

A two-week stay in an Interprofessional Training Unit changes students' attitudes to health professionals

FLEMMING JACOBSEN¹ & SUSANNE LINDQVIST²

¹*The Interprofessional Training Unit, Clinic of Orthopaedics, Holstebro Region Hospital, Denmark, and*

²*Centre for Interprofessional Practice (CIPP), Faculty of Health, University of East Anglia, Norwich, UK*

Abstract

Attitudes amongst health professionals can impact on the effectiveness of teamworking and patient care. Interprofessional education (IPE) is thought to contribute to the development of positive attitudes. An Interprofessional Training Unit (ITU) was set up to create an optimal learning environment for healthcare students. Students' attitudes were assessed, using a version of the Attitudes to Health Professionals Questionnaire (AHPQ) that had been translated into the students' native language. This paper describes the process undertaken to obtain a trustworthy translation. One hundred and sixty two students from occupational therapy, physiotherapy, medicine and nursing completed the questionnaire before and after their stay at the ITU. Their responses were analysed in relation to the constructs "caring" and "subservient" from the validated English version of AHPQ. Echoing earlier studies elsewhere, at the beginning students viewed doctors as being the least "caring" and the least "subservient" professional group. Nurses were seen by the students as being the most "caring" and the most "subservient" profession. After the ITU experience students viewed most professions as more "caring" and less "subservient", apart from doctors, who were seen as being more subservient after the ITU experience. This study indicates that an IPE initiative such as the ITU can impact positively on students' attitudes and that the translated AHPQ can be used to monitor this attitudinal change.

Keywords: *Interprofessional, education, healthcare, attitudes, stereotypes, Attitudes to Health Professionals Questionnaire translation*

Background

Interprofessional education (IPE) occurs when two or more professions learn with, from and about each other to improve collaboration and quality of care (The UK Centre for the Advancement of Interprofessional Education [CAIPE], 2002). The importance of introducing opportunities for undergraduate IPE has been increasingly emphasized over the last 30 years to encourage collaboration in healthcare (Barr, Koppel, Reeves, Hammick, & Freeth, 2005). Amongst the several reasons for considering IPE to be an important part of the curriculum, avoiding the development of negative stereotyping is one.

Correspondence: Flemming Jacobsen, Project Manager, MPH, Clinic of Orthopaedics, Holstebro Region Hospital, Lægårdvej 12, 7500 Holstebro, Denmark. Tel: +45 99126110. Email: hecfbj@ringamt.dk

ISSN 1356-1820 print/ISSN 1469-9567 online © 2009 Informa Healthcare USA, Inc.
DOI: 10.1080/13561820902739858

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Stereotypes can be defined as beliefs about the characteristics, attributes and behaviour of certain groups (Hilton & von Hippel, 1996). Although not necessarily negative in nature, stereotypes about out-group members (members of groups to which we perceive we do not belong) are more likely to have negative connotations than those relating to in-group members (members of groups to which we perceive we belong).

Previous studies have shown that healthcare students hold stereotypical views of each others professions and that these views are often more positive when comparing the in-group to the out-group. For example (Streed & Stoecker, 1991) showed that physiotherapy and occupational therapy students described the other profession as being conservative and conventional, while the perception of their own profession was more positive. According to work carried out by Carpenter (1995), negative stereotyping also exists between medical and nursing students. Should these negative views impede collaboration between healthcare professionals, reduced quality and efficiency of patient care may be the end result, furthermore Zwarenstein & Bryant (2000) suggested that if doctors, nurses and other healthcare professionals made joint care decisions and worked more effectively together, the average length of hospital stay could be shortened and hospital charges reduced.

Various IPE initiatives for undergraduate students have been presented in the literature, some of which have taken place in clinical practice. Examples of undergraduate practice-based settings include the training wards in Linköping and Stockholm, where students from different healthcare professions work together for a period of two weeks and examine, care and rehabilitate patients (Fallsberg & Hammer, 2000; Mogensen, Elinder, Widstrom, & Winbladh, 2002). These initiatives have involved not only the challenges involved in introducing the training ward itself, but also the barriers associated with participants working across higher education and the healthcare settings.

