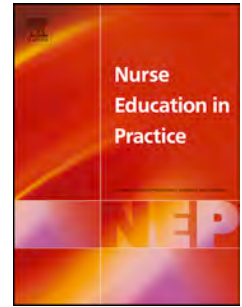


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Enhancing teamwork using a creativity-focussed learning intervention for undergraduate nursing students - A pilot study

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Title

Enhancing teamwork using a creativity-focussed learning Intervention for undergraduate nursing students - a pilot study

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Abstract

A cohort of year two students ($n = 181$) was exposed to a transformational and experiential learning intervention in the form of team-led poster development workshops to enhance competence and interpersonal skills for working in teams. The aims of this study were to test the suitability of an amended TeamSTEPPS teamwork perceptions questionnaire (T-TPQ) for measuring the impact of the intervention on students' perceptions of team working, and to ascertain students' views about the experience. This was a two phase pilot study. Phase 1 was a repeated measures design to test the T-TPQ for evaluating the impact of the experiential intervention, and Phase 2 was a survey of students' views and opinions. Descriptive and statistical analysis of the data were performed. Our findings suggest that age and part-time employment mediate towards more positive teamwork perceptions. Teamwork perceptions increased from week 3 to week 9 of the experiential intervention, and students viewed the experience positively. This was the first time that the T-TPQ was tested for suitability for measuring the impact of an experiential learning intervention among nursing students. Despite limitations, our study indicates that the amended T-TPQ is sensitive to changes in teamwork perceptions in repeated measures design studies among nursing students.

Keywords

Experiential learning, nursing students, perceptions, poster development, teamwork, transformational learning.

Introduction

Nursing care is provided within the context of interdisciplinary and Inter-agency teams. A high standard of teamwork is critical for therapeutic and safe care. In the current climate of escalating clinical demand on health services, nurses and medical staff are experiencing increasing workload pressures (Royal College of Physicians, 2012; Royal College of Nursing, 2013), and relationships within teams have the potential to become strained (Care Quality Commission, 2013). Failures in team working have adverse implications for patient safety as evidenced in inquiries of substandard care in United Kingdom (UK) hospital services, including the Mid-Staffordshire National Health Service (NHS) Foundation Trust (Francis, 2013) and the Vale of Leven Hospital (MacLean, 2014). While there is a clear need for positive support structures and a good organisational shell (Xiao et al., 2013), individual and in-group characteristics are also important in teamwork. Safety in healthcare is dependent on doctors, nurses, pharmacists and allied health professionals being able to coordinate and communicate treatment plans with one another, in partnership with patients and their families (Feeley et al., 2010). Future registrants of healthcare professions must be provided with opportunities to enhance their competence and interpersonal skills for working in teams. Such learning is not limited to the cognitive domain and involves mostly affective learning. Boore and Deeny (2012) have highlighted the limited value of didactic methods for affective learning, and have posited that an experiential and problem-based approach may be more relevant in developing interpersonal skills for working effectively in teams. Research indicates that learning in Higher Education is enhanced when students are engaged in purposeful and collaborative activity (Gilboy *et al.*, 2015; Wood, 2015; Yew & Goh, 2016). Group poster development is an evidence-informed strategy for enhancing student engagement, and promoting learning relationships and collaborative behaviour (Zepke & Leach, 2010; Brooman & Darwent, 2014). Creation of a health promotion poster and presenting this work to peers, teachers, statutory and voluntary organisations at a public conference was considered by the authors to provide an authentic team learning experience. This paper reports on a pilot study that tested the suitability of the TeamSTEPPS Teamwork Perceptions Questionnaire (Battles & King, 2010) for measuring the impact of the experiential intervention among undergraduate nursing students developing ability to work in teams.

Background

Pedagogic theory supports the engagement of students in active learning in Higher Education (Doyle, 2008; Stefanou *et al.*, 2013; Kolb, 2014). Furthermore, in response to global, workforce and technological demands, there is an increasing trend to underpin nurse education with innovative pedagogies to foster learning experiences that are both stimulating and student centred (Brown *et al.*, 2009; Murphy *et al.*, 2011) and it is important that the curriculum is sufficiently flexible to embrace creativity (Boore & Deeny, 2012). Clarke (2012) suggests that innovation within nurse education is not just about inventing new objects, but is also about the development of new processes and new approaches to existing ways of working. Engagement with students in new and exciting educational opportunities has the potential to enhance motivation and ultimately increase impact on quality health care.

