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ORIGINAL ARTICLE

Interprofessional experiences of recent healthcare graduates: A social psychology perspective on the barriers to effective communication, teamwork, and patient-centred care

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Abstract

Achieving safe, quality health care is highly dependent on effective communication between all members of the healthcare team. This study explored the attitudes and experiences of recent healthcare graduates regarding interprofessional teamwork and communication within a clinical setting. A total of 68 pharmacy, nursing, and medicine graduates participated in 12 semi-structured focus group discussions in clinical workplaces across three Australian states. Discussion focussed on graduates' experiences of interprofessional education and its impact on their capacity for interprofessional teamwork and communication. The Social Identity and Realistic Conflict theories were used as a framework for qualitative data analysis. A consistent pattern of profession-focussed, rather than patient- or team-focussed goals was revealed along with reports of negative stereotyping, hierarchical communication, and competition for time with the patient. Graduates acknowledged the importance of communication, teamwork, and patient-centred care and felt a better understanding of the roles of other health professionals would assist them to work together for patients' wellbeing. Identifying workplace identities and differential goals has uncovered possible motivations underlying health professionals' behaviour. These insights may help improve interprofessional collaboration by focusing attention on common team goals, increasing feelings of worth and being valued among different professionals, and decreasing the need for competition.

Keywords

Healthcare professions, interprofessional communication, interprofessional practice, Realistic Conflict Theory, Social Identity Theory

History

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Introduction

Delivery of quality care and assurance of patient safety should be the ultimate goal of all health professionals. Success in achieving this goal is highly dependent on effective communication between all members of the healthcare team (Joint Commission on Accreditation of Healthcare Organizations, 2008; World Health Organisation, 2010). A review of over 2000 sentinel events analysed by the Joint Commission on Accreditation of Healthcare Organisations, reported over 70% to be attributed to poor interprofessional communication; 75% of these incidents resulted in patient death (Leonard, Graham, & Bonacum, 2004). Findings such as these highlight the need to examine interprofessional team dynamics within healthcare settings. Strategies for improvement should begin by identifying specific communication practices which undermine patient safety in an attempt to better understand behavioural mechanisms and motivations involved.

The World Health Organisation (WHO) suggests effective communication and teamwork will be achieved through a process of collaborative practice (World Health Organisation, 2010). The WHO defines collaborative practice as ''multiple health workers from different professional backgrounds working together with patients, families, carers and communities to deliver the highest quality of care. It allows health workers to engage any individual whose skills can help achieve local health goals'' (World Health Organisation, 2010, p. 7). According to the principles of collaborative practice, successful communication within an interprofessional team requires each member to possess a level of knowledge about the roles and expertise of other professions within their healthcare team. WHO advocates interprofessional education (IPE) as a means of both knowledge acquisition and skill development for application in clinical settings (World Health Organisation, 2010). Both collaborative practice and IPE embody the principles of patient-centred care while focussing on their practical application within the context of multi-professional clinical healthcare settings.

Collaborative practice provides a framework for interprofessional, patient-centred care, but in practice this does not always occur. A pattern of disruptive workplace communication behaviours have been identified, including intimidating or condescending language, deliberate delays in responding to requests, reluctance to work as a team and ''impatience with questions'' (Croker, Grotowski, & Croker, 2014; Joint Commission on Accreditation of Healthcare Organizations, 2008, para. 2). Often these behaviours are associated with inappropriate use of power within a hierarchy (Joint Commission on Accreditation of Healthcare Organizations, 2008). While the majority of documented incidents focus on the relationship between doctors and nurses, there is evidence to support the extension of such behaviours to other professionals including pharmacists, other

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allied health clinicians and health care administrators (Institute for Safe Medication Practices, 2003; Porto & Lauve, 2006).

