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Professional and interprofessional group identities of final year medical and nursing students

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ABSTRACT

Background and purpose: This small study explores group identification among healthcare students. Identifying with a professional group serves professional identity formation. Social Identity Theory however shows how social identification with a group can result in negative attitudes towards 'out-groups', possibly other health professions.

Method: 276 Final-year nursing and medical students received a questionnaire measuring strength of social identification (SSI) with their professional group and their interprofessional team, and querying their views on interprofessional feedback and who they viewed as team members.

Results: 38 Medical and 15 nursing students responded. Mean SSI differences were found favouring the professional group, statistically significant for the nursing students. Participants had a broad view of their interprofessional team and valued interprofessional feedback.

Discussion and conclusions: Despite the mean SSI differences, final year students' broad perspective of team members and openness to interprofessional feedback suggest that group processes do not hinder the development of inclusive, interprofessional attitudes.

1. Introduction

Professional identity formation and interprofessional collaborative skills are two topics, high on agendas for innovation in health professions education.[1–4] When exploring these multifaceted professional requirements through the lens of Social Identity Theory (SIT),[5] a theoretical approach from social psychology, questions arise whether these two important goals of training may give rise to tension.[6,7]

SIT, with its later extension of Self-Categorization Theory (SCT),[8] explains how humans in social circumstances categorise themselves and the people around them as belonging to social groups. It posits that people can incorporate these social group memberships into their self-concept or "social identity", which is defined by Henri Tajfel, the creator of SIT, as "that part of an individuals' self-concept which derives from their knowledge of their membership of a social group (or groups) together with the value and emotional significance attached to that membership".[9] As a result of social identification, people behave in accordance with the values and norms of the social group they identify with, in particular with the social group which is salient in the social situation at hand. According to SIT, a need for a positive self-esteem drives people to have unconscious psychological strategies to see the group they identify with as the 'in-group', and as more favourable than other groups, the 'out-groups'. Social identification can therefore result in positive attitudes towards in-group members (*in-group favouritism)*

Abbreviations: SIT, Social Identity Theory; SCT, Self-Categorization Theory; SSI, Strength of Social Identification; NVMO, Dutch Association for Medical Education.

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and negative attitudes towards out-group members (*out-group derogation*).[5,6]

A professional group is such a social group.[6,10] A strong identification with members of the professional group can be regarded as beneficial, as a professional is expected to think, act and behave in accordance with the profession's norms and values.[11] However, from the perspective of interprofessional collaboration and learning, a strong mono-professional identity formation may not be beneficial. It can be hypothesised that professionals and healthcare students with a strong professional identity could exhibit lower readiness for interprofessional collaboration and learning, as they will strongly use the perspective from their own professional group in patientcare.[3] This may, for example, mean they would not consider feedback from other professionals on their work as valuable. Also, interprofessional collaboration and learning might be hindered as a result of out-group derogation.[6,12,13]

On the other hand, group processes may also be beneficial to interprofessional collaboration and learning. In an interprofessional team, professionals may come to develop their identities as members of the broader team, including members of different professions as in-group members.[14,15] The literature shows conflicting views regarding this topic.[16] Some authors propose to stimulate team identities as a solution to break through professional silos, others are sceptic whether this is possible, due to the complexity of professional dynamics and differences in status between groups.[6,16]

Similar dynamics will occur for healthcare students who are exposed to interprofessional collaboration during their rotations. In many undergraduate medical and nursing curricula students experience an increase in clinical responsibility, building up to a final year in which the trainees perform clinical tasks approaching the level of a starting postgraduate trainee. This includes authentic exposure to interprofessional medicine-nursing collaboration.

Our study is a small explorative study in which we measure and compare these students' strength of social identification with the own professional group and with the interprofessional team. Though we are interested in students' social identification with the interprofessional team, it is not clear from the literature who exactly students perceive as members of that team. To gain more insight into this, we also collected information on who – of the professionals they encounter during their clinical work - they consider as their team members. Additionally, we collected information on whether they would be open to interprofessional feedback, as we see openness to interprofessional feedback as a positive attitude to interprofessional collaboration and learning.