Implementing new ways of training students that involve contact with patients and new ways of working together across the normal professional and organizational borders requires continuous monitoring of patient outcomes in terms of their health, satisfaction and length of stay. This is to ensure that the quality of care, treatment and rehabilitation provided is at least at the same level as the one given in a "normal" ward. In addition the experience of learners/students needs to be investigated in parallel to evaluating the patient experience. As addressed earlier one parameter, which is of interest in this context, is students' interprofessional attitudes. Their attitudes can be assessed at the outset and the end of an intervention to investigate how attitudes change in relation to the time they spend working together. The Attitudes to Health Professionals Questionnaire (AHPQ) (Lindqvist, Duncan, Shepstone, Watts, & Pearce, 2005) is a validated tool that can be used for this purpose. The AHPQ was developed with the aim of understanding differences in attitudes between healthcare professional groups, and evaluation of attitudinal change over time. The term "attitude" in the title of this measure is defined as an indicator of how people make sense of their experience (Eiser, 1997).

With inspiration from the Swedish interprofessional training wards, an Interprofessional Training Unit (ITU) was set up in collaboration between one hospital and two higher education institutions in Denmark. As part of the evaluation of the IPE taking place in an ITU, students' interprofessional attitudes were measured using a version of the AHPQ translated into the students' native language Danish. This paper describes the ITU and the students' learning experience there. It also shows students' attitudes of their own and other professions, both at the outset and at the end of their time at the ITU, as measured with the translated version of the AHPQ.

Methodology

The Interprofessional Training Unit (ITU)

The ITU is part of a normal orthopaedic ward at the Holstebro Regional Hospital, Denmark with 36 beds out of which the ITU has eight beds distributed between two rooms. The ITU has its own administrative office and meeting rooms for those participating in the intervention.

Participants

From 1 September 2006 until 15 June 2007, 169 students from nursing (69), occupational therapy (29), physiotherapy (31) (all in their 4th to 6th semester) and medicine (33) (from their 8th semester) worked together as professionals in the ITU over a period of two weeks.

The intervention

Students worked during a morning and an afternoon shift that included overlap for handover from one team to another and where the students had time for reflection, teaching and administrative tasks. To ensure patient safety and an optimal learning environment, tutors from each of the participating professions supported the students throughout their two-week stay in the ITU. Aims for the students included for them to examine, care and rehabilitate the patients using a "well functioning clinical pathway"; understand and strengthen their individual professional role; understand other professionals' role; and collaborate interprofessionally.

Measure to assess interprofessional attitudes

Brief description of the assessment tool. The Attitudes to Health Professionals Questionnaire (AHPQ) contains 20 items, each consisting of two opposite attributes. Each part of the item serves as verbal anchors for each end of a 10 cm visual scale. The AHPQ is divided into a number of sections, with the same 20 items in each section representing a different healthcare profession. The questionnaire contains four sections, one for each of the four professions participating in the intervention and each student is asked to indicate where s/he thinks a member of the profession in question fits on the 10 cm scale.

When the questionnaire was developed all items were exposed to a mathematical procedure called principal component analysis. Following this it became clear that the items measure two different dimensions termed: "caring" and "subservient". Examples of items in the "caring" dimension include: empathetic; approachable; and values teamwork. Examples of items in the "subservient" dimension include: assertive; values autonomy; and technically focused. For a detailed description of the AHPQ please see the full paper (Lindqvist et al., 2005).

Process of translating the AHPQ from English to Danish. The AHPQ was translated into Danish following a procedure described by Beaton and colleagues (Beaton, Bombardier, Guillemin, & Ferraz, 2000). Two people, with Danish as their native language, independently translated the AHPQ into Danish (one of these was familiar with the measure, the other was not). The outcome of this initial translation was discussed between the two translators until consensus was found, resulting in a common version of the Danish AHPQ. The next step included two back translations performed by Danish people, but with English as their native

language (both were unfamiliar with the tool). A telephone conference between the four translators and the developer of the questionnaire was held with the purpose of validating the first draft of the Danish AHPQ. Following this process a revised draft of the AHPQ was administered to a group of healthcare students. The purpose of this was to confirm that the students understood the intended meaning of the translated words. A "think aloud interview" was performed (Billings-Gagliardi, Barrett, & Mazor, 2004). This exercise identified a word, which the translators thought was commonly used in the Danish language, but which was shown not to be understood by the students. The word was "assertive". To solve this problem, a short explanation in Danish was added in conjunction to the word "assertive".