Group and collaborative learning strategies are gaining prominence in the literature with potential to enhance attributes for team working (Tsay & Brady, 2012). Such strategies include problem-based learning (Wood, 2015; Yew & Goh, 2016) and flipped classroom approaches (Gilboy *et al.*, 2015). It is suggested that these approaches facilitate students in developing a higher level of critical thinking (Martyn *et al.*, 2014) and generate higher levels of satisfaction and motivation among students (Sangestani & Khatiban, 2013) than traditional educational methods.

The hallmarks of effective team working are clearly written goals and objectives negotiated among the team members, with each member possessing the confidence and competence for two way communications of thoughts, feelings, mutual respect and trust (Battles & King, 2010). Prerequisites for effective team working therefore include time and space for members to meet and discuss issues, and opportunities to collaborate towards achievement of agreed goals. In addition, it has been found that effective teams adapt with fluidity and amend decisions as situations arise and change (Battles & King, 2010). Day (2013) has highlighted that team members should not fear conflict, and instead should learn to anticipate tension and conflict, harness it, and use such tension creatively to bring about positive change.

There is limited literature around how learning teamwork in undergraduate nursing curricula is best achieved. There is a dearth of evidence around what strategies might best facilitate nursing students to learn teamwork in a safe and controlled environment, and how to encourage them to develop the

skills that will support them to be an effective team member. Furthermore, Benner *et al.* (2010) point out that a pervading and significant gap exists between what nurses learn in the classroom and what they experience in practice and suggest that weak pedagogical underpinnings for nurse education need to be challenged. They purport that a combination of knowledge, skilled practice and ethics are required for excellence in nursing and this can be achieved through building rich classroom activities which complement clinical experiences. Experiential learning that is transformative (Mezirow, 2000) is ultimately student-centred (Handwerker, 2012; Jappesen *et al.*, 2017), helping students achieve personal as well as professional learning goals. Nowhere is this more relevant than in learning teamwork where innovative classroom activities can allow students to experience and replicate the challenges and rewards of working in teams, while at the same time develop skills of cooperation, negotiation, communication and professionalism in a safe environment.

Kinyon *et al.* (2009) suggest that experiential learning that is transformative can be beneficial in facilitating nursing students to learn about working in groups, both from the perspective of team member and team leader. Yi (2016) similarly outlined an intervention which demonstrated that engaging in team building exercises can help students develop the communication and skills required for effective teamwork. Learning in teams is further enhanced when student teams are self-regulating because additional valuable attributes are developed in the efforts required to overcome conflict and reach consensus (Stefanou *et al.*, 2013). However, on a cautious note, there is evidence to indicate that shy and/or introverted students (Condon & Ruth-Sahd, 2013) and international students (Wu *et al.*, 2015) may not feel comfortable in the active learning arenas which are gathering momentum in higher education. A responsibility is therefore placed on university lecturers to ensure that all students are sufficiently prepared for their role in team working endeavour and that they have access to support, if needed.

The challenges and failings of good teamwork are highly apparent not only in United Kingdom healthcare (Francis, 2013), but also have high degree of relevance within the global arena where demands on the nursing role within the healthcare team are at an all-time high (Yi, 2016). Therefore the need to explore strategies to facilitate the learning of teamwork skills among nursing students is warranted, and alongside this, is the need to develop and test tools to measure the effectiveness of such interventions. This study has been conducted in the context of a three-year BSc (Hons) pre-

registration adult branch nursing programme delivered by a UK university. The 20 credit academic level five module *Inter-professional and Collaborative Working* is undertaken by year two students. The module aims to equip students with the knowledge and competence to develop as confident members of health care teams. An experiential learning intervention is introduced in the module in the form of team led poster development workshops. The students self-allocate to a total of 9 poster development teams. The task set for each team is to plan and create a poster relating to a public health priority of their choice, and then to present the poster in an exhibition. The intervention is therefore transforming learning from a private to a group activity, and then converting it into a public performance (MacFarlane, 2015). The posters are formatively assessed at the exhibition, by an independent adjudication panel. The panel comprises a professor of ageing and health, a reader in teaching and learning with expertise in innovation, a skilled laboratory technician, and a senior practice learning facilitator. An adjudication proforma has been developed by the module team and is utilised to judge the posters. A teamwork award is presented to the team that produces the best poster. All students receive formative feedback at the close of the exhibition.