2. Methods

2.1. Educational context

Our study was conducted at Utrecht University School of Medicine and Utrecht University of Applied Sciences School of Nursing in the Netherlands. The medical school consists of a 3-year bachelor's and 3 year-master's program, both full-time, and has a curriculum which provides learners with early clinical experience (first clerkships in year 3), long clerkships during the final years of training and increasing levels of clinical responsibility during the clerkships. The Utrecht University of Applied Sciences School of Nursing offers a 4 year full-time bachelor level program including clinical rotations as early as the first year, increasing in rotation length and clinical responsibility towards the final year. Variations on the program are possible, depending on the previous nursing work and education of learners. Both the nursing and medical programs inherently include interprofessional collaboration in the workplace. With the exception of the unique feature of early clerkships in bachelor year 3 at the medical school, these educational programs, especially regarding the final year, are overall comparable to other medical and nursing school programs in the Netherlands..

2.2. Participant selection and invitation

In October 2018 all final-year medical and nursing students of Utrecht University School of Medicine and Utrecht University of Applied Sciences School of Nursing respectively, who at that moment had completed a final year clinical hospital ward rotation of eight to twelve weeks in a large training hospital in the region of Utrecht, were invited by email to fill out an electronic questionnaire using Formdesk® (N = 164 medical and N = 112 nursing students).

2.3. Instrument

The questionnaires contained items about biography (age, gender and study program of the student). Furthermore, Cameron's "Three Dimensional Strength of Group Identification Scale"[17,18] was used to measure Strength of Social Identification (SSI). To ensure the Dutch translation of the instrument was still sufficiently equal to the original validated English version of the questionnaire, the scale was translated to Dutch through forward and backward translation by three bilinguals. The authors checked whether the final version of the Dutch translation represented the intended meaning of the original English version of the questionnaire. Previous research has demonstrated reliability and provided validity support for this scale.[17,18] In these studies the items were developed and validity support was gained using mostly student populations, measuring their identification as students or their gender or nationality identification. Since then it has been used in a variety of populations such as organizational, gamer, migrant and sports team identities. This scale has, to our knowledge, not been used previously to measure identity formation in interprofessional education or practice in health care. It consists of twelve statements to be rated on a seven-point Likert scale (1 = completely disagree, 7 = completely agree). The instrument assumes that social identification includes multiple dimensions.[19] The 12 statements have been developed based on a three dimensional model of social identification that stays close to Tajfel's definition of social identity.[9] These dimensions are cognitive centrality (the cognitive prominence of group membership), in-group affect (the emotional evaluation of group membership) and in-group ties (the perception of bonds with other group members).[17] The questionnaire (original version in English) can be viewed in supplement 1. To quantify identification with both groups separately so we could compare them statistically, the scale was presented to each participant twice. First they were asked to rate the statements with the professional group with which they had worked during that rotation in mind (nurses for the nursing students and physicians for the medical students). Next, we asked them to rate the statements regarding the interprofessional team of healthcare professionals with whom they worked in patient care on a regular basis in the same rotation. Finally, students were asked to answer two open-ended questions: "Which professionals do you view as belonging to the interprofessional team?" and "How would you feel about being assessed by or receiving feedback from the members of another profession than your own about your clinical performance?" The online questionnaire was available for two weeks; one reminder was sent after one week.

2.4. Data analysis

Normality of the data was assessed to determine that parametric analysis was suitable. The difference in mean SSI scores of the professional group and interprofessional team was assessed by paired-samples t-tests for the medical and nursing students using IBM SPSS® software version 25. Analysis of the answers to the open-ended questions was performed by CT, SB and TW. First they independently reviewed the data, followed by a discussion with all three authors together. Data on who a participant perceived as team was analyzed by coding the professionals that were mentioned by a single participant as team members at three levels: At level A the participants mentioned doctors and nurses

only; at level B the participant also mentioned one or more members of a paramedical profession (e.g. physical therapists, dieticians); at level C the participant, in addition to professionals from level A and B, also mentioned one or more professionals who could be considered supportive staff (involved in patientcare but not directly 'at the bedside' such as cleaning staff) or management staff (e.g. team manager). Data on whether the participant would consider assessment or feedback from a member of another profession as useful was coded as "positive" or "negative". Next, many participants mentioned reasons for their answer or conditional elements for interprofessional feedback. These were analyzed in an open coding process, followed by axial coding to identify main themes. CT and SB independently analyzed all transcripts, and TW analyzed a subset of the data for analytical rigor purposes.