Data collection and analysis

The translated AHPQ was administered on two occasions, at the outset of the students experience at the ITU and after the two-week experience. Data were collated by measuring the 10 cm scale using a conventional ruler. Data were inputted in Epidata as centimetres with one decimal and analysed using Excel and SPSS 13.0.

Levels of significance of differences within groups and changes from before to after intervention were estimated using paired samples t-test. Levels of significance of differences between groups were calculated using One-Way ANOVA. Results were considered significant at $p < 0.05$.

Results

Completion of the Danish version of the AHPQ

A total of 162 students completed the translated AHPQ including: 29 occupational therapy students from 4th –6th semester; 31 physiotherapy students from 4th –6th semester; 69 nurse students from 6th semester; and 33 medical students from 8th semester. Seven missing students were absent on the final day of their stay in the ITU and did not respond to written reminders. Students used, on average, 7–8 minutes to answer 80 items (four sections with 20 items in each). Missing answers ($< 0.16\%$ of all given answers) were replaced by the mean value of the answer from other students from the same profession.

Comparing students views of different healthcare professionals

When considering students' views as a whole both before and after the stay at the ITU, students viewed doctors as the least "caring" followed by the physiotherapists, occupational therapists, and finally nurses who were seen as the most "caring" (Figure 1). Differences between how students perceived the four professions before their stay in the ITU are significant (One-way ANOVA). The same relationship between students' views of the professions was observed when looking at the "subservient" axis, as students perceived nurses as the most "subservient", followed by occupational therapists, physiotherapists and finally doctors who were seen by the students as the least "subservient" (Figure 1). These differences, observed at the outset of the intervention, were also significant (One-way ANOVA).

Figure 1 shows that students' views changed after the two-week stay in the ITU. Students' viewed all professionals as more "caring" after working together for two weeks at the ITU. Students' views about doctors showed the greatest change on the "caring" dimension.

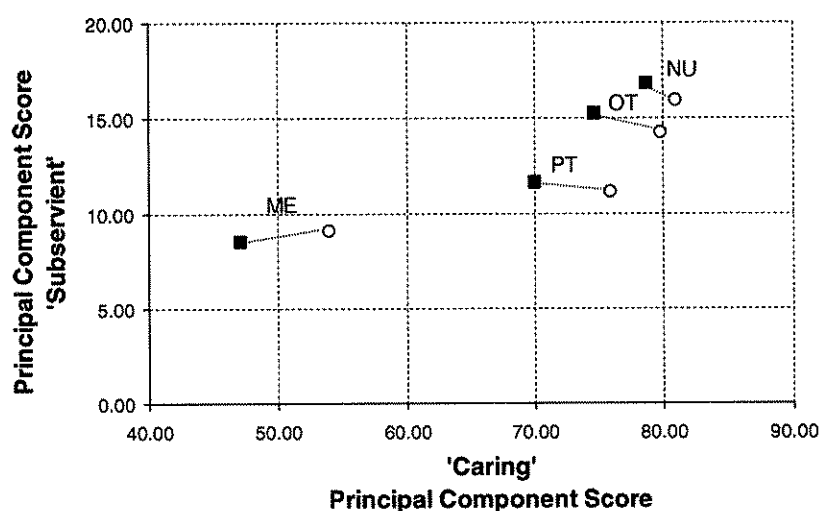


Figure 1. Students' views of the four healthcare professions involved in the Interprofessional Training Unit, before and after the intervention. The figure shows average principal component scores of what all the students thought of as a "typical" Occupational Therapist (OT), Physiotherapist (PT), Medical Doctor (ME) and Nurse (NU) with regard to how "caring" and "subservient" they were. The x-axis shows "caring" scores and the y-axis shows "subservient" scores as calculated using data obtained from the AHPQ before (■) the ITU and after the ITU (○).