Aim

The aims of this study were to ascertain students' views about an experiential intervention designed to mediate towards more positive perceptions about team working, and to test the suitability of the TeamSTEPPS Teamwork Perceptions Questionnaire (T-TPQ) for measuring the impact of the intervention on nursing students' perceptions. The objectives were:

- 1) to test procedures for administering the T-TPQ in weeks three and nine of the intervention;
- 2) to ascertain if there was any change in teamwork perception scores over the two time-points;
- 3) to ascertain students' views and opinions about the experiential learning intervention.

Methodology

This was a two phase pilot study. Phase One was a repeated measures design to test the T-TPQ for evaluating the impact of an experiential intervention. The design for Phase Two was a survey of students' views and opinions about the experiential learning intervention.

The Experiential Intervention

Student team-led poster development workshops constituted the nine weeks' experiential learning intervention. At commencement of the module in April 2015, the students self-allocated to nine teams with the aim of working collaboratively towards the development of a poster relating to a health promotion theme of their choice. Each student team comprised between 18 – 22 students. The teams were self-regulating. They took responsibility for records of attendance, together with the content and delivery of each of the nine scheduled poster development workshops. The workshop series was themed and evidence informed, and is presented in Table 1. The workshops were progressive in nature, starting with 'common purpose and ground rules', and then moved through 'developing and sharing a vision', 'maximising strengths', 'supporting each other', 'managing discord', 'resource planning', 'keeping on top', 'bringing it home' and 'presentation at exhibition'. Whilst the module team had scheduled rooms that would serve as suitable workshop environments for creative endeavour, autonomy was encouraged and some teams made alternative arrangements. Each team took responsibility of all aspects of the poster development task and this involved them in networking with personnel from other departments in the university, and with local and regional voluntary and statutory organisations.

Table 1. Student Led Workshops

Week	Content	Intended outcome
Week 1	Common purpose and ground rules - Who we are as a unique group gathered together for this project?	Comfort and respect in group dynamics (Day, 2013).
Week 2	Developing and sharing a vision.	Reaching consensus, clearer sense of values and beliefs (MacFarlane, 2015).
Week 3	Maximising strengths - negotiating ways of working.	Increased confidence, appropriate delegation of tasks (Murphy <i>et al.</i> , 2011).
Week 4	Supporting each other	Reinforced resilience (Tsay & Brady, 2012)
Week 5	Managing discord.	Enlightenment, broadening perspectives. Confidence that project can be sustained (Stefanou <i>et al.</i> , 2013).

Week 6	Resource planning.	Harnessing funding sources, Raising expectations
Week 7	Keeping on top	Meeting targets, forward planning (Day, 2013)
Week 8	Bringing it home – reviewing drafts and printing posters. Preparing oral presentation.	Raised self-esteem. Group cohesion (Xiao <i>et al.</i> , 2013).
Week 9	Presentation at Exhibition - evaluation and celebration.	Sense of well-being, heightened sense of purpose and autonomy (MacFarlane, 2015).

The TeamSTEPPS Teamwork Perceptions Questionnaire

The TeamSTEPPS Teamwork Perceptions Questionnaire (T-TPQ) developed by Battles and King (2010), was informed by a body of work of US healthcare safety research, originating with the 'To Err is Human: Building a Safer Health System' (Kohn *et al.* 1999). Kohn *et al.* (1999) had concluded that up to 98,000 deaths were occurring annually in the US, as a result of medical errors. The T-TPQ incorporates five constructs that underpin effective teamwork (Salas *et al.*, 2005; Battles & King, 2010). These constructs are team structure, leadership, communication, mutual respect and situation monitoring. T-TPQ is a 35-item scale with seven item statements allocated to each of the five constructs. An example of an item pertaining to the construct 'communication' is '*staff verbally verify information that they receive from one another*'.