Ethical approval

The research proposal was approved by the ethical review board of the Netherlands Association for Medical Education (NVMO), file number. Participation was voluntary, informed consent of participants was obtained, and no personally identifiable information was collected. In reporting our findings we used numbers (1-53) followed by N (nursing student) or M (medical student) to distinguish between different participants.

3. Results

3.1. Participant demographics

The questionnaire was completed by 15 nursing students and 38 medical students (response rate 13.4 and 23.2%). Mean ages were approximately representative for the total cohorts of students (mean (SD) 22.7 (2.55) and 25.1 (1.49) for nursing and medical students). The number of participating male students was low but also approximately representative for this cohort. See Table 1.

Mean SSI scores of both groups.

Based on Shapiro-Wilk's test on the difference in SSI scores of professional and interprofessional team ($p > 0.05$ for nursing and $p = 0.042$ for medical) in combination with the sample sizes, and a visual inspection of their histograms, normal Q-Q plots and box plots, the assumption of normality for paired T tests was deemed justified. For the nursing students there was a statistically significant higher mean SSI score for the professional group than for the interprofessional team (Table 2), with a mean difference of 0.64 on a 7 point Likert-scale (Cohen's d is 0.65). For the medical students there was no statistically significant difference, with a mean difference of 0.29 (Cohen's d is 0.32).

3.2. Professionals perceived as 'team members' by the participants

In analyzing the answers to the open-ended question "Which professionals do you view as belonging to the interprofessional team?" we found three levels of extensiveness. By grouping these responses according to their 'level of extensiveness' we attempted to indicate the differences in broadness of view participating students had of who did and who did not belong to their interprofessional team. A lower level meant students were less inclusive in their view whilst a higher level meant they saw many different types of professionals as part of their team. All participants mentioned (a) several types of physicians and nurses (Fig. 1). We considered this to be the first level of extensiveness. Many respondents (b) also included several paramedical professionals aside from those physicians and nurses. We considered this to be the second level of extensiveness. Finally, many respondents additionally included (c) supportive personnel. By 'supportive personnel' we mean professionals who are not involved at the direct care 'at the patient's bedside' but who have supportive or management roles on the hospital wards.

Table 1
Participant characteristics.

			Nursing	Medicine
Participants	(Total n = 53)	*n (%)*	15 (28,3)	38 (71,7)
Gender	Female	*n (%)*	14 (93,3)	29 (76,3)
	Male	*n (%)*	1 (6,7)	9 (23,7)
Age		*Mean (SD)*	22,73 (2,549)	25,05 (1,488)
In final year clinical rotation	During data collection	*n (%)*	15 (100)	9 (23,7)
	<3 months prior to data collection	*n (%)*	–	14 (36,8)
	3–8 months prior to data collection	*n (%)*	–	15 (39,5)

Table 2
Within group Strength of Social Identification (SSI).

		Professional	Interprofessional	p-value
Medical	Mean (SD)	5.16 (0.77)	4.87 (0.76)	0.055
N = 38	Mean difference (SD)	0.29 (0.91)		
	95% CI, Cohen's d	(-0.01; 0.59), 0.32		
Nursing	Mean (SD)	5.15 (0.62)	4.51 (0.62)	0.025[a]
N = 15	Mean difference (SD)	0.64 (0.98)		
	95% CI, Cohen's d	(0.10; 1.18), 0.65		

[a] = $p < 0.05$.

