presented in Table 1.

Table 1
Sociodemographic Characteristics of Participants (n = 123).

Demographic Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	65	52.8
	Female	58	47.2
Professional Status	General Practitioner	50	40.7
	Dental Student a	34	27.6
	Specialist / Academic	39	31.7
Age (Years)	Mean ± SD	33.7 ± 9.1	---

All students were final-year clinical students with ≥ 2 years of supervised patient care.

3.2. Self-Perceived Medical Identity (Q12)

The primary outcome—self-perceived medical identity (Q12)—yielded a mean score of 3.02 ± 1.15, indicating a moderate and heterogeneous level of identification with the role of a competent medical doctor. Given the single-item operationalization, these scores are best understood as a proxy indicator of identity salience rather than a comprehensive measure of professional identity. Response distribution revealed that 42.3% of participants endorsed agreement or strong agreement (Likert scores 4 or 5), while 30.1% expressed disagreement or strong disagreement (scores 1 or 2), and 27.6% selected the neutral midpoint (score 3). This distribution reflects substantive ambivalence and inter-individual variability, rather than a consensual professional self-concept. Only 5 participants (4.1%) selected the highest score of 5 (“strongly agree”), while 17 (13.8%) selected the lowest score of 1 (“strongly disagree”), underscoring the polarized nature of responses at the extremes (Table 2).

Table 2
Response Distribution for Q12: Self-Perceived Competent Doctor Identity (Mean ± SD: 3.02 ± 1.15).

Likert Score	Response Label	n	%
1	Strongly Disagree	17	13.8
2	Disagree	20	16.3
3	Neither Agree nor Disagree	34	27.6
4	Agree	47	38.2
5	Strongly Agree	5	4.1
Total		**123**	**100.0**

3.3. Differences in Medical Identity Across Career Stages

Statistically significant differences in Q12 scores were observed across the three professional status groups ($F(2,120) = 14.82$, $p < 0.001$, $\eta^2 = 0.12$), representing a medium-to-large effect size. Professional career stage accounted for approximately 12% of the total variance in self-perceived medical identity, a proportion that is both statistically and practically meaningful.

Dental students (final-year clinical students with ≥ 2 years of supervised patient care) reported the highest mean medical identity score (3.50 ± 0.86), followed by specialists and academics (3.37 ± 1.03), with general practitioners exhibiting markedly lower identification (2.58 ± 1.15). The mean Q12 score of GPs was below the scale's theoretical midpoint, indicating that this group did not, on average, endorse identification with the medical doctor's role. Post-hoc Tukey HSD analysis confirmed that the GP group differed significantly from both students ($p < 0.01$, Cohen's $d = 0.85$) and specialists ($p < 0.01$, Cohen's $d = 0.73$), while students and specialists did not differ from each other ($p = 0.612$).

A parallel pattern was observed for perceived education adequacy (Q11): students reported the highest rating (3.32 ± 1.01), whereas GPs and specialists reported substantially lower perceptions (2.24 ± 1.26 and 2.33 ± 1.12, respectively; $p < 0.001$, $\eta^2 = 0.13$). This convergent pattern across both Q11 and Q12 suggests a consistent dissociation in GPs between the professional identity fostered during dental education and that experienced in active clinical practice. Table 3 presents group comparisons across all major survey items.

Table 3
Clinical Competency and Medical Identity Scores by Career Stage (One-Way ANOVA with Tukey Post-Hoc Test).

Survey Item	Students (n = 34)	GPs (n = 50)	Specialists (n = 39)	p-value	η^2
Q1: Managing Chest Pain	3.56 ± 0.79	2.85 ± 1.01	3.90 ± 0.80	< 0.001	0.14
Q6: Monitoring Vital Signs	4.32 ± 0.73	3.44 ± 1.21	4.17 ± 0.87	< 0.001	0.11
Q9: Systemic Disease Knowledge	3.85 ± 0.74	3.49 ± 1.09	3.97 ± 0.67	0.041	0.05
Q11: Adequacy of Medical Education	3.32 ± 1.01	2.24 ± 1.26	2.33 ± 1.12	< 0.001	0.13
Q12: Self-Identification as Doctor	3.50 ± 0.86	2.58 ± 1.15	3.37 ± 1.03	< 0.001	0.12

GP = General Practitioner. η^2 = Eta squared (effect size). GPs differed significantly from students and specialists for Q11 and Q12 ($p < 0.01$). Students vs. Specialists: not significant ($p > 0.05$).