Doctors were seen as more "subservient" whilst physiotherapists, occupational therapists and nurses were viewed as being less "subservient". All these changes were significant (Paired samples t-test).

Investigation of the attitudes to each of the four different professions

General observation. Figure 2 illustrates that each professional group viewed members of their own profession as more "caring" than students from other professional groups. The figure shows that the stay in the ITU did not change each profession's view of itself very much though the greatest change was observed for the medical students' views of how "caring" doctors are.

The results presented in Figure 2 suggest that students came to better appreciate the "caring" aspects of each other's role after the stay in the ITU. Results also show that the nurse students were the group that changed their attitudes to other professions most. However, despite this change in attitude to become more "caring", the pattern remains very similar, with medical doctors being positioned in the south western area of the diagram while members from the three other professions were mainly in the north eastern part of the diagram (which can also be seen in Figure 1).

Students view of a "typical" occupational therapist. Students' view of an occupational therapist (OT) before their stay in the ITU differed between student groups (Figure 2a). The occupational therapy students found members of their own profession significantly more "caring" than the other three student groups perceived an OT. On the "subservient" axis the occupational therapy students viewed an OT as significantly less "subservient" than they were seen by physiotherapy and medical students. Occupational therapy students' views of how "subservient" an OT is, was similar to that of the nursing students. After two weeks in the ITU, other student groups found OT's significantly more "caring". Physiotherapy students found an OT significantly less subservient after the stay in the ITU than before.