T-TPQ is scored on a 5-point Likert scale with 5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree and 1 = strongly disagree. Higher scores refer to more positive perceptions. The maximum obtainable score is 175 and the minimum is 35. The questionnaire has been tested extensively to assess effectiveness and desirable changes in perceptions regarding teamwork (Battles & King, 2010). Cronbach's alpha reliability coefficients for the construct items of T-TPQ are reported as high, ranging from 0.88 – 0.95 (Battles & King, 2010).

Some of the T-TPQ items required minor wording changes to render them applicable for perceptions of teamwork among nursing students. Permission was sought and attained from Battles to use T-TPQ and to adapt the wording. An example of an item wording change is item 2: '*Staff are held*

accountable for their actions' amended to *'Students are held accountable for their actions'*. Many variables are likely to impact on nursing students' perceptions of teamwork, and therefore the adapted T-TPQ was preceded by a short section of items to collect demographic data, such as age and part time employment status. The adapted T-TPQ is presented in Table 2.

Insert Table 2.

For phase two of the study, a survey tool was developed by the module team. The survey was designed to ascertain students' views and opinions about the intervention of team-led poster development workshops, and comprised eight closed questions. To each question, students had a choice of only three responses and these were 'yes', 'no' and 'don't know'. The survey tool and subsequent student responses are presented in Table 3.

Sample

The *Inter-professional and Collaborative Working* module was undertaken by 181 students in year two of the preregistration BSc (Hons) Nursing – Adult branch programme over a three month period in 2015. All the students were exposed to the experiential intervention. A convenience sampling approach was adopted and all the students were formally invited to participate in Phases 1 and 2 of the study.

Data Collection

The T-TPQ is a self-administered questionnaire and it was distributed through the secure, online Qualtrics Research Suite (Qualtrics, Provo, UT) in week three of the intervention, and again six weeks later in week nine. Week nine constituted the close of the intervention. The decision that week three would serve as the first time-point, was that students may not have selected a group leader until week two, and therefore would find it difficult to make a response to items pertaining to quality of leadership before week three. An invitation to consider participating in the study and more detailed information for interested students was circulated via email to the students. The internet link to the online questionnaire was provided. Only those students that had indicated that they had read and

understood the participant information and that they demonstrating their consent could gain access to the T-TPQ questionnaire.

In Phase Two of the study, the short 8 item survey was administered electronically using the TurningPoint interactive polling solution integrated into a PowerPoint presentation within a large lecture theatre. Each consenting student was allocated a remote electronic clicker in order that they could make anonymised responses to each of the questions displayed on the PP slides.

Data analysis

Section one items of the T-TPQ questionnaire pertain to age (continuous variable), and gender and part-time employment status (nominal variables). Section two items of the questionnaire comprise the amended T-TPQ tool. The data was analysed using Statistical Product and Service Solutions [SPSS] version 22 (SPSS Inc. Chicago, Illinois). Descriptive statistics were employed to explore the characteristics of the sample, and generate a general description of perceptions at the two time points. As a normal distribution in perceptions was indicated, the relationship between the age of students and teamwork perceptions was investigated using Pearson product-moment correlation coefficient. An independent samples t-test was undertaken to compare mean teamwork perception scores between students with and without a part-time job. A one-way repeated measures analysis of variance was conducted to compare the perception scores at the two time points (weeks three and nine of the intervention).

For Phase Two of the study, the responses to the student survey were explored using frequencies to provide a description of students' opinions and views about the experiential intervention.

Ethical considerations

Approval for this pilot study to proceed was obtained from the Ethics Filter Committee of the Nursing and Health Institute at the University, and from the Head of School of Nursing. The principles of non-maleficence and voluntariness were considered in this pilot study. Students are vulnerable to the power dynamics in Higher Education and it was important that the methods employed in the study did

not pose undue burden. Access to the participants was through the course director, who was independent of the module team. An invitation to consider participating in the research study was distributed by email to all the students undertaking the module in week one of the module. Attached to the invitation email was an accompanying Participant Information Sheet that provided more detailed information about the study, and highlighted the voluntary nature of participation. In addition, the course director provided a brief explanation about the study to the students face to face in the lecture theatre. The emailed information sheet provided contact details for addressing questions that students may have, and for any clarification requests. A second email was issued to the students in week 3 of the module, and this provided the internet link to log in for access to and completion of T-TPQ online. An email was sent in week nine, reminding students to complete T-TPQ for a second time. The Qualtrics system accommodated a consent mechanism, before students could access and begin the questionnaire at both time-points.