3.4. Correlation Between Clinical Competencies and Medical Identity

Pearson correlation analysis revealed that all clinical competency items were significantly and positively associated with Q12 scores (all $p < 0.001$). The strongest association was observed between perceived education adequacy (Q11) and medical identity ($r = 0.602$), with this predictor accounting for approximately 36.2% of the variance in Q12 ($R^2 = 0.362$). This finding underscores the central role of educational experience in shaping professional self-perception, although the cross-sectional design precludes causal interpretation.

Among clinical competency items, correlations ranged from $r = 0.374$ (bleeding control; Q10) to $r = 0.530$ (vital sign monitoring; Q6), with all ten items demonstrating statistically significant positive associations with medical identity (all $p < 0.001$; Table 4). These associations are theoretically coherent within the PIF framework, where clinical efficacy experiences may reinforce professional role identification. Directionality cannot be inferred from these cross-sectional data, and latent confounders (e.g., personality traits, career satisfaction) may also contribute.

Table 4
Pearson Correlations: Medical Identity (Q12) and Clinical Competency Items.

Predictor Variable	Pearson r	p-value	R^2 (Variance Explained)
Q1: Acute Emergency Management	0.499	< 0.001	24.9%
Q2: CPR Competency	0.461	< 0.001	21.3%
Q3: Anaphylaxis Management	0.486	< 0.001	23.6%
Q4: Hypoglycaemia Recognition	0.412	< 0.001	17.0%
Q5: IV Access Competency	0.349	< 0.001	12.2%
Q6: Vital Sign Monitoring	0.530	< 0.001	28.1%
Q7: Laboratory Result Interpretation	0.398	< 0.001	15.8%
Q8: Pharmacological Management	0.443	< 0.001	19.6%
Q9: Systemic Disease Knowledge	0.421	< 0.001	17.7%
Q10: Bleeding Control	0.374	< 0.001	14.0%
Q11: Perceived Education Adequacy	0.602	< 0.001	36.2%

All correlations significant at $p < 0.001$ based on Pearson correlation analysis conducted in SPSS v26.0. R^2 values reflect variance in Q12 explained by each predictor independently. Correlation coefficients should not be interpreted as evidence of causal relationships. Given the exploratory nature of this study, no correction for multiple comparisons was applied.

3.5. Multivariate Regression: Predictors of Medical Identity

A multiple linear regression model was estimated with Q12 as the dependent variable. Four predictors were entered simultaneously: Q11, professional status (GP as reference), years of experience, and

gender. The overall model was statistically significant ($F(4,118) = 20.74$, $p < 0.001$, $R^2 = 0.413$, Adjusted $R^2 = 0.393$), indicating adequate fit for an exploratory study in this domain.

Perceived education adequacy (Q11) was the strongest independent predictor ($\beta = 0.54$, $t = 6.50$, $p < 0.001$, 95% CI [0.36, 0.68]), retaining its dominant association even after adjustment for career stage, experience, and gender. Professional status contributed independently: relative to GPs, non-GP respondents demonstrated significantly higher medical identity scores ($\beta = 0.26$, $t = 3.21$, $p = 0.002$, 95% CI [0.24, 0.98]). Years of experience ($\beta = 0.12$, $p = 0.136$) and gender ($\beta = 0.05$, $p = 0.543$) were not significant predictors. These results suggest that the lower medical identity of GPs is associated primarily with perceptions of inadequate medical education, rather than clinical experience or demographic characteristics. Table 5 presents the full model.

Table 5
Multiple Linear Regression: Predictors of Medical Identity (Q12).

Predictor	B	SE	β	t	p	95% CI
(Constant)	0.41	0.39	---	1.05	0.296	[– 0.36, 1.18]
Q11: Education Adequacy	0.52	0.08	0.54	6.50	< 0.001	[0.36, 0.68]
Professional Status (GP ref.)	0.61	0.19	0.26	3.21	0.002	[0.24, 0.98]
Years of Experience	0.03	0.02	0.12	1.50	0.136	[– 0.01, 0.07]
Gender (Female ref.)	0.11	0.18	0.05	0.61	0.543	[– 0.25, 0.47]

$R^2 = 0.413$, Adjusted $R^2 = 0.393$, $F(4,118) = 20.74$, $p < 0.001$. B = unstandardized coefficient; SE = standard error; β = standardized coefficient; CI = confidence interval. Reference: Professional Status = General Practitioners; Gender = Female. All VIF < 2.5. Residual analysis confirmed no major violations of regression assumptions (normality, linearity, homoscedasticity). No influential outliers were detected.