Health professional students who are trained in profession specific ways are required to work in clinical settings as members of interprofessional teams upon graduation. This requires the integration of different professional skill sets, applied across various hierarchical systems. Building familiarity and working relationships within these teams are made even more difficult by the frequent changes to work hours and staff rotations which are particularly evident in hospital settings (Gerardi, 2007). Greater understanding of the perceptions of various healthcare professional roles, professional stereotypes and workplace cultures may indicate areas where change can be facilitated.

Background

Social Identity Theory (SIT) (Tajfel & Turner, 1979) offers a lens through which the complexities of these roles and stereotypes can be viewed. This theory asserts that motivation to identify oneself as a member of a group stems from a need for self-esteem; with self-esteem enhancing behaviours underlying the core processes involved in the formation of a social identity including categorisation, social identification and social comparison (Tajfel & Turner, 1979). Social identity, in an interprofessional workplace context, is an indication of the group an individual primarily identifies with (their primary workplace identity). For example, nursing graduates identify their duties as similar to all nurses and therefore categorise themselves as members of the nursing profession. Nurses, however, also work in interprofessional teams and need to develop their identity as members of a broader team. According to SIT, the most dominant of these two identities will determine how communication and team functioning evolves. Further, the nature of groups within a healthcare environment means that an individual's self-esteem is likely to hinge on the status of their in-group. Therefore, behaviours which enhance the status of the group may align with self-esteem enhancing behaviours which occur at an individual level.

According to SIT, definitions of the self, as a member of one group, or another, are seen as dichotomous (Turner, 1999). The cognitive processes involved in group identity dominance are explored in refinements to SIT provided by Social Categorisation Theory (SCT) (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987), allowing for multiple group identities to coexist. While SIT offers a more simplified concept of group identification, the core processes involved in social identity formation (categorisation, social identification and social comparison motivated by self-esteem enhancement) remain consistent with SCT refinements. These core SIT processes are sufficient for the purpose of the present analysis where examples of these processes identify the dominant group identity (most salient identity), providing a broad overview of group identification and ingroup/outgroup communication dynamics within these health care settings.

Realistic Conflict Theory (RCT) argues that the nature of the goals in each group determine the likelihood of intergroup conflict (Sherif, 1966). RCT proposes three goal subsets which differentially impact the likelihood of inter-group conflict: superordinate goals, mutually exclusive goals and independent goals (Sherif, 1966). Superordinate goals require intergroup cooperation (interdependence) in order for goals to be achieved. Effectively providing patient-centred care, for example, would be considered a superordinate goal, individuals with distinctly different professional identities working together to achieve the best outcomes for the patient. Conversely, mutually exclusive goals are likely to result in conflict. For example, a focus on role-specific tasks, as opposed to holistic patient-centred care, is demonstrated when the sole focus of each health care professional is to complete the tasks or duties as prescribed by their identified profession, often leading to competition for time with the patient and key elements of the patients' needs not being met. Independent inter group goals are separate and unrelated, resulting in neither cooperation nor conflict, for example, a health care employee working toward a certain competency level or certification.

Several psychological theories have been applied to the study of interprofessional relations and professional identity in various workplace contexts including SIT (Khalili, Orchard, Laschinger, & Farah, 2013), Contact hypothesis (Carpenter, 1995a, 1995b; Hean & Dickinson, 2005; Khalili et al., 2013; Mohaupt et al., 2012) and Social Learning Theory (Sargeant, 2009). Previous IPE research has discussed SIT tenets in the context of Allports'(1979) Contact hypothesis. This tool has been used for studying and improving inter-group relations, including relations among health professionals through IPE (Carpenter, 1995a, 1995b; Hean & Dickinson, 2005; Hewstone, Carpenter, Franklyn-Stokes, & Routh, 1994; Khalili et al., 2013). Contact hypothesis (Allport, 1979) proposes the best way to reduce conflict between opposing groups is to bring them together under specific conditions; groups should be of equal status, in pursuit of common goals, within a cooperative atmosphere, and supported at an institutional level. Previous IPE research using SIT and Contact hypothesis has involved undergraduate students, primarily from medicine and nursing, and has evaluated the effectiveness of implementing contact conditions as a means of improving intergroup attitudes (Carpenter, 1995a, 1995b; Hean & Dickinson, 2005). While these studies report improvements in intergroup attitudes among undergraduates, change among post-graduates was hampered when pre-existing stereotypes were continually reinforced throughout training when graduates returned to their workplace situations (Barnes, Carpenter, & Dickinson, 2000). It is these workplace situations, and contact conditions, that are the focus of the present study.