Measures to minimise risk of bias, included the use of the anonymous online system (Qualtrics*) for the administration of T-TPQ for completion by students in their own time, and the use of electronic clickers to enable students to provide anonymised responses to the short survey in classroom scheduled time. In addition, a decision was taken that the data would not be accessed until after module coursework had been moderated and undergone external verification at the examination board in September 2015.

In relation to the handling and analysis of the data, this was processed anonymously in SPSS by the provision of a unique ID code to each participant (P1, P2, P3 etc). It was therefore not possible to identify any individual student in data analysis and research findings. Data was stored in line with research governance in the University.

Results

A total of 181 students undertook the module *Inter-professional and collaborative working*. Eighteen per cent of (n = 33) students participated in completion of T-TPQ on at least one time point in phase one of the study. The age of participants ranged from 20 to 44 years, with mean age of 27 years. The majority of participants (66.7%, n = 22) had part-time jobs. Twelve of the participants completed

the questionnaire at the first time point and twenty seven completed the questionnaire at the second time point. A test for normality was undertaken on the total teamwork perception scores at measurement point 1. The Shapiro-Wilk statistic was 0.282, indicating that the distribution of scores was normal, and supported a decision to use parametric tests.

The maximum score obtainable in T-TPQ is 175, and the minimum score is 35. Higher scores equate with more positive perceptions. Disappointingly, only six students completed the T-TPQ at both time points. A one-way repeated measures analysis of variance was conducted to compare the scores at week 3 and week 9. The mean score at week 3 was 124.3 and at week 9 was 132. Although teamwork perceptions had increased from time-point 1 to time-point 2, the sample size was small and will have interfered with demonstration of significance: Wilks' Lambda = .878, $F(1, 5) = .69$, $p = .442$.

A total of 27 students had completed T-TPQ at time point 2. The relationship between the age of students and teamwork perceptions was investigated. A weak but positive relationship ($r=.34$) between age and teamwork perceptions was demonstrated ($p=.078$). Again, the significance of Pearson r is strongly influenced by the size of the sample.

Of the 27 students that completed the T-TPQ in week 9, 18 had a part-time job. An independent samples t-test was undertaken to compare mean teamwork perception scores between those students who had or had not a part-time job. Teamwork perception scores were higher for students with a part-time job ($M = 130.3$, $SD = 27.8$) than for those with no part-time job ($M = 128.22$, $SD = 22.1$), but the difference was not significant ($p = .84$).

A larger sample ($n=130$) of the 181 student cohort participated in phase 2 of the study and the results are displayed in Table 3. The responses provided by the students were overwhelmingly positive towards the team-led poster development workshops, with 74% of students responding that the poster development workshops helped them to develop understanding of team working. It is noteworthy that 90% responded that they were proud of the poster that their team had developed, and 82% enjoyed the poster exhibition.

Table 3: Student Survey of Poster Development Workshops

No	Question	Yes	No	Don't know
1	Did the poster development workshops help you to develop your understanding of team working?	74%	26%	0%
2	Do you consider that you played a significant role in the development of your group's poster?	69%	27%	4%
3	Did students display professional attributes in the poster development workshops?	50%	46%	4%
4	From your experience, do you consider that students should take full responsibility for the monitoring of attendance at the workshops?	70%	28%	2%
5	Are you proud of the poster that your group has developed?	90%	7%	2%
6	Was the poster exhibition a positive learning experience?	69%	29%	2%
7	Did you enjoy the poster exhibition?	82%	17%	1%
8	Would you like the School of Nursing to provide more opportunities for students to share their thoughts and innovative ideas with lecturers and researchers?	61%	28%	10%