4. Discussion

4.1. Overview of Principal Findings

The present study investigated self-perceived medical identity among dental professionals in Türkiye using a cross-sectional analytical design. The central finding—a moderate but substantially heterogeneous level of medical identity (mean Q12 = 3.02 ± 1.15)—indicates that dentists in this sample do not uniformly identify with the role of a competent medical doctor. The observed variability is clinically and educationally significant, as it suggests that professional identity is not simply an outcome of professional training but is actively shaped by career context and perceived educational preparation. Consistent with prior PIF literature, these results reinforce the conceptualization of professional identity as a dynamic, socially situated construct rather than a stable trait acquired at graduation [16, 17].

The most pronounced finding was the markedly lower medical identity among GPs compared to both students and specialists ($\eta^2 = 0.12$, $p < 0.001$). This pattern is theoretically consistent with the erosion hypothesis—that the procedurally dominated and interprofessionally isolated environment of general dental practice may progressively attenuate the medically grounded professional self-concept cultivated during dental education [10]. This interpretation is reinforced by the convergent finding that GPs also reported the lowest perceived adequacy of medical education (Q11), suggesting a dual dissatisfaction with both their educational preparation and their current professional identity. Importantly, this cross-sectional design cannot confirm whether lower identity in GPs reflects a pre-existing predisposition or a consequence of professional socialization—a distinction that only longitudinal research can resolve.

4.2. Perceived Education Adequacy as a Predictor of Identity

The identification of perceived education adequacy (Q11) as the strongest independent predictor of medical identity ($\beta = 0.54$, $p < 0.001$, $R^2 = 0.413$) constitutes the most actionable finding of this study. This association aligns with established theoretical frameworks in health professions education: when educational experiences are perceived as relevant, comprehensive, and medically grounded, they may serve as formative anchors for a durable professional identity [1, 2]. Conversely, curricula perceived as inadequate may leave graduates without the identity resources needed to maintain a medical self-concept in procedurally focused practice environments.

These findings are consistent with an emerging body of evidence on professional identity in dental education. A recent cross-sectional study by Alsofiani et al. [21] demonstrated that undergraduate dental students prioritized patient-centred values and professional ethics, suggesting that identity formation begins early and is value-driven. Kwon et al. [13] further identified perceived educational environment and faculty role modelling as significant contributors to professional identity among dental students. The present study extends these findings to a practising population, suggesting that the perceived adequacy of pre-graduation medical training may have lasting effects on professional identity well into clinical practice.

This finding has direct curriculum design implications. If dentists who perceived their medical education as adequate report stronger medical identity—even in procedurally intensive practice settings—then ensuring that dental curricula provide sustained, comprehensive, and clinically relevant medical training throughout all years of the programme, including clinical rotations, may be a critical lever for identity formation.

4.3. Career Stage and Professional Identity

The pattern of medical identity across career stages—highest among students, comparable in specialists, and markedly lower among GPs—warrants careful interpretation. Dental students in this study were final-year clinical students with at least two years of supervised patient care experience, and their higher identity scores may reflect the medically integrated environment of dental school, where

systemic disease, emergency management, and interdisciplinary perspectives are more routinely incorporated into curriculum and training. The comparable identity scores between students and specialists may indicate that engagement with complex medical conditions and multidisciplinary collaboration in specialist and academic settings sustains a medically grounded professional identity beyond graduation.

These findings parallel observations in medicine and nursing. Barnhoorn et al. [26] reported that general practice residents experienced identity challenges related to perceived professional marginality, while Monrouxe [22] described identity as a dynamic narrative co-constructed through participation in professional communities. The present findings suggest that dental GPs may occupy an analogous position of relative professional isolation, with limited mechanisms for interprofessional engagement.

Comparative international data support the cross-contextual relevance of these patterns. Rachakonda et al. [23] found significant variation in professional identity across health professions students, with contextual factors—including curriculum design and clinical environment—playing a prominent role. Du et al. [24] and Nagatani et al. [25] similarly identified career stage and educational context as significant determinants of professional identity in dental professionals across different national settings.

4.4. Clinical Competencies and Identity

The statistically significant positive correlations between all clinical competency items (Q1–Q10) and medical identity (Q12) provide additional theoretical coherence to the study's findings. Within the PIF framework, clinical efficacy experiences—particularly in domains directly relevant to medical emergency management—may function as reinforcing cues for professional role identification [1]. Sorenson et al. [27] and Kishimoto et al. [28] demonstrated that simulation-based emergency training improves both competency and confidence in dental practitioners. The present correlational data are consistent with the proposition that such competency development may also reinforce medical identity, although directionality cannot be established from cross-sectional analyses.

Notably, vital sign monitoring (Q6) demonstrated the strongest correlation with medical identity ($r = 0.530$), followed by acute emergency management (Q1, $r = 0.499$) and anaphylaxis management (Q3, $r = 0.486$). This suggests that perceived competency in foundational clinical monitoring tasks may be particularly salient for medical self-identification. These findings could inform targeted skill-building initiatives within dental curricula and continuing professional development frameworks.

4.5. Implications for Education, Interprofessional Practice, and Policy

The findings of this study carry implications across three levels: dental education, interprofessional collaboration, and healthcare policy. In dental education, the present data suggest that curricula should be systematically evaluated to ensure that medical emergency management, systemic disease integration, and clinical reasoning from a medical perspective are embedded throughout all years of training—including clinical years—rather than confined to pre-clinical didactic content. Al-Sebaei [29]

demonstrated that role-play simulations in dental schools significantly improved students' management of medical emergencies, and Kishimoto et al. [28] provided a comprehensive review of simulation-based emergency training models applicable to dental education. These interventional approaches may serve a dual function: building emergency competency while simultaneously reinforcing a medically grounded professional identity.

With respect to interprofessional education (IPE), structured programmes integrating dental and nursing students have demonstrated improved perceptions of collaboration and role clarity [28]. Despite this evidence, current barriers to IPE implementation in dental schools—including curriculum crowding and disciplinary siloing—remain significant [29]. A scoping review of dentists' roles within interprofessional healthcare teams identified structured collaboration models and institutional policies as key facilitators of integration [30]. Narrative reviews further suggest that IPE embedded in dental school curricula from the outset supports the formation of a dually grounded professional identity that is both discipline-specific and interprofessionally competent [31].

From a healthcare policy perspective, the present findings support systemic interventions to strengthen the integration of dentistry within national health systems. In Türkiye, as in many countries, dental services are delivered predominantly through private practice with limited structural integration into the primary care system. Policies facilitating interprofessional practice environments, shared clinical placements, and formal referral pathways between dental and medical practitioners may improve care coordination and reinforce the professional identity of dental practitioners.

For clinicians, strengthening medical identity may translate into improved confidence in managing medical emergencies and enhanced patient safety. This study positions professional identity as a dynamic and modifiable outcome rather than a fixed trait within dental practice, suggesting that targeted educational and structural interventions have meaningful potential to reshape the professional self-concept of dentists across all career stages.

5. Conclusion

This study provides empirical evidence that self-perceived medical identity among dental professionals in Türkiye is moderate in magnitude and substantially variable across career stages. The most salient pattern—markedly lower medical identity among general practitioners compared to dental students and specialists—suggests that the transition from dental education to clinical practice may be associated with an erosion of the medically integrated professional self-concept cultivated during training. Perceived adequacy of medical education was identified as the strongest independent predictor of medical identity, implicating pre-graduation curriculum design as a key leverage point for intervention.

These findings yield actionable implications across three domains. In dental education, curricula should be systematically reviewed to ensure that medical emergency management, systemic disease integration, and interprofessional learning are sustained throughout all clinical training stages—not confined to pre-clinical years. Simulation-based emergency training, structured interdisciplinary

placements, and medically framed clinical reasoning exercises may support the development of a more durable professional identity. In interprofessional collaboration, structured mechanisms for dental-medical integration—including co-managed care pathways, shared case conferences, and interdisciplinary practice settings—should be developed and institutionally supported. In healthcare policy, regulatory bodies and professional associations should consider policies that formally reinforce the medical professional status of dentists, including continuing professional development requirements mandating medical emergency competency maintenance and structural integration of dental professionals into primary and secondary care teams.