3.3. Participants' attitudes towards interprofessional feedback

In their reactions on the open-ended question "How would you feel about being assessed by or receiving feedback from the members of another profession than your own about your clinical performance?" almost all participants (N = 49, 92.5%) indicated they would value being assessed by or receiving feedback from the members of the interprofessional team other than from their own profession. They mentioned it would be "useful", "a good idea", "informative", "good" or other reflections of a positive attitude. Some of them indicated they had

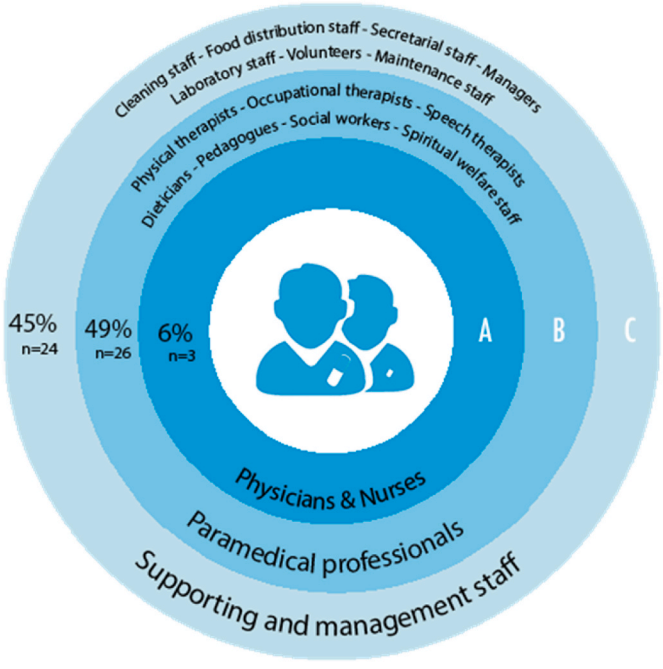

Fig. 1. Three levels of interprofessional team extensiveness as mentioned by the participants with examples of mentioned professionals *Intended for color reproduction on the Web.* (For interpretation of the references to color in this figure legend, the reader is referred to the Web version of this article.)

already taken the initiative to ask for interprofessional feedback. Although not specifically asked for, many participants gave reasons for their positive attitude towards feedback from members of another profession. Many explained that they thought or experienced that interprofessional feedback could give insights on their functioning from a different perspective, or could give useful feedback on specific skills such as teamwork and communication. For example they mentioned: *"I would like that! I think you can learn a lot from it, because you would also get feedback on other aspects than those your own professional group pays attention to." #36 N* - A few participants mentioned conditions they viewed as necessary: as main themes we found they consider the interprofessional feedback would only be useful when provided by someone with whom they had enough contact during work. And the feedback providers would need to be familiar with the expected level of expertise of the learner. Also, final assessments should be done by someone from their own profession. Only two participants expressed they would not consider interprofessional feedback necessary or would "find it difficult" without specifying. One just said "*Not a good idea. Not necessary.*", the other explained why: *"Not always the right view, for they probably aren't clear about what they should be assessing me on. Besides, for doctors, for example, it would be difficult to assess me because they might expect me to think at their level of expertise." #19N-*

4. Discussion

As we proposed earlier, a strong identification with the professional group could theoretically hinder students' readiness for interprofessional collaboration.[3,5,6] In this first exploration among final year healthcare students we found relatively small differences between strength of identification with professional and interprofessional groups, favouring the professional group. Although this was significant for the nursing students only, we found a substantial overlap in the confidence intervals of the differences for the nursing and the medical students. This implies that the observed dissimilarity in the differences in how medical and nursing students identify with both groups could be coincidental. If there is an actual difference, we can speculate about the cause. It may be that nursing students feel a stronger connection with their professional group as the daily work of a nurse involves more working as a team with the other nurses primarily. It would also be interesting to explore whether hierarchical or group status differences between medical and nursing students may play a role.