Discussion

This study aimed to ascertain pre-registration nursing students' perceptions of an experiential learning intervention designed to promote teamwork, and to test the suitability of T-TPQ using a repeated measures design for determining students' perceptions of teamwork. Our results demonstrate that

the experiential intervention in the form of team-led poster development workshops was viewed favourably with 74% of students considering that the intervention had enhanced their understanding of team working, 90% feeling proud of their team's poster and 82% enjoying the poster exhibition. This reflects the findings of Ohaja *et al.* (2013) who found that overall, midwifery students had a positive view to the poster development experience. The rationale for choosing group poster development as the experiential intervention in this study, was its strong support in the literature as a means of promoting active engagement, self-efficacy and collaboration skills (Zepke & Leach, 2010; Brooman & Darwent, 2014). While poster development has been suggested as a suitable experiential method facilitating students to develop their academic voice and to focus learning (Lynch, 2017), the literature would suggest, that there is also some potential for dissatisfaction. Ohaja *et al.* (2013) referred to the issue of 'free riding' where some students in the poster groups did more work than others and this caused frustration and conflict. In the current study, nearly half the group (46%) felt that not all students portrayed professional attributes in the poster workshops and nearly one third (29%) did not view the poster exhibition as a positive experience. Within this study, the reasons for this were unclear, however it does indicate some of the difficulties in team working generally and importantly, it points to some of the potential difficulties in trying to facilitate a teamwork learning experience for students. In saying this, as part of the overall processes associated with transformative experiential learning, the recognition by the students that conflict did happen in the teams and that this had potential to cause unprofessional behaviour, helped contribute to deeper reflective analysis on the part of everyone, including the lecturers.

Our results further indicate that T-TPQ is sensitive to changes in teamwork perceptions. The mean teamwork perception scores had increased at week nine, when compared to week three, although significance was not demonstrated. Age was associated with more positive teamwork perceptions in our study. In addition, our results convey that having a part time job may mediate towards more positive teamwork perceptions, but this requires further investigation. These findings are interesting, given that previous research has indicated that part-time working can have a detrimental impact in academic performance among pre-registration nursing students (Salamonson & Andrew, 2006).

Students' favourable perceptions of the experiential intervention together with their enhanced perceptions of teamwork may signify the utility of a flexible and insightful pedagogical approach

(Benner *et al.*, 2010), adding to traditional methods of classroom presentations, problem-solving and simulation. Such approaches aim to teach presentation skills, critical thinking or clinical skills but frequently fail to incorporate team working. The development of team posters added realism to the experiential learning opportunity. Such learning activity provides a form of social practice (Dieckmann *et al.*, 2007). Perhaps not surprisingly, the student exhibition created excitement and for students generated a pride in their work. The processes that we used in this work will therefore be of interest to all involved and interested in learning, teaching, assessment, leadership, team and self-development, and pedagogic research in Higher Education, both nationally and internationally. Although students' teamwork perception scores may not have changed significantly, their ability to engage in teamwork and to develop competence and confidence may have been enhanced with potential to lead to increased engagement in teamwork in future practice learning placements and as registered nurses. However, the degree to which such engagement, confidence and competence is retained is as yet unknown, requiring further investigation.

Conducting more studies regarding the utility of experiential learning and T-TPR for nursing students, with a greater sample, is imperative. Indeed, caution must be exercised in the interpretation of the findings from Phase One of the study due to the small sample size which perhaps not surprisingly, failed to demonstrate significance in any of the statistical tests during data analysis. For a study of this type, the response rates for Phase One were disappointingly low. In a future study, we therefore recommend a more robust recruitment strategy that incorporates the provision of the research invitation and information about the study in advance of the module commencement, with reminders in weeks 1 and 2.

Conclusion

This was the first time that the T-TPQ was tested for suitability for measuring the impact of an experiential learning intervention among nursing students. This pilot study ascertained students' views about an experiential intervention designed to mediate towards more positive perceptions about team working among nursing students, and tested the suitability of Battles and King (2010) TeamSTEPPS Teamwork perceptions Questionnaire for measuring the impact of the intervention. The experiential intervention of team-led poster development workshops was viewed positively by

students. Despite limitations, our study indicates that the amended T-TPQ is sensitive to changes in teamwork perceptions in repeated measures design studies among nursing students. In addition, our findings suggest that age and part-time employment may mediate towards more positive teamwork perceptions, but this requires further investigation in a future definitive study. Pedagogic research supports the use of collaborative learning interventions in Higher Education. In cognisance that safe and effective healthcare delivery is dependent on effective interdisciplinary and inter-agency team working, it is imperative that lecturers of nursing develop and evaluate pragmatic and purposeful team practice interventions for pre-registration nursing curricula.