Previous work on professional identity in an IPE context note the nature of the uni-professional training environment to promote a silo identity or ''uni-professional identity'', making collaborative practice difficult in a interprofessional health care environment with each profession working with their own agenda (Khalili, Hall, & DeLuca, 2014). Further resistance to interprofessional collaboration is created by behaviours and attitudes which tend to reinforce power relations and result in a perceived threat to professional identity (Baker, Egan-Lee, Martimianakis, & Reeves, 2011). We have chosen to use SIT and RCT in the present study due to their value in classifying group identification and understanding intergroup dynamics including communication and conflict resulting from power relations and profession specific agendas.

While previous research has investigated IPE and interprofessional relations among health care students in university settings, the uniqueness of the present study focuses on recent graduates working in clinical care. This study focuses on the interprofessional experiences of these recent graduates and their reflections on the impact of IPE to help them work effectively with other professionals. The inclusion of pharmacy graduates, along with medicine and nursing graduates, aimed to gain an interprofessional perspective on communication practices in these settings from the key professionals involved in medication safety. In previous research SIT has been commonly used to highlight the motivation for individuals to identify with a group, and the desire for group distinctiveness (Hewstone, Rubin, & Willis, 2002; LaTendresse, 2000). Here, we also use SIT to identify the nature of the roles (and goals) taken on by professionals, and employ RCT as a framework for the analysis of these goals to gain an understanding of the nature of the intergroup conflicts which arise in the workplace. The present study aimed to explore the attitudes and experiences of recent pharmacy, nursing and medical graduates, in relation to interprofessional teamwork and communication.

Methods

The data used in this study forms part of a larger project titled 'Interprofessional education: enhancing the teaching of medication safety to nursing, pharmacy and medical students', previously published by Levett-Jones, Gilligan, and Moxey (2013).

Participants

The participants were 68 recent graduates from the professions of nursing (28), medicine (17) and pharmacy (23). All participants were within two years of graduating and currently working in hospital settings across three Australian states: 13 participants were from Tasmania, 28 from NSW and 27 from Western Australia. Graduates were recruited at their current work place. Participation was voluntary and recruitment methods at each site included posters and invitations from graduate placement coordinators. Twelve focus groups of approximately one hour in length were conducted, eight profession-specific groups, and four interprofessional groups varying in size from 2–10 participants per group. The eight focus groups conducted in NSW and Tasmania consisted of single professions. All four groups conducted in WA included nursing, pharmacy and medicine graduates (Gilligan, Outram, & Levett-Jones, 2014). Not all of the participants had experienced IPE during their undergraduate training, and among those who did, experiences were highly varied in terms of intensity and quality.

Data collection

Each focus group followed a semi-structured format with experienced facilitators using a prepared protocol including an introductory briefing, questions and prompts. The discussions focussed on the participants' experiences of IPE as students, and their experiences of working as an interprofessional team member since graduation. The focus group questions were developed from cross-sectional survey findings (Lapkin, Levett-Jones, & Gilligan, 2012) and were informed by the aims of the larger project. While 80% of universities said they offered IPE, only 24% met IPE criteria. Questions and discussion prompts explored undergraduate experiences with students from other healthcare professions including IPE, reflections on the perceived value of these interactions, graduates' sense of preparedness for their professional roles, and experiences of teamwork and communication in their current clinical setting. Approval was obtained from relevant Human Research Ethics Committees and informed, written consent was obtained from participants.

