

Influence of Scholarly Activity on Academic Identity Formation during Pediatric Subspecialty Fellowship: A Pilot Study

BACKGROUND

Academic identity formation (AIF) is the continuous, transformative process of development as physicians pursuing academic careers. Earlier development of strong professional identities through acquisition of knowledge and skills, effective mentorship, and engagement in a community of practice is important, influencing productivity, motivation, and career satisfaction.

Subspecialty training, with its significant scholarly requirements, represents an essential phase of AIF. Yet, our understanding and measurement of AIF during this critical time is lacking.

OBJECTIVES

To pilot a survey-based tool for assessing important domains of AIF, anchored to the scholarship experience, among pediatric subspecialty fellows.

METHODS

Study Design

- Cross-sectional survey study

Study Populations

- Fellows and program directors (PDs) at a single pediatric center, representing 15 subspecialties

Survey Items

- Demographic information and scholarly experience
- Newly developed 46-item AIF scale (Figure 1) based on AIF framework (Figure 2)
 - Self-image
 - Social Recognition
 - Job Satisfaction
 - Social Relationships
 - Attitude Towards Change
 - Professional Competence
 - Expectations About Future

Statistical Analysis

- Descriptive statistics to characterize the fellow cohort, scholarly activity, and AIF responses
- Cronbach alphas to assess internal consistency for the entire scale and within each AIF domain