Research Highlights

- Experiential methods that are based on a transformative philosophy facilitate learning in relation to teamwork
- The amended TeamSTEPPS Teamwork Perceptions Questionnaire (T-TPQ) is suitable for use among nursing students
- The amended T-TPQ was sensitive to changes in teamwork perceptions among nursing students
- The poster development workshops enhanced nursing students' perceptions of team working
- Age and part-time employment may mediate towards more positive teamwork perceptions.

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Table 2: TeamSTEPPS Teamwork Perceptions Questionnaire (T-TPQ), adapted for use among nursing students.

Section One

1. How old are you? _____years
2. Are you male/female? (circle your answer)
3. Do you currently have a part-time job? Yes/no (circle your answer)

Section Two

Listed below are statements relating to perceptions about team working. Reflect on your experience of team working in your poster development group and circle the number that corresponds with the extent to which you agree or disagree to each statement.

No.	Statements	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Team Structure						
1	The skills of students overlap sufficiently so that work can be shared when necessary.	5	4	3	2	1
2	Students are held accountable for their actions.	5	4	3	2	1
3	Students within my group share information that enables timely decision making by the team.	5	4	3	2	1
4	My group makes efficient use of resources (e.g., students, supplies, equipment, information).	5	4	3	2	1
5	Students understand their roles and responsibilities.	5	4	3	2	1
6	My group has clearly articulated goals.	5	4	3	2	1
7	My group operates at a high level of efficiency.	5	4	3	2	1

No.	Statements	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Leadership						
8	My team leader considers student input when making decisions about the poster.	5	4	3	2	1
9	My team leader provides opportunities to discuss the group's performance after an activity/event.	5	4	3	2	1
10	My team leader takes time to meet with students to develop a plan for the poster.	5	4	3	2	1
11	My team leader ensures that adequate resources (e.g. students, supplies, equipment, information) are available.	5	4	3	2	1
12	My team leader resolves conflict successfully.	5	4	3	2	1
13	My team leader models appropriate team behavior.	5	4	3	2	1
14	My team leader ensures that students are aware of any situations or changes that may affect poster development.	5	4	3	2	1
Situation Monitoring						
15	Group members effectively anticipate each other's needs.	5	4	3	2	1
16	Group members monitor each other's performance.	5	4	3	2	1
17	Group members exchange relevant information as it becomes available.	5	4	3	2	1
18	Group members continuously scan the evidence for important information.	5	4	3	2	1
19	Group members share information regarding potential complications.	5	4	3	2	1
20	Group members meet to re-evaluate team goals when aspects of the situation have changed.	5	4	3	2	1
21	Group members correct each other's mistakes to ensure that procedures are followed properly.	5	4	3	2	1

No.	Statements	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Mutual Support						
22	Group members assist each other during high workload.	5	4	3	2	1
23	Group members request assistance from fellow students when they feel overwhelmed.	5	4	3	2	1
24	Group members caution each other about potentially challenging situations.	5	4	3	2	1
25	Feedback between group members is delivered in a way that promotes positive interactions and future change.	5	4	3	2	1
26	Group members advocate for other students in the group even when their opinion conflicts with that of the team leader.	5	4	3	2	1
27	When group members have a concern, they challenge others until they are sure the concern has been heard.	5	4	3	2	1
28	Group members resolve their conflicts, even when conflicts have become personal.	5	4	3	2	1
Communication						
29	Information regarding the poster is explained to group members in clear terms.	5	4	3	2	1
30	Group members relay relevant information in a timely manner.	5	4	3	2	1
31	When communicating with the group, students allow enough time for questions.	5	4	3	2	1
32	Group members use common terminology when communicating with each other.	5	4	3	2	1

33	Group members verbally verify information that they receive from one another.	5	4	3	2	1
34	Group members follow a standardized method of sharing information.	5	4	3	2	1
35	Group members seek information from all available sources.	5	4	3	2	1

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