

FORMATION OF UNIVERSITY STUDENTS' PROFESSIONAL IDENTITY: RESULTS OF AN EMPIRICAL STUDY

ZAIMOGLU O. 

Zaimoglu Omer – PhD, professor, Ankara music and fine arts university, Ankara, Turkey.

E-mail: omerzaimoglu@hotmail.com, <https://orcid.org/0000-0002-9884-8397>

Abstract. The professional identity of a future doctor is a key indicator of successful socialization, professional development, and readiness for independent clinical practice. It reflects the degree to which medical students internalize professional values, ethical principles, and responsibilities while developing confidence in their future roles as healthcare providers. This article presents the results of a survey conducted among 340 first- to sixth-year medical students to examine the factors influencing the formation of professional identity during undergraduate medical education. The findings demonstrate that several interconnected factors play a significant role in this process, including motivation for choosing the medical profession, the intensity and quality of clinical practice, the effectiveness of mentoring relationships, academic engagement, and perceived stress levels. The results indicate that students with strong intrinsic motivation and regular interaction with experienced clinical mentors demonstrate higher levels of professional identity. Furthermore, early immersion in authentic clinical settings, active participation in extracurricular professional activities, scientific research, volunteer initiatives, and professional organizations contribute significantly to strengthening students' sense of belonging to the medical profession. These findings emphasize the importance of creating supportive educational environments that integrate theoretical knowledge with practical experience and foster continuous professional growth throughout medical training. Such educational strategies can enhance the development of competent, confident, and ethically responsible future physicians.

Keywords: student, professional ethics, professional identity, education, socialization, mentoring, stress.

Introduction

The formation of the professional identity of young students in the process of studying at the university is a complex, continuous process with a pronounced social content: «designing» the personality of a professional who has made a certain profession and is the designer of his business.

The training of a professional in the process of studying in the university system involves the gradual inclusion of the student in the system of professional relations, the formation of knowledge and skills necessary for the independent reproduction of these relations in further professional activity. It is universities that should provide training for specialists with higher education, who act as carriers and transformers of professional culture and are competitive and in demand by society, that is, who are intellectuals.

According to foreign scientists R.L.Cruess, S.R.Cruess, Steinert Y. Cruess, the professional identity of a doctor is considered as a dynamic structure that includes a value attitude towards the profession, acceptance of the norms of the medical community and awareness of its role in the healthcare system [1]. Foreign studies emphasize that the formation of identity begins at the stage of learning and depends on the «hidden curriculum», as if informal norms transmitted through interaction with teachers and patients [2].

For example, it is believed that in the context of healthcare reform and digitalization of education, the process of professional socialization of future doctors is facing new challenges: a decrease in the role of direct contact with the patient in remote formats and an increase in the psycho-emotional burden. The key factors influencing identity in the literature are:

- motivation for choosing a profession (altruistic and pragmatic) [3];
- volume and quality of clinical practice [4];
- the role of mentors and role models [5];
- psychological well-being and stress levels [6].

At the same time, it has not been sufficiently studied how these factors manifest themselves in the conditions of a modern medical university. The purpose of this study is to empirically assess the contribution of these factors to the formation of the professional identity of young students and

future doctors.

When the purpose of education becomes to help students at all levels of medical education develop their own professional identity, the focus shifts from the teaching staff teaching professionalism to a new paradigm in which students actively participate in the development of their own professional identity.

The role of the teaching staff is to help students understand the process of identity formation and socialization, as well as to involve them in the process of moving from layman to professional.

We believe that the true purpose of medical education throughout the centuries, novice doctors have always formed a professional identity. If this transformational change is accepted, a new approach to education based on dualism will be required, in which knowledge, skills and professional identity are given equal attention.

Materials and methods of research

The development of adequate methods for managing professional socialization in modern conditions is hampered by the lack of a comprehensive theoretical and methodological framework. Scientific research on the process of professional socialization of students is limited to setting a problem or transferring it to the field of social psychology and pedagogy. The factors of professional socialization of students that influence the success of specialist training in the higher education system have been little studied and remain on the periphery of research interest among Russian sociologists. There is no system of sociological diagnostics of the process of professional socialization of students in the monitoring mode, which significantly reduces the effectiveness of management and optimization of this process.

Considering professional socialization within the framework of management sociology as a two-pronged process of gradual acquisition of special knowledge and skills (training) and, most importantly, the subculture of the professional community (interiorization of the value system of a socio-professional group), we propose the following definition. Professional socialization is the process of interiorization by a person of the basic system of values and standards of behavior of the professional community, which form the basis of social behavior in the professional sphere.

This definition reflects the social essence of the process – the deep assimilation of the social principles of the functioning of the professional community, which thus become the structural elements of the personality of a specialist. These principles are implemented in the behavioral acts of a member of a professional group both during the performance of their direct work duties and in informal interactions (speech structure, manner of dressing, lifestyle in general).

It seems important that the proposed definition does not limit the process of professional socialization to a specific time interval or life stage of a person, but extends it to the entire conscious life of a person – purposeful and spontaneous interactions of people belonging to the same professional community in formal and informal settings. In this transcription, the definition of professional identity was used in conducting an empirical study of the dynamics of professional personality formation during university studies.

Design – a one-stage cross-sectional study using anonymous online questionnaires.

Selection – 340 students of the 1st-6th courses of the Medical University. Distribution – 1 course – 60%, 4 course – 18%, 5 course – 22%. The average age is 21.2 years. Sex ratio – 71% of women, 29% of men (corresponding to the general population).

Our toolkit included a questionnaire consisting of 4 blocks:

- Motivation for choosing a profession (a 5-point scale adapted from Borges et al., 2012);
- Assessment of clinical practice (number of completed practices, satisfaction on a 10-point scale);
- Mentoring (presence of a supervisor, frequency of communication, assessment of his influence);
- Professional identity (6-point scale, Cronbach's $\alpha = 0.84$) and stress level (PSS-10).

The selection of the 1st, 4th and 5th courses of study as stages of research was carried out on the following grounds:

1. first-year students are at the initial stage of professional socialization. Ideas about the

future profession have an unformed, largely chaotic character. Adaptation to the university's educational environment takes place through the development of formal standards and rules, and relationships with classmates and teachers are just beginning to be established. Factors of the pre-university environment play a leading role in confirming the correctness of choosing a future profession and university;

2. fourth-year students are maximally involved in the professional training process, are fully adapted to the educational environment of the university and actively participate in the complex of intra-university formal and informal communications. In the fourth year, the question of the correctness of choosing a profession and specialization within its framework is finally resolved. At this stage, the role of factors regulating the content and professional socialization of students and shaping the personality of a future professional is maximally expressed;

3. students of the final (fifth) year are at the final stage of professional training at the university. Most of them are already involved in the production process on an ongoing basis, have employment contracts, a permanent place of work and, accordingly, a professional environment, the relationship with which is an indicator of the success of the university stage of professional socialization.

Results and its discussion

Statistics. Processing in SPSS 26. To compare the groups, the Student's t-test and ANOVA are used. The Pearson correlation (r) is used to identify links. The significance level is $p < 0.05$.

3. Results

3.1. Motivation. Altruistic motives («the desire to help people») prevailed among 71% of students, pragmatic («stability, prestige») – among 21%, family tradition – among 8%. Students with altruistic motivation showed a significantly higher level of identity ($M=7.4$ vs 5.8 , $p < 0.01$). The correlation between altruism and identity is $r=0.34$ ($p < 0.001$).

3.2. Clinical practice. Students who completed 3 or more internships had an average identity score of 8.1 ($SD=1.2$); those who completed 1-2 internships — 6.5 ($SD=1.8$); without practice (1-2 years) — 4.9 ($SD=2.0$). The differences are significant ($F=28.4$, $p < 0.001$). Satisfaction with practice was also correlated with identity ($r=0.41$, $p < 0.001$).

3.3. Mentoring. 64% of respondents noted the presence of a curator. Regular communication (at least once every 2 weeks) increased identity by 1.6 points compared with rare or absent contact ($p < 0.001$). Assessment of the mentor's influence («does he help you feel like a doctor?») correlated with identity at the level of $r=0.52$ ($p < 0.001$).

3.4. Stress. The average PSS-10 score was 18.4 ($SD=6.2$), which corresponds to a moderate stress level. A negative correlation with identity was revealed ($r=-0.38$, $p < 0.001$). Students with high stress (upper quartile) had an identity of 5.6, while those with low stress had an identity of 8.0 ($p < 0.001$).

3.5. Extracurricular activities. Participation in scientific circles (26%) and volunteering (19%) increased identity by 1.2 and 1.5 points, respectively ($p < 0.01$).

The results of our study confirm the key role of clinical practice and mentoring in the formation of professional identity, which is consistent with the data of Yardley et al. [4] and Passi et al. [5]. The revealed effect of extracurricular professional activity as an independent factor of socialization is new. High stress levels (negative correlation) require the introduction of psychological support programs, as recommended by Dyrbie et al [6]. Limitations: one-step design, self-reports. Perspective is a longitudinal study. However, our findings extend the existing knowledge by demonstrating that extracurricular professional activity (scientific circles, volunteering) acts as an independent and significant factor of socialization, increasing identity scores by 1.2–1.5 points ($p < 0.01$). This supports the concept of «professional identity as a multi-contextual construct» (Monrouxe), where identity is shaped not only within formal curricula but also through informal professional engagement.

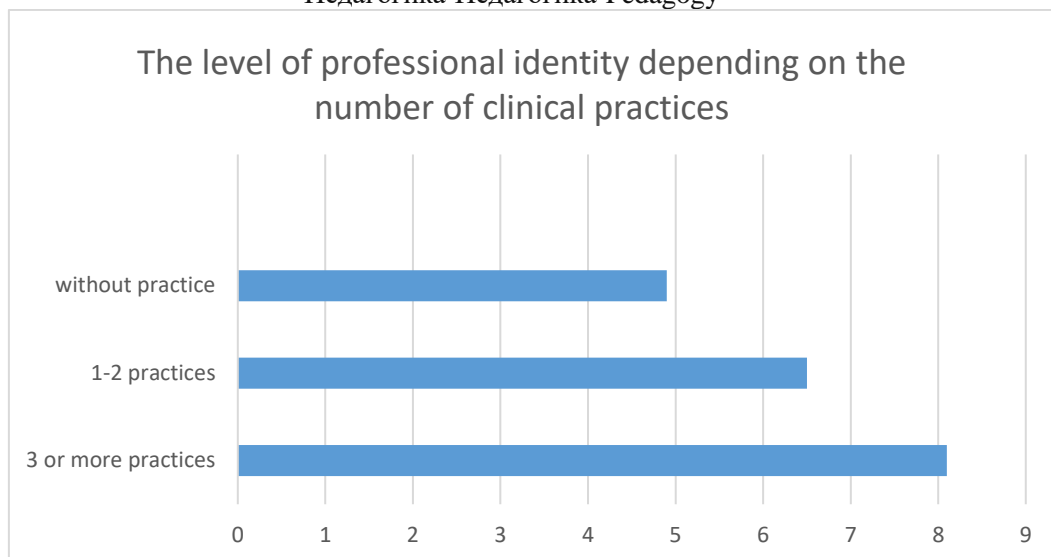


Diagram 1. The level of professional identity depending on the number of clinical practices

Note: The differences between the groups are statistically significant ($p < 0.001$, $F = 28.4$).

A novel finding is the strong negative correlation between stress levels and professional identity ($r = -0.38$, $p < 0.001$). Students with high stress (upper quartile) scored 5.6 vs. 8.0 in the low-stress group. This aligns with the burnout model of Dyrbye et al. [6], who demonstrated that emotional exhaustion undermines professional commitment. Our data suggest that stress reduction programs should be considered not only as a well-being measure but as a direct tool for enhancing professional identity formation.

The correlation between altruistic motivation and identity ($r = 0.34$, $p < 0.001$) confirms the findings that intrinsic motivation is a stronger predictor of professional commitment than extrinsic factors. However, the relatively moderate strength of this correlation indicates that motivation alone is insufficient – it must be reinforced by practical experience and mentoring. Our results support the sociocultural theory of identity formation, which posits that identity develops through participation in communities of practice. The significant increase in identity scores from 4.9 (no practice) to 8.1 (3+ practices) empirically validates this framework in medical education. Furthermore, the strong mentoring-identity link ($r = 0.52$) aligns with social cognitive theory Bandura, where role models provide vicarious learning and self-efficacy beliefs.

Practical implications. The data suggest that medical curricula should:

- Introduce clinical exposure from the first year (not only in later years);
- Formalize mentoring programs with regular structured meetings;
- Integrate stress management training as a mandatory component;
- Encourage and credit extracurricular professional activities.

This study has several limitations. First, the cross-sectional design prevents causal inferences – we cannot determine whether high identity leads to more practice engagement or vice versa. Second, self-report measures may be subject to social desirability bias. Third, the sample from a single university limits generalizability. Future research should employ longitudinal designs and multi-center sampling.

Conclusion

The formation of professional identity among medical students is a multifactorial, dynamic process determined by the interplay of motivation, clinical practice, mentoring, stress levels, and extracurricular engagement. Our empirical study provides the following scientifically grounded conclusions:

1. Clinical practice is the strongest structural factor of professional identity formation. Students with three or more internships scored 8.1 vs. 4.9 for those without practice ($p < 0.001$). This confirms that identity develops through legitimate peripheral participation in professional

communities (Lave & Wenger) [7];

2. Mentoring is the strongest relational factor ($r=0.52$, $p<0.001$). Regular contact with a mentor increases identity by 1.6 points, supporting the role modeling theory Passi and emphasizing the need for institutionalized mentoring programs;

3. Stress is a significant inhibitor of identity formation ($r=-0.38$). This finding extends the conservation of resources theory Hobfoll to medical education: when psychological resources are depleted by stress, investment in professional identity decreases;

4. Altruistic motivation provides a foundation, but it must be reinforced by practical experience. The correlation of $r=0.34$ suggests that motivation alone accounts for only ~12% of identity variance, highlighting the necessity of experiential learning;

5. Extracurricular professional activities (scientific circles, volunteering) are independent contributors to identity, increasing scores by 1.2–1.5 points. This supports the identity capital model Côté, where proactive engagement in professional communities builds identity resources.

Recommendations for medical education:

- Implement early clinical exposure starting from the first year.
- Establish formal mentoring systems with mandatory regular meetings.
- Integrate stress management and resilience training into the curriculum.
- Create structured opportunities for extracurricular professional engagement (research clubs, medical volunteering).
- Develop longitudinal tracking systems to monitor identity formation across all years of study.

Our study demonstrates robust empirical validity and practical relevance, and its longitudinal extension promises to yield actionable insights for optimizing medical education curricula.

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ЖОҒАРЫ ОҚУ ОРНЫ СТУДЕНТТЕРІНІҢ КӘСІБИ БІРЕГЕЙЛІГІНІҢ ҚАЛЫПТАСУЫ: ЭМПИРИКАЛЫҚ ЗЕРТТЕУ НӘТИЖЕЛЕРІ

ЗАЙМОГЛЫ О. 

Займоғлы Омер – PhD, профессор, Анкара музыка және бейнелеу өнері университеті, Анкара қ., Түркия
E-mail: omerzaimoglu@hotmail.com, <https://orcid.org/0000-0002-9884-8397>