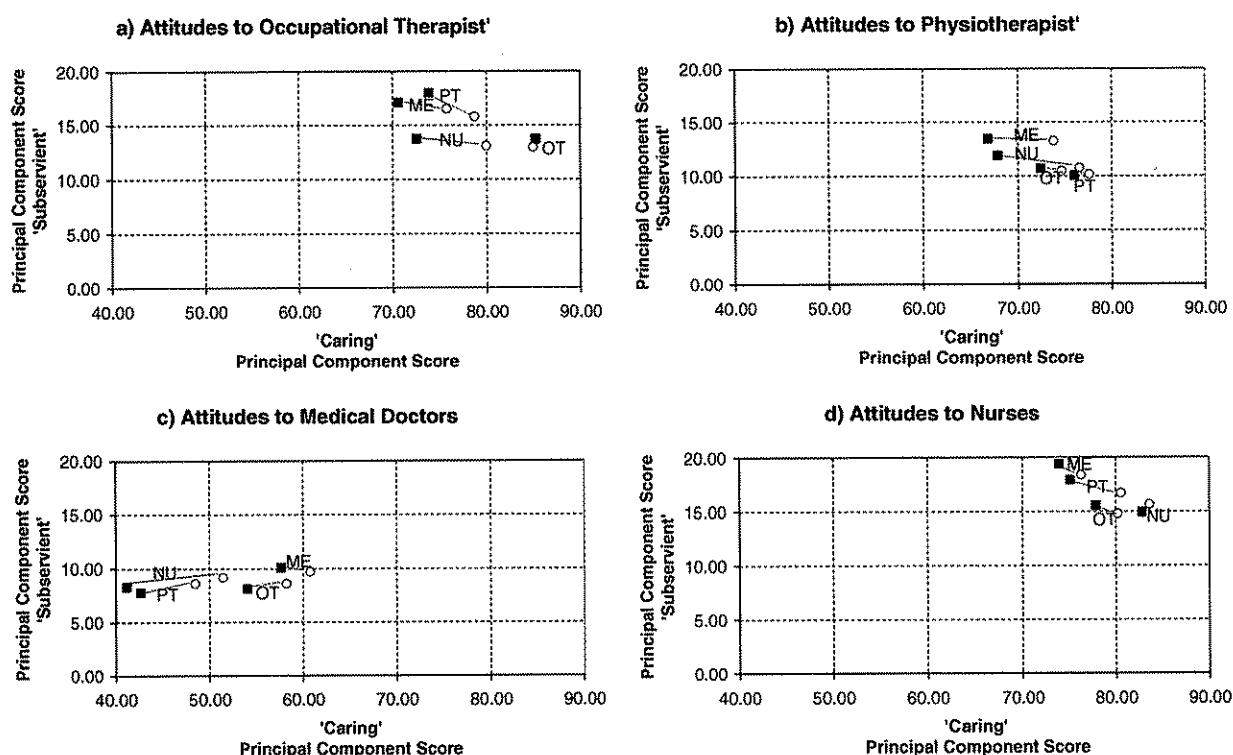


Figure 2. The four student group's views on each profession. The figure shows average principal component scores for each professional group of students to illustrate their views before (■) and after (○) their two-week stay in the ITU of a "typical" (a) Occupational Therapist (OT); (b) Physiotherapist (PT); (c) Medical Doctor (ME); and (d) Nurse (NU). The x-axis shows "caring" scores and the y-axis shows "subservient" scores as calculated using data obtained from the AHPQ.

The occupational therapy students did not change their opinion on the "caring" dimension but found members of their own profession to be slightly – yet significantly – less "subservient" after the intervention (Figure 2a).

Students views of a "typical" physiotherapist. Before participating in the intervention at the ITU physiotherapy students found a physiotherapist (PT) more "caring" and less "subservient" than the three other groups perceived members of this profession to be (Figure 2b). After their time in the ITU no significant change was observed in how occupational and physiotherapy students viewed a PT, but medical and nursing students perceived a PT to be significantly more "caring" after the stay in the ITU. Furthermore nursing students viewed a PT significantly less subservient after the stay in the ITU.

Students views of a "typical" doctor. The medical students saw members of their profession to be more "caring" and more "subservient" than the three other groups of students did (Figure 2c). After their time in the ITU all groups significantly changed their views of how "caring" a doctor is. On the subservient axis a significant increase is observed in how nursing students perceived doctors as being "subservient".

Students view of a "typical" nurse. Before the stay at the ITU, the nursing students found members of their profession to be more "caring" and less "subservient" than the three other professions did (Figure 2d). After their experience in the ITU, there was a significant change in how physiotherapy students viewed nurses on the "caring" axis. After their time at the

ITU medical and physiotherapy students saw nurses as being significantly less “subservient” whereas the nursing students perceived a nurse as being significantly more “subservient”.

Discussion

This paper shows that an interprofessional intervention, involving students working in an interprofessional training unit (ITU) with real patients for a period of two weeks, can help students develop more positive attitudes towards other healthcare professionals. It also describes the successful translation of the Attitudes to Health Professionals Questionnaire (AHPQ) into Danish.

Comments about the assessment tool

When translating a questionnaire from one language to another (in this case from English into Danish) one needs to be aware of some pitfalls. For example, it is important to consider the original meaning of a word; if it is a phrase/word based on experience, or a particular concept and so on. During the process of translating the AHPQ for this study, a short explanation to the word “assertive” was included. With this addition to the questionnaire the students completed the questionnaire fairly quickly and without any apparent problems providing interesting data related to interprofessional attitudes. Although this project further validated the original tool in terms of showing very similar relation between students’ interprofessional attitudes as shown previously (Lindqvist et al., 2005), the authors appreciate that a complete re-validation and recalculation of the original principal component scores in this new setting needs to be undertaken before extending this project.

Students’ collective views of healthcare professionals

According to Figure 1 students’ views, of how “caring” and “subservient” an occupational therapist, physiotherapist and nurse are, are clustered together. Members from these professions are viewed as significantly more “caring” and “subservient” than a doctor. One explanation to this discrepancy may be related to cultural heritage as historically, doctors are thought of as men with the power to make decisions and who are used to being obeyed (Warelow, 1996). Since the occupational therapy, physiotherapy and nurse profession still comprise more women they may be seen as more “caring” for this reason. Although, this argument may change as more women become doctors. Despite being very important this discussion will not focus on the relevance of gender distribution within each profession in development of stereotypical views, its impact on attitudinal change, interprofessional working and patient care.