The results of this study should be interpreted within the constraints of its methodological limitations, most notably the single-item primary outcome, cross-sectional design, and convenience sampling. Future research should employ validated multi-item professional identity instruments, longitudinal designs, and probability-based sampling strategies. Comparative international studies examining identity variation across different educational systems and healthcare policy contexts would be particularly informative.

Ultimately, the degree to which dentists perceive themselves as medical professionals has direct implications for clinical practice quality, emergency preparedness, patient safety, and the collaborative cohesion of the healthcare workforce. Investing in the conditions that support a strong, medically grounded professional identity in dentistry is an imperative that serves both the profession and the patients it is privileged to serve.

6. Limitations

The present study is subject to several important methodological limitations that must be considered when interpreting its findings.

Single-Item Primary Outcome Measure

The most critical psychometric limitation is the operationalization of self-perceived medical identity as a single Likert item (Q12). Single-item measures inherently possess lower reliability than multi-item scales, as they capture a narrower sampling of the construct domain and are more susceptible to framing effects and random measurement error. Therefore, Q12 should be interpreted as a proxy indicator of identity salience rather than a comprehensive measure of professional identity. Future research should employ established multi-item instruments—such as the Professional Identity Status Inventory or the Macleod Clark Professional Identity Scale—to provide more rigorous measurement.

Self-Report Bias

All data were obtained through self-report questionnaires, which are susceptible to social desirability bias. In professional identity research, this may manifest as overestimation of clinical competencies or

inflated identity scores. This limitation could be mitigated in future studies by including validated social desirability scales or by triangulating survey data with observational or performance-based measures.

Cross-Sectional Design

The cross-sectional design permits only snapshot-in-time observations and precludes the establishment of temporal or causal relationships. It is not possible to determine whether general practitioners entered practice with lower medical identity (selection effect) or whether their identity changed as a consequence of the professional environment (erosion effect). Longitudinal cohort designs would be necessary to characterize the developmental trajectory of professional identity across the career lifespan.

Convenience Sampling and Generalizability

Recruitment through convenience sampling via professional networks carries a risk of self-selection bias. Geographic distribution and institutional affiliations of respondents were not systematically documented, preventing assessment of regional representativeness. The findings cannot be generalized to the full population of dental professionals in Türkiye without reservation, and extrapolation to international contexts should be undertaken with particular caution. Nonetheless, the deliberate inclusion of final-year clinical students and of academically affiliated dentists with active clinical duties ensures that all three participant groups share a foundational characteristic of clinical practice engagement, thereby strengthening the internal coherence of the comparative framework.

Limited Sample Size

The achieved sample size (n = 123) falls below the a priori power estimate for detecting medium-sized between-group differences (estimated n ≥ 156). The student subgroup (n = 34) is particularly small, which may have reduced statistical power in post-hoc comparisons. Results from subgroup analyses should be interpreted cautiously, and replication of larger, more representative samples is strongly recommended.

Absence of Formal Factor Analysis and Psychometric Validation

The 12-item questionnaire was developed de novo and has not been subjected to formal psychometric validation, including exploratory or confirmatory factor analysis, test-retest reliability assessment, or criterion validity evaluation. Future research should prioritize the development and validation of a purpose-designed dental professional identity instrument prior to large-scale deployment.

Absence of Qualitative Data

Professional identity is not fully capturable through quantitative methods alone. The subjective, narrative, and contextually embedded dimensions of professional self-concept are best explored through qualitative methods such as in-depth interviews, focus groups, or narrative inquiry. Future mixed-

methods research would substantially enrich understanding of the mechanisms underlying the patterns observed.

Declarations

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Institutional Review Board Statement: The study was conducted in accordance with the Declaration of Helsinki and approved by the Ethics Committee of Nevsehir Haci Bektas Veli University (Approval No: 2025.12.16, Date: 29.12.2025).

Data Availability Statement: The data presented in this study are available on request from the corresponding author.

Conflicts of Interest: The author declares no conflicts of interest.

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