The group that students perceive as 'interprofessional team members' includes a wide variety of colleagues who collaborate in patient care. The vast majority of participants included paramedical personnel in addition to physicians and nurses. Many also mentioned supportive personnel and management. These findings suggest that students have a broad/inclusive perspective of their interprofessional team. An aim of our study was to gain insight into how students' social identifications may affect their views of working in an interprofessional team in practice. They apparently consider many different professionals as their interprofessional team members. On the one hand, we think this broad perspective could be seen as a sign that the students are very aware that good patientcare is a result of team performance. A result of a process with many professionals involved, not only from their own profession or the ones they meet 'at the bedside' regularly, but also supportive personnel. On the other hand, it would be interesting to learn what such a wide definition of this group means for students' readiness to see the interprofessional team as an in-group. It is known that individuals create a hierarchy for their multiple social identities. This 'ranking' of the multiple social identities by the individual determines the probability of a single identity to become salient in a given context.[10] This has implications for interactions with in-group and out-group members. Being a physician or a nurse, and being a member of an interprofessional team of healthcare workers are related group identities, as they are 'nested'. This means one identity (being a nurse) is nested within the other identity (being a team member of a healthcare team), the latter being more inclusive.[10] Lower-order identities are more proximal to the individual, are salient more often, and therefore have more impact in daily life. It could be that when the interprofessional team is defined more exclusively, with a smaller range of members, it would make this team identity more accessible.

We also learned that, while identifying stronger with the professional group than with the interprofessional group, students are open to feedback from other professionals. Though based on merely a slight difference in identification, we consider this informative as it indicates that stronger in-group identification with members of the professional group does not seem to lead to a less favourable attitude towards learning from members of the interprofessional healthcare team. Students especially value the possibility to receive feedback about competencies on which their own supervisors would not have a clear view, namely teamwork skills like interprofessional communication. Students also mentioned conditions under which interprofessional feedback should occur, such as: the feedback givers should have enough opportunities to observe and be familiar with the training program of the receiver to know what their expected level of expertise could be. These reflect themes found for residents perceptions of interprofessional feedback.[20]

One limitation is that our study was conducted among students of one medical and one nursing school. Other schools and other countries may show different findings. In the European health care system, professionals providing health related services, such as physical therapist and dieticians, are part of regular hospital based care. Medical and nursing students from The Netherlands therefore have the opportunity to interact with these professionals during their rotations which may lead them to perceive these professionals as team members more easily, thus leading to a more positive attitude concerning these other health professionals. This may be different in countries with different health care systems. Another important limitation is the low response rate and the possible bias this brings. Participation was voluntary, which may have attracted students already open to interprofessional learning or more aware of group processes in the workplace. We collected participants' answers anonymously, however there may still be some socially desirable responses. We also defined the professional group as the group of all nurses for the nursing students and all physicians for the medical students with whom they work (ed) during their (latest) rotation. We considered this to be clear to the participants. For future use, we would now consider defining this more broadly, as the professional group one comes to identify with is not limited to the few professionals at one specific department.

This study is a small explorative study. The findings suggest that group processes do not hinder interprofessional collaboration in final year medical and nursing students. With publication of the findings we aim to highlight the possible effects of group processes on interprofessional learning and contribute to the discussions regarding professional identity formation and its consequences for interprofessional learning. Furthermore, it would be interesting to find out how the strength of social identification with both the professional group and the interprofessional team develops over the years as the experience of health care professionals grows.

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Ethical approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. The research proposal was approved by the ethical review board of the Netherlands

Association for Medical Education (NVMO), file number.

Informed consent was obtained from all individual participants included in the study.

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CRediT authorship contribution statement

Sjoukje van den Broek: Conceptualization, Methodology, Formal analysis, Investigation, Writing - original draft, Visualization. **Claudia Tielemans:** Conceptualization, Methodology, Formal analysis, Investigation, Writing - original draft, Visualization. **Olle ten Cate:** Conceptualization, Methodology, Writing - review & editing, Supervision. **Cas Kruitwagen:** Conceptualization, Methodology, Formal analysis, Writing - original draft, Writing - review & editing, Visualization. **Tineke Westerveld:** Conceptualization, Methodology, Formal analysis, Writing - original draft, Writing - review & editing, Supervision.

Declaration of competing interest

None.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.xjep.2020.100392.

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