Another reason for the observed differences in how students perceive the professions as being “caring” and “subservient” (Figure 1) may be related to doctors often being regarded as the team leaders. Doctors are often seen as the ones who need to make the difficult decisions (Sweet & Norman, 1995; Warelow, 1996; Whitehead, 2007) and therefore they may be perceived as less “caring”. Interestingly, the greatest change of students’ attitudes before and after their stay in the ITU is observed for their views of how “caring” doctors are. This is likely to be a result of students arriving with certain stereotypes of doctors that simply did not fit with what they observed during their time at the ITU. Similarly, after participating in the intervention, the students viewed doctors as being more “subservient” whilst the other professions were seen as less “subservient”. This may be a positive trend as students develop a more balanced view that fits with the reality they experienced during this

intervention. It is possible that, reflecting on this, they may take these improved attitudes into their working lives as qualified healthcare professionals. How these changes relate to each professional group becomes clearer when looking at the results in more detail.

Different groups of students and their views of healthcare professionals

All four student groups perceive members of their own profession as being more "caring" than the other student groups do (Figure 2). This is true for the results obtained both before and after a two-week stay in the ITU showing that the rank order between students' views of the four professions remains the same. However, when looking in detail how each of the student groups sees members of the four professions, a trend has become apparent showing that students' views towards these professions are more similar after the stay in the ITU with the smallest changes observed when assessing students' view of their own professional group ITU (Figure 2a-d). This suggests that ITU provides a learning environment where the students begin to see members of other professions as more like members of their own profession in respect of the core concepts measured in this study: caring and subservience.

This environment may be created by students having equal status within the ward and during team meetings. Moreover, students at the ITU also have a common goal: to give the patients in this student-led ward the best care and treatment. In order to reach this goal interdependent effort must be applied without competition between groups. Support from the tutors, with explicit social and professional respect is vital in this process. The physicians, as clinical teachers and mentors for the students, are likely to have an impact on students' values, attitudes and behaviour and thereby contribute to students' change of attitudes (Parsell & Bligh, 2001). This was observed by the medical students, who view doctors as more "caring" after their time in the ITU (Figure 2c). Similarly, the quiet, calm and supportive approach by the clinical associate professors are likely to partly explain the big change in how nursing students view doctors as being more "caring" and more "subservient" after the intervention (Figure 2c). An additional explanation of this observation can be that the nurse students worked closely together with medical students during team meetings held during their stay at the ITU. This provides a safe learning environment where all the students are "in the same boat" and this is likely to contribute to change in students' attitudes. Some attitudinal changes depicted in Figure 2 appear small, but we believe that small changes are realistic and important.

Findings presented in this paper, are in line with those observed during earlier studies in England (Lindqvist et al., 2006). This provides reassurance that the translation of the AHPQ worked well.

Usefulness and implications of assessing attitudes using the AHPQ

The results presented in this study show that the Danish version of the AHPQ is sensitive enough to give a detailed overview of what students from different healthcare professions think about members of their own and other healthcare professions with regard to how "caring" and "subservient" they are. The study also demonstrates that the AHPQ can measure changes in attitudes over time.

While, in general, small or no changes in students' attitudes are observed when measuring students' views of their own professional group, significant changes in students' attitudes of other professions are often observed after their stay in the ITU. These changes often seem to be "positive" in nature and indicate that students develop attitudes that are likely to

facilitate effective interprofessional working. To ensure this really is the case, and to investigate in more depth students attitudes to healthcare professionals, qualitative methods also need to be applied to enrich data acquired with the AHPQ.

The optimal level of how "caring" and "subservient" each profession should be remains to be investigated. However, it seems reasonable to assume that it is a good thing that students see a particular healthcare profession in a similar way as the members of this profession perceive themselves. The AHPQ has helped us understand that attitudes amongst healthcare professionals exist amongst students, and that they can change by introducing educational interventions in the shape of interprofessional education in a practical setting.

The implications of assessing interprofessional attitudes, being able to measure them and knowing they can change and develop to become more positive, further highlights the need for us to consider what pedagogical interventions we use in IPE, when we introduce them and how.

Declaration of interest: The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

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