Data analysis

All focus group discussions were audio-recorded and then transcribed. A content analysis was conducted by one researcher (KS) based on processes reviewed by Graneheim and Lundman (2004) and used effectively, more recently by Holmesland, Seikkula, and Hopfenbeck (2014). Two broad domains were derived from the topics addressed in the focus groups, allowing the initial categorisation of the data as: undergraduate experiences at university or new graduate experiences in a clinical setting. The latter included the sub-categories; communication, roles responsibilities and relationships, and medication safety.

One researcher then developed content codes for each of these categories, which were reviewed in an iterative process with both other authors (SO & CG). The iterative process involved independent review of the data and category assignments, followed by collaboration and discussion until consensus was reached regarding category and content code descriptors. The final analysis resulted in a total of three content codes within the undergraduate experiences domain, and 19 content codes across the three categories within the new graduate domain.

Post analysis discussions between the researchers identified tenets of SIT and RCT to be present across several of the content codes within the categories of communication, and roles responsibilities and relationships. For the purpose of the present study, a further content analysis was conducted, within these content codes, to extract data reflective of SIT and RCT tenets.

Results

The key features of SIT and RCT theories identified and extracted during the data coding process – primary social identity, behaviours which enhance self-esteem at a group level (group-esteem), and the nature of inter-group goals – are applied here to illuminate problematic communication and teamwork in health care.

Primary social identity

Social identification

Many new graduates described a clinical culture where health professionals identified more strongly with their profession than with the interprofessional team. Thus the profession formed their primary social identity in the workplace. The salience of the professional identity over team identity was evident in examples of categorisation, where professional identification created clear differentiations between professions within the interprofessional team. For example, one participant said: ''It is a very like an 'us and them' scenario'' (Male pharmacy graduate).

Social categorisation and comparisons

Stereotypes were commonly used to describe members of the ''out-group'' (professions other than one's own), where negative experiences with individuals from other professions were generalised to that profession as a whole. Stereotypes and generalisations appeared to reinforce the significance of professional identities and perpetuate a lack of cooperative communication behaviours between team members. Out-group stereotypes differed between the professions however, pharmacy and nursing graduates held the consensus view that doctors think themselves separate and superior to them. As one participant noted:

> I think sometimes you can be a bit, ''doctors get paid so much more, and they're you know, they are this elite class,'' or they're sort of, we're separate you know, they're a different group. (Female pharmacy graduate)

Depersonalisation of the out-group was also a common theme within professional comparisons, particularly among nursing and pharmacy graduates. The language used to describe team members from other professions was often impersonal, lacking distinctions between out-group members as individuals. Examples included terms such as ''them'', ''those . . .'', ''you nurses'', ''those doctors''. Nurses reported that doctors used generalisations about nurses as a group, depersonalising them:

> ''Some doctors think nurses are airheads . . .'' (Female nursing graduate), and ''I think I got ''are you kidding?'' one day, when I asked him [Doctor] to change the dose on the Digoxin. It's always ''oh you nurses!'' (Female nursing graduate).

However, negative generalisations about nurses were not a predominant theme among comments from medicine graduates. ''In general, the nurses are really good, they're a great help to us, and I greatly appreciate what they do'' (Male medicine graduate).

Positive out-group perceptions

Examples of regular positive communication and teamwork were also reported. These interactions tended to be with one particular out-group member where a working relationship had formed after an initial positive interaction, either by chance or deliberate initiation. Such situations were reported to result in a lasting professional relationship which appeared to have a substantial impact on breaking down out-group categorisation and increasing personalisation of out-group members and willingness to initiate further communication:

> . . . the very first day I started on one of the wards, one of the doctors came up to me and said ''Hi I'm [his name], what's your name, how are you?'' Great, that was amazing! Once you know the staff, once you know the names, it's just, everybody's a person, you just treat everyone like normal; ''Hi . . . I'm the pharmacist on the ward.'' (Female pharmacy graduate)

Enhancing the ''group-esteem''

The salience of professional membership and in/out-group distinctions was further evident in status comparisons between the professions, and a general sense that the role-specific differences between professionals were neither valued nor respected. Misconceptions about roles, responsibilities and workload were identified by graduates as a barrier to communication and, at times, was said to lead to hostility that further perpetuated the ''us and them'' workplace culture. Comments such as ''They hound us all the time'' and ''They just don't understand our workload, and how busy we are'' (from two Female nursing graduates) highlight the tensions between the professions. When asked how they thought they were perceived by doctors, a nurse said ''Those damn nurses! We're trying to save a patient's life, and they're up there doing a rechart'' (Female nursing graduate).

Hierarchical categorizations

Comments which seem to be driven by a sense of affiliation with the in-group may be viewed as ''group-esteem'' enhancing, a desire to make the in-group ''look good'' and subsequently generate a negative image of the out-group. These behaviours can also act to perpetuate a sense of hierarchy between groups. Graduates talked about their experiences of hierarchy among professions in a number of different ways. Nurses and pharmacists talked about feeling intimidated by the doctors. Some noted there to be more interprofessional respect and less hierarchical divisions in areas such as the Emergency Department (ED), where different professional groups depend directly on each other and therefore professional expertise may be more highly valued:

> . . . in ED I find, the doctors down there, they know they need you. Like on the ward I think they think they're so much higher than you. (Female nursing graduate)

Non-cooperative inter-group communication

The majority of interprofessional communications were noted to be hierarchically dependent, in a ''top down'' direction (doctors, pharmacists, nurses). Perspectives on the mechanisms behind this pattern of communication behaviour differed across professions. Some medical graduates reported the participation of nursing staff to be absent in collaborative communications, where they simply follow doctors' instructions without utilising their specialised knowledge:

> It usually tends to be one way, I guess it's not really communication, but it's seems to be more the medical team needs something, we talk to the allied health, and it gets done . . . two-way discussion about health . . . I feel like it goes on deaf ears [with nurses] . . . .often times they just do as asked, without fully optimising their expertise and training. (Male medicine graduate)

Nursing graduates reported doctors to be too busy and disinterested in hearing their input:

> They're [doctors] all too busy to listen . . . kind of like 'just don't talk to me, unless somebody's dying I don't want to know.' (Female nursing graduate)

Undervaluing the role of other professionals

It seems that members of each profession build self-esteem and group-esteem by banding together and criticising other professions. A word often mentioned by participants that related self-esteem and group-esteem was ''respect'':

> They [nurses] can occasionally have very little respect for you, especially when you don't have the medicines there when they want them, because there's been a problem up the line, and okay so it's not necessarily your fault, but they see you as the end point of this, and so they can get very short with you. (Female pharmacy graduate)

Other pharmacists felt their judgement was not valued when insisting medications were written in a certain way, as though other professions thought they were ''hassling just for the sake of it.'' A nurse also articulated how criticised she felt after contacting the wrong doctor or wrong professional to perform a task, and part of that person's response was that the task ''was beneath'' their level. When asked what would be an advantage of getting to know other professionals as students, one graduate commented:

> Getting to know them on that sort of social level. Because I know, like we're all different outside of work, so just knowing that we're all people, we're all the same, there's no hierarchy. There's you know, we just have the same respect for each other and yeah, I guess. (female pharmacy graduate)

Valuing the role of other professionals

There were some positive examples given, where respect for each professions' contribution to patient care increased after working in an interprofessional training ward, and when individuals felt respected they were able to work collaboratively, teaching and learning from each other:

> Being able to see things from their perspective changed my perspective of their job. Like I'm so much more respectful of what they do, because I've seen how they work . . . that was really useful in examining interprofessional education, and how one week can even change your perspective on other professions and what they do. (Female medicine graduate)

Inter-group goals

Individual goal focus leading to non-cohesive team behaviours

The lack of interprofessional cohesiveness was also evident in the task focus of each interprofessional team member, where the nature of the workplace goals were noted to be often independent

and profession specific, overshadowing the superordinate goals of the interprofessional team as a whole:

> I think we all just turn off and we do our different things, and don't really have a full understanding of where we're all involved. (Female nursing graduate)

Contrasting goals resulting in competition and conflict

The focus on profession specific goals was noted by nurses to often result in competition for time with the patient:

> there's been just a lot of times when I've gotten really frustrated because I haven't been able to give my patient their care, because they're off to physio, or nobody will tell me that they're going to OT . . . There's a lack of communication I think. . . .it can get quite stressful. (Female nursing graduate)

Individual goal focus reduces team accountability

All participants reported on the stressful nature of completing profession-related tasks, compounded by factors relating to responsibility and accountability. For example, medicine graduates were concerned about prescribing the correct medication and dosage or having their instructions misinterpreted:

> It was really stressful initially. I was really worried that I was going to do something terrible, or write something that was misinterpreted or something like that. (Female medicine graduate)

Pharmacy graduates were also concerned about their level of medication responsibility, commenting on the pressure that comes from having their instructions implemented by others:

> I was a bit scared, just scared of the fact that you actually have a responsibility, like what you say can be taken as what they do, because I mean, we've probably got all the knowledge that you need to have to do it, it's just the confidence . . . it's just now they actually listen to you because you're not a student, and you think ''holy crap!'' (Female pharmacy graduate)

Nurses felt they held the most accountability, with their medication administration role at the end of the prescribing and charting process. Nursing graduates reported being ''yelled at'' by doctors and pharmacists when requesting medication re-charts and when medication errors occurred, and felt neither doctors nor pharmacists were on their side:

> . . . if someone's going to find a problem, they'll find a nurse to blame, even if it's not their fault. And that's what I find the culture is. So, I mean it almost seems like it comes down to us, it seems like the medical officer barks orders, we have to do it, and pharmacy just stand aside, and just avoid all sort of confrontation . . .(Female nursing graduate)

Concluding reflections

All new graduates interviewed acknowledged the importance of interprofessional collaboration and felt it would help them do their jobs better, for the ultimate benefit of patients. Graduates acknowledged that collaborative practice and the resulting patient-centred care was often lacking and wished they had a better understanding of others' roles (and others had knowledge about their roles) to better utilise each others' expertise. When talking about the value of IPE experiences at university, one nurse said:

> I think it was the interaction and knowing how important each health professional was. . . . growing up you think the doctor is the be-all and end-all, they know everything, they can do everything. And you can! (laughs) But there's still things that they will miss, that other professionals need to bring in as well, yeah. And if we're looking at holistic patient care, every single person that is taking care of that patient needs to be involved, and you need to learn how to work together, and understand what each person does, and that should be from the very beginning. (Female nursing graduate)

Discussion

SIT and RCT offer useful insights into potential areas for intervention to improve interprofessional communication and practice. Results identify a need to redirect identities and goals towards team identities and shared goals. Analysis revealed a consistent pattern of profession focussed goals rather than patient or team focussed goals with graduates reporting examples of stereotyping among the professions, hierarchical communication, and competition for time with the patient. All graduates acknowledged the importance of communication, teamwork and patient-centred care and felt a better understanding of interprofessional roles would assist them and increase the likelihood of approaching others for assistance.

Graduates of different professions highlighted the tensions and lack of effective, transparent communication and team functioning present in the workplace. Perceptions of others' beliefs and attitudes were often in conflict with the perceptions reported by these other professionals. For instance, one medical graduate alluded to a desire for nurses to use their knowledge and expertise to take initiative and participate in team discussion, but the nurses perceived that doctors did not want their input. Ineffective communication may therefore be viewed as a multifaceted issue, with a lack of direct communication lying at the heart, driven by preconceptions and stereotypes, as well as a lack of knowledge, all of which influence behaviour.

Fear of making mistakes and being blamed is a genuine contributor to workplace stress and interprofessional conflict (Croker et al., 2014; Joint Commission on Accreditation of Healthcare Organizations, 2008). In terms of decision-making processes in healthcare, there is a hierarchal order of professional responsibilities. These hierarchies may contribute to the pattern of conflict, reluctance to question decisions and emphasis on individual responsibility rather than team responsibility. A workplace where there is a lack of professional respect and differences in the roles and motives of each team member lends itself to a culture of competition and the pursuit of individual goals rather than patient-centred care, and pursuit of common team goals. In this study, graduates' focus on profession specific goals extended from the independent to the mutually exclusive. A lack of interprofessional communication and team focus was noted by nurses to often result in conflict and competition for time with the patient.

While a causal relationship cannot be demonstrated, it appears that preconceptions and stereotypes about other's professional roles may be associated with the strength of in-group identity and profession-specific goals. Here, the depersonalisation of other professionals, whether overtly enacted or covertly perceived, served to strengthen the primary social identity by creating distinctions between members of the in-group and the out-group.

As a result, perceptions of other professionals become highly generalised, focused on their group membership rather than individual qualities or distinctiveness (Hewstone et al., 2002). Stereotypes and profession-specific goals were elements associated with conflicts which threaten effective and patient-centred care. Strong in-group identity and profession-specific goals are not, however a conscious decision or practice, but rather, the result of negative experiences and observations of practice.

According to SIT, strong in-group identification leads to a tendency to protect and uphold the status of your in-group by making comparisons with the out-group. This principle was reflected in the ''group-esteem'' enhancing behaviours such as hierarchical communication and critical comments about other professions. However, when there is a stability of status, the need to uphold in-group status reduces and so too does the need for professional status divisions and hierarchies (Bartunek, 2011; Hewstone, et al., 2002). Such relaxation of the strong in-group identification was observed among participants who felt their professional expertise was valued (thus, they felt valued) in specialised areas such as Coronary and Emergency Care. Encouraging the recognition of other professional roles and expertise may go some way toward expanding affiliations with professional out-groups.

Indications exist in the current data, that even one positive interaction within the workplace can generate a more cohesive and effective relationship and possibly change attitudes towards the out-group. This is in keeping with evidence that cross-group friendship can reduce bias and lead to the development of more positive associations with out-group members (Bartunek, 2011). At a group level, positive interactions and attitudinal improvement between professionals have resulted when all contact conditions proposed in the Contact hypothesis (Allport, 1979) were adhered to (Carpenter, 1995a, 1995b). SIT and RCT tenets explored in the current study indicate that these contact conditions are lacking in clinical workplace settings; professional groups were not in pursuit of common goals, did not see themselves with equal status and did not experience a cooperative atmosphere. The fourth condition, institutional support, was not explored in this study, however previous studies have indicated only one condition need not be met for inter-group contact to be unsuccessful in changing attitudes and breaking down stereotypes (Barnes et al., 2000).

Interventions which focus on increasing socialisation between professions (Jaye et al., 2010), encouraging healthcare administrators to communicate organisational successes, values, and goals to all groups of healthcare professionals (Richter et al., 2006), and strengthening connections with the settings in which healthcare professionals work (Bartunek, 2011), can strengthen team identities and develop dual identities. Where such dual identities exist, goals then shift towards common, superordinate goals without blurring professional boundaries (Richter et al., 2006). Previous research has however cautioned increasing team-identities at the expense of group-identities, as the need for differentiation will remain (Hewstone et al., 1994; Hewstone et al., 2002). Increased team-identity while maintaining group-differentiation has been reported to be successful amongst interprofessional programs utilising ''mutual intergroup differentiation''; group identity remains unthreatened within inter-group teams when the value and distinctive nature of each group, and their role, is highlighted (Hewstone et al., 1994; McMichael & Gilloran, 1984).