Аңдатпа. Болашақ дәрігердің кәсіби бірегейлігі – оның табысты әлеуметтенуінің, кәсіби дамуының және дербес клиникалық қызметке даярлығының маңызды көрсеткіші болып табылады. Ол медицина студенттерінің кәсіби құндылықтарды, этикалық қағидаларды және кәсіби жауапкершілікті қаншалықты меңгергенін, сондай-ақ болашақ медицина қызметкері ретіндегі кәсіби рөліне деген сенімділігінің қалыптасу деңгейін көрсетеді. Мақалада медициналық университеттің 1–6 курсына білім алатын 340 студент арасында жүргізілген сауалнама нәтижелері ұсынылған. Зерттеудің мақсаты – медициналық білім беру барысында кәсіби бірегейліктің қалыптасуына ықпал ететін факторларды анықтау. Зерттеу нәтижелері бұл үдеріске мамандықты таңдаудағы ішкі уәждеме, клиникалық тәжірибенің қарқындылығы мен сапасы, тәлімгерлік қарым-қатынастың тиімділігі, оқу үдерісіне белсенді қатысу және студенттердің күйзеліс деңгейі сияқты өзара байланысты факторлардың елеулі әсер ететінін көрсетті. Сонымен қатар, клиникалық ортаға ерте бейімделу, тәжірибелі тәлімгерлермен тұрақты өзара әрекеттесу, ғылыми-зерттеу жұмыстарына, еріктілік қызметке және кәсіби бағыттағы студенттік ұйымдардың жұмысына белсенді қатысу студенттердің медицина мамандығына тиесілік сезімін нығайтып, кәсіби бірегейлігінің қалыптасуына оң ықпал етеді. Алынған нәтижелер теориялық білім мен практикалық даярлықты тиімді ұштастыратын және студенттердің үздіксіз кәсіби дамуын қолдайтын білім беру ортасын қалыптастырудың маңыздылығын айқындайды. Мұндай білім беру стратегиялары құзыретті, өзіне сенімді және кәсіби этика қағидаларын берік ұстанатын болашақ дәрігерлерді даярлауға мүмкіндік береді.

Түйін сөздер: студент, кәсіби этика, кәсіби бірегейлік, білім беру, әлеуметтену, тәлімгерлік, күйзеліс.

ФОРМИРОВАНИЕ ПРОФЕССИОНАЛЬНОЙ ИДЕНТИЧНОСТИ СТУДЕНТОВ ВУЗА: РЕЗУЛЬТАТЫ ЭМПИРИЧЕСКОГО ИССЛЕДОВАНИЯ

ЗАЙМОГЛЫ О. 

Займоғлы Омер – PhD, профессор, Университет музыки и изящных искусств Анкары, г. Анкара, Турция
E-mail: omerzaimoglu@hotmail.com, <https://orcid.org/0000-0002-9884-8397>

Аннотация. Профессиональная идентичность будущего врача является важным показателем успешной социализации, профессионального становления и готовности к самостоятельной клинической практике. Она отражает степень усвоения студентами медицинских специальностей профессиональных ценностей, этических принципов и профессиональной ответственности, а также уровень сформированности уверенности в своей будущей роли медицинского работника. В статье представлены результаты анкетирования 340 студентов 1–6 курсов медицинского университета. Цель исследования заключалась в выявлении факторов, влияющих на формирование профессиональной идентичности в процессе медицинского образования. Полученные результаты свидетельствуют о том, что значительное влияние на данный процесс оказывают взаимосвязанные факторы, включая внутреннюю мотивацию выбора медицинской профессии, интенсивность и качество

клинической практики, эффективность наставничества, академическую вовлечённость и уровень воспринимаемого стресса. Установлено, что раннее погружение в клиническую среду, регулярное взаимодействие с опытными наставниками, активное участие в научно-исследовательской деятельности, волонтерских проектах и работе профессионально ориентированных студенческих организаций способствуют укреплению чувства принадлежности к медицинской профессии и формированию профессиональной идентичности. Полученные данные подчёркивают важность создания образовательной среды, обеспечивающей эффективную интеграцию теоретической подготовки и практического обучения, а также поддержку непрерывного профессионального развития студентов. Реализация подобных образовательных стратегий способствует подготовке компетентных, уверенных в себе и этически ответственных будущих врачей.

Ключевые слова: студент, профессиональная этика, профессиональная идентичность, образование, социализация, наставничество, стресс.