Figure 1. AIF Scale

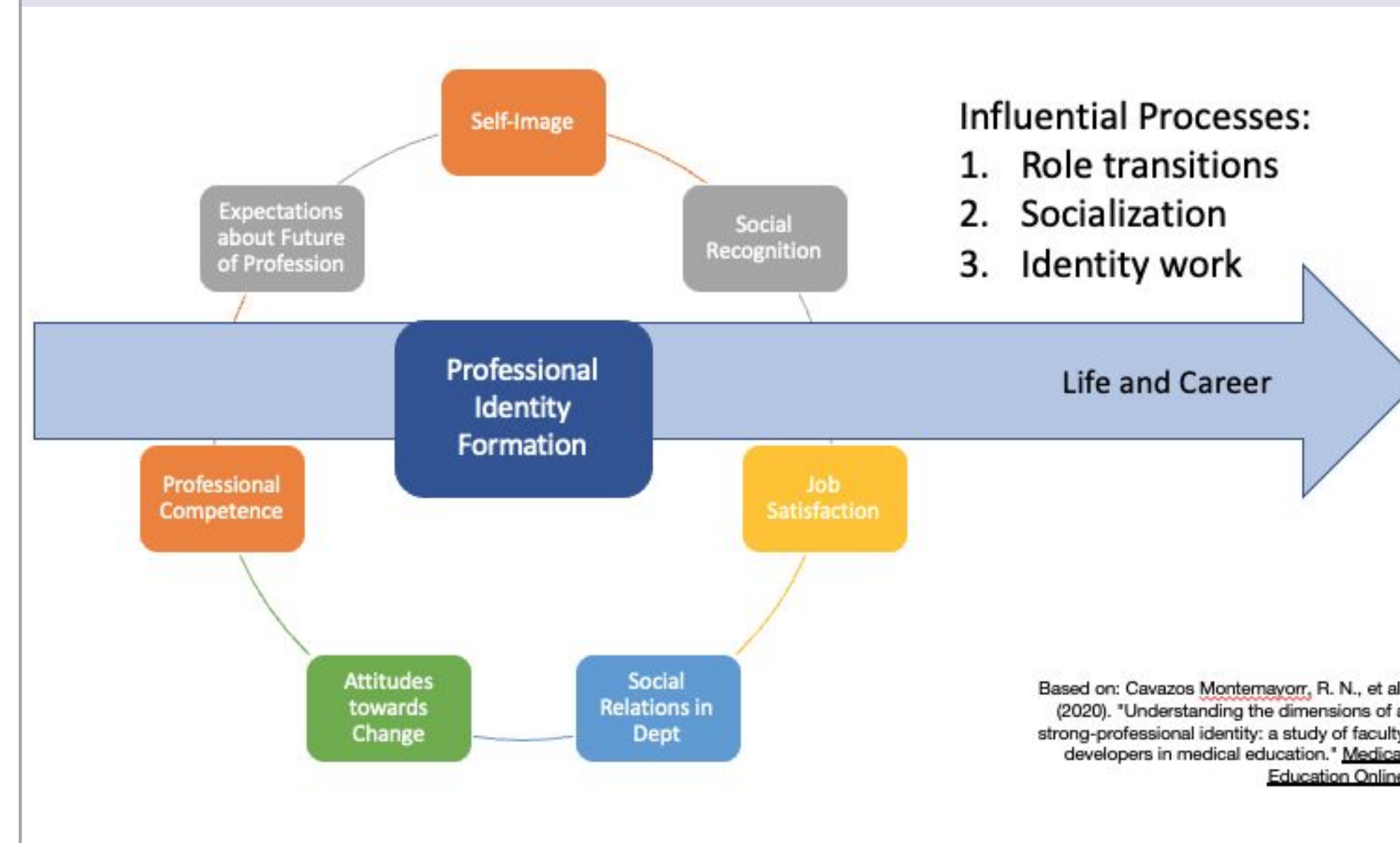


Table 1: Characteristics of Fellow Respondents (N=53)

Subspecialty	N (%)
Adolescent Medicine	3 (6)
Cardiology	4 (8)
Child Abuse	0 (0)
Critical Care	8 (15)
Developmental Pediatrics	1 (2)
Emergency Medicine	4 (8)
Endocrinology	5 (9)
Gastroenterology	6 (11)
Hematology/Oncology	4 (8)
Hospital Medicine	1 (2)
Infectious Disease	2 (4)
Nephrology	0 (0)
Perinatal-Neonatal Medicine	8 (15)
Pulmonology	2 (4)
Rheumatology	3 (6)
Other	1 (2)
Year of Fellowship	
First	21 (40)
Second	16 (30)
Third/Fourth	16 (30)
Gender	
Female	39 (74)
Male	14 (26)
Desired Job Type After Fellowship	
Academic	37 (71)
Non-academic	5 (10)
Undecided	10 (19)
Area of Scholarship	
Basic Biomedical Science	4 (8)
Clinical Biomedical Science	16 (30)
Translational Biomedical Science	8 (15)
Quality Improvement / Patient Safety	7 (13)
Medical Education	7 (13)
Health Services	3 (6)
Bioethics	0 (0)
Public Policy	1 (2)
Other	2 (4)
Undecided	5 (9)

RESULTS

Figure 2: Academic Identity Formation Conceptual Framework



- 53/106 (50%) fellows and 13/15 (87%) of PDs at the University of Colorado completed the survey.
- On average, fellows across all training years did not indicate strong agreement (average rating ≥ 4) in any AIF domain.
- Fellows across all training years had the weakest agreement in the AIF domains of professional competence and expectations about the future with respect to their scholarly area.
- In general, PDs agreed all domains could be strong positive influences of AIF.

Table 2. Average Scores and Standard Deviations* by AIF Domain and Year of Training

Academic Identity Formation (AIF) Domain	1 st Year (n=21)	2 nd Year (n=16)	3 rd + Year (n=16)	All (n=53)
Self-image	3.8 ± 0.7	3.8 ± 0.7	3.9 ± 0.8	3.7 ± 0.5
Social Recognition	3.9 ± 0.2	3.8 ± 0.3	4.0 ± 0.1	3.9 ± 0.2
Job Satisfaction	3.9 ± 0.1	3.8 ± 0	3.8 ± 0.2	3.8 ± 0
Social Relations	3.5 ± 0.3	3.5 ± 0.4	3.8 ± 0.4	3.6 ± 0.3
Attitudes Toward Change	4.1 ± 0	3.9 ± 0.1	3.7 ± 0	3.9 ± 0
Professional Competence	3.1 ± 0.2	3.3 ± 0.3	3.4 ± 0.3	3.3 ± 0.2
Expectations About the Future	3.6 ± 0.4	3.1 ± 0.5	3.2 ± 0.4	3.3 ± 0.4
Total AIF	3.7 ± 0.5	3.6 ± 0.5	3.8 ± 0.5	3.6 ± 0.4

* Responses based 5-point Likert scale: (1) Strongly disagree, (2) Disagree, (3) Neither agree nor disagree, (4) Agree, (5) Strongly Agree; Item responses were averaged across each domain and entire scale.

Table 3. Cronbach Alphas for Entire AIF Scale and Within Each AIF Domain

Academic Identity Formation (AIF) Domain	Internal Consistency (α)
Self-image	0.62
Social Recognition	0.83
Job Satisfaction	0.88
Social Relations	0.88
Attitudes Toward Change	0.81
Professional Competence	0.83
Expectations About the Future	0.49
Entire AIF Scale	0.92

CONCLUSIONS

This pilot study shows AIF can be measured as an overall construct but items for self-image and expectations about the future require modifications to improve internal consistency and ensure meaningful interpretation.

These findings also suggest fellows need more support during their training and scholarly pursuits to promote stronger AIF, particularly with respect to professional competence and expectations about the future related to their scholarly area.