The social identity indicators and resulting motivators of conflict identified have provided a social perspective to health professional behaviours during group tasks. By focussing on roles and goals, our findings indicated the salience of professional identities and likelihood of conflict varied across tasks and contexts. A decrease in conflict likelihood was apparent in contexts where professional felt valued, this may be explained by a relaxation of professional identities, but may also be attributed to a recognition of the value professional distinctiveness. Future research may focus on specific group tasks and settings, rather than group identity, adding greater contextual information to the analysis of communication dynamics.

Undergraduate programs should ensure students are knowledgeable about the role and scope of practice of other professions. Evidence suggests that encouraging people to make distinctions between individual members of the out-group and to re-categorise the out-group as part of the in-group can break down biases and reduce the sense of threat to group status (Hewstone et al., 2002). While distinctions between out-group members, as individuals, increases personalisation and reduces stereotypes, valuing professional group distinctiveness as a whole is integral to cooperation and the utilisation of profession specific expertise within interprofessional groups. It is likely, however, that change will be required at all levels of prevocational education and in the health workforce in order to break down long-held perceptions and professional cultures. Future research designed to explore the application of these theories may further strengthen the conclusions made.

Much of the previous IPE research has been conducted with health professional students, particularly medical and nursing students. The strength of the present study is that it focused on graduates now working in hospitals and included pharmacists as important members of the interprofessional health care team, thus providing a unique contribution to the knowledge in this area. Previous IPE research has used SIT to provide an understanding of group formation and identity, the present study applied these principals, along with RCT, to specifically identify the nature of the roles (and goals) taken on by professionals in clinical health care settings, adding to the current literature by providing insight to interprofessional communication dynamics, from the perspective of new-graduates.

This study contains a number of limitations. Convenience sampling was used to recruit participants from a pool of recent graduates at a range of sites around Australia. While all recent graduates in those sites were invited, it is possible that participation bias was present with those graduates who took part either having a greater interest in IPE, or alternatively were more disaffected with their professional colleagues, and this study allowed them to vent. Related to this, is the fact that some of the groups were interprofessional in nature. It is possible that where colleagues from other professions were present, participants were less inclined to make negative comments about the other professions or their relations. Further, the experiences of IPE during the undergraduate training of the participants were highly varied. This reflects the nature of IPE in Australia, with a recent cross-sectional survey highlighting the inconsistent and ad hoc nature of IPE in most Australian tertiary institutions (Lapkin et al., 2012). Due to the de-identified nature of the data, we are unable to connect participant's comments with their reports of having experienced IPE at university, but it is possible that prior experience impacted upon the attitudes and clinical experiences of graduates. The overall representation from professional groups did not reflect the mix that would be present in the workplace. It is therefore not possible to draw conclusions from the numbers of quotes or comments from each profession, but we can report the variation in themes emerging from each. The selected quotes reflect the balance of participants in the study. The wide range of different sites (across different states) and education systems was the strength of this study.

Importantly, we did not set out to investigate the application of the SIT and RCT in this setting, therefore the focus group

questions were not designed specifically to investigate workplace identity or intergroup conflict. The extent to which existing communication behaviours are illuminated by these theories is limited to the perceptions and experiences of the participants in the context of the broader study. Our results, however, indicate that these theories explained many of the participants' experiences and provide impetus for strategies to improve team functioning. Medication usage, widely recognised as an important but stressful work role, enabled participants to focus their responses on practical behaviours they were familiar with.

Concluding comments

In order to improve team functioning and to improve patient outcomes it is imperative that improvements are made in the relationships between health professionals. This analysis has shown that SIT and RCT offer useful insights into potential areas for intervention. We have identified a need to increase knowledge and perceived value of the different interprofessional roles, and redirect professional goals towards team identities and shared goals. Further investigation will be required to elucidate the most effective way to bring about such change, particularly in a post-graduate context, and to ensure that change is systemic within the healthcare system.

Declaration of interest

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

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