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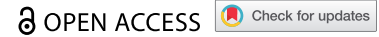


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SHORT REPORTS



French translation and validation of the interprofessional facilitation scale for simulation

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ABSTRACT

This study aimed to translate the Interprofessional Facilitation Scale in French and validate its use for interprofessional simulation training. Experts translated the items into French and then back translated them into English. Data used for the validation were collected from interprofessional simulation trainings. Experts and observers found the scale's content validity was suitable. A principal component analysis was conducted. The Kaiser-Meyer-Olkin test value was 0.88 and two factors were identified, that explained 59.9% of the variance. They were labeled: (a) Opportunity of Interprofessional Learning and (b) Psychological Safety. The Cronbach's alpha measure of internal consistency was 0.91. The learning simulation environment explained the structure of the scale. This study provides evidence that the French version of Interprofessional Facilitation Scale can be used in the context of interprofessional simulation training.

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French; interprofessional education; interprofessional facilitation scale; simulation; educator; trainer

Introduction

Interprofessional collaborative practice (ICP) “happens when multiple health workers from different professional backgrounds work together with patients, families, caregivers and communities to deliver the highest quality of care across settings” (World Health Organization, 2010). There is a global consensus on promoting interprofessional education (IPE) to enhance this collaboration. IPE is an experience that “occurs when students from two or more professions learn about, from, and with each other” (World Health Organization, 2010). To improve the efficacy of IPE, trainers' competencies need to be refined. Indeed the trainers should act as role models in ICP and explain interprofessional values, terms, and concepts as well as demonstrate generic facilitation skills (Botma, 2019).

At the Center of Interprofessional Simulation in Geneva, we use simulation as a teaching modality. In IPE via simulation (IPE simulation), learners from different professions are engaged in a simulated care situation as a team. It is widely used to improve ICP, with available evidence suggesting its positive effect on learners and teams' performances (Palaganas et al., 2014).

To our knowledge, validated instruments evaluating trainers' competencies in interprofessional education need to be developed in French, especially in the context of simulations. The Interprofessional Facilitation Scale (IPFS) was developed to assess IPE trainers' competencies in the context of IPE workshops (Sargeant et al., 2010). The scale is a summary of competencies required for IPE and a support to give feedback to trainers on their competencies. This study aimed to translate and validate the IPFS into French (IPFS-Fr) in the context of IPE simulation. We compared the results and the structure with those of the original study.

Methods

Cross-cultural adaptation process

We obtained consent from Joan Sargeant, one of the authors of the original version (Sargeant et al., 2010), to translate the IPFS into French and adapt it to the simulation context. The IPFS-Fr version was partly developed using the Beaton guidelines for cross cultural adaptation of questionnaires (Beaton et al., 2000).

Validation process: Data collection

The study took place at the Center for Interprofessional Simulation in the French-speaking area of Switzerland during the academic year 2018–2019. We focused on the observations of 89 debriefings of interprofessional simulation involving undergraduate students from six different curricula (nursing, medicine, nutrition, physiotherapy, medical radiology technology and midwifery). Most of the trainers observed facilitated interprofessional simulation for several years but one third were novice. The novices participated in a 1.5 hr training session on IPE simulation. Four observers participated in data collection. The trainers agreed to be observed and they could, on request, receive feedback on their IPE competencies.

Data analysis

Summary statistics (mean, standard deviation) were used to describe the items of the IPFS. Items with more than 25% of missing values were removed and the average value of the corresponding item was used for the others.

To determine the internal validity, experts assessed the relevance of the scale to measure all aspects of the underlying construct. Principal component analysis was used to investigate the structure and confirm the appropriateness of the method. Assumptions regarding matrix identity and sampling adequacy were evaluated using Bartlett's test of sphericity and the Kaiser-Meyer-Olkin test. Internal consistency was estimated using Cronbach's alpha.

Only the components with eigenvalues greater than 1 were investigated. Unless specified student t-tests were used, with a Type I error rate of 0.05. All analyses were made using R software, version 3.6.3 (The R Foundation for Statistical Computing, Vienna, Austria), with the additional libraries userfriendlyscience, corrplot, and REdaS.

Instrument

The initial IPFS had 18 items scored on a 4-point Likert scale, where 1 = poor, 2 = fair, 3 = good and 4 = excellent (see Table 1). Sargeant et al. removed three items (Items 16, 17, 18) because of the low response rate. The analysis highlighted two factors: (a) Encourage Interprofessional Interaction (Items 4–15) and (b) Contextualize Interprofessional Education (Items 1–3). We kept the initial 18 items in the development of the French version with the rationale of testing their applicability in the simulation context. The items were scored on the same 4-point Likert-scale.

Ethical considerations

This research received a non-objection agreement by the ethical committee of Geneva (Req-2019-00972).

Results

Cross cultural adaptation

A preliminary French version was created using forward-backward translation. Two of the authors who are involved in interprofessional and simulation training sessions independently translated the original version into French. Both versions were then compared to the original and adjusted. An English speaker did the back translation. The retranslated version and the original ones were compared and minor adjustments were made on the IPFS-Fr version to be tested.

Content validity

We sent the final IPFS-Fr version to a panel of six experts who evaluated its content validity. They recommended removing Items 6 and 7, as not relevant in the context of the simulation, and adding clarifications regarding 10 items to help the scoring (see Table 1).

Psychometric testing

Observers scored all the items in the upper-middle range (Table 1). Three items (16, 17, and 18) were removed from the analyses due to a high number of missing values.

The results of the principal component analysis of the 13 remaining items are presented in Table 1. The Kaiser-Meyer-Olkin measure of sampling adequacy was adequate at 0.88, and Bartlett's test of sphericity was significant ($\chi^2 = 610.96$, $df = 78$, $p < .001$).

Principal component analysis showed two factors, explaining 59.5% of the variance. The first factor, labeled *Opportunity for Interprofessional Learning*, was associated with 10 items (1, 2, 4, 5, 8, 10, 11, 12, 13, and 15) and explained 49.7% of the variance. The second factor was associated with three items (3, 9, and 14), and was labeled *Psychological Safety*. It explained 9.8% of the variance. Internal consistency of the 13-items scale was high (Cronbach's alpha = 0.91). For Factor 1, it was 0.91, and for Factor 2, it was 0.73.

Discussion

In this study, we translated and validated a French version of the IPFS that included 13 items in the final version. The results showed evidence that the scale is relevant for assessing the trainers' IPE competencies in a simulation context. However, we found differences in our results compared to those of Sargeant et al. (2010).

First, the two factors that emerged from the principal component analysis differed. In our version, the first factor refers to Opportunities for Interprofessional Learning and the second one to Psychological Safety. Sargeant et al. (2010) also found two factors but they were not related to the same items. In our analysis, Items 3, 9, and 14 were related to Factor 2, whereas Sargeant et al. found Item 3 associated with Factor 2 (Contextualize Interprofessional Education) and Items 9 and 14 associated with Factor 1 (Encourage Interprofessional Interaction). We suggest the difference of structure may be explained by the specificity of the simulation context.

While bringing together health care professionals for experiential learning, the simulation setting de facto promotes interprofessional interactions between learners. During the simulation, the learners are involved in a care situation in which they assume their professional role as closely as possible to reality (Simon et al., 2010). During the debriefing of interprofessional simulation, learners analyze their team performance by referring to the best practice in ICP. A supportive learning environment helps this process. Our Factor 1 includes items that highlight a trainer's ability to create an environment conducive to learning. Indeed Opportunities for Interprofessional Learning arise when trainers encourage the sharing of each professional's perspective on the care situation during the debriefing. Learning also takes place when trainers allow the expression of each professional's needs and expectations in the care situation.

Factor 2 reflects a specific aspect of debriefing in simulation and IPE simulation. It encompasses the competencies of trainers to ensure the learners' Psychological Safety. A safe environment in a simulation setting is essential to promote learning (Lateef, 2020). Trainers should therefore act as role models in their interactions with the co-debriefer and the learners. They should also accept without judgment everyone's ideas and experience.

Second, compared to Sargeant et al.'s results, we found significantly lower scores on all items (Table 1). The lower

Table 1. IPFS-Fr Factor Loading, Means Scores and Standard Deviation (SD) comparison with original IPFS.

Items	Fr-IPFS N = 89		Original IPFS ^a N = 289		Scores Comparison T-student *p < .05
	Principal component analysis		Scores (1 = poor, 2 = fair, 3 = good and 4 = excellent)		
	Factor 1: Opportunity of IP learning	Factor 2: Psychological safety	Means (SD)	Means (SD)	
1. Described why interprofessional education is important. Décrit pourquoi l'éducation interprofessionnelle est importante (Excellent: évoque le travail interprofessionnel comme facteur favorisant la qualité et la sécurité des soins) ^b .	0.60		2.58 (1)	3.55 (0.52)	-7.84*
2. Explained how interprofessional collaboration can enhance patient-centered practice. Explique comment la collaboration interprofessionnelle peut améliorer la pratique centrée sur le patient (Excellent: La finalité du travail interprofessionnel est le patient, qui est un membre à part entière de l'équipe et celui qui prend les décisions éclairées le concernant) ^b .	0.87		2.65 (1.06)	3.56 (0.52)	-7.49*
3. Role-modeled positive interactions with other health professionals and how professionals can work together, for example, by working collaboratively with the cofacilitator. Interagit de façon positive avec les autres professionnels de la santé et met en œuvre la manière dont les professionnels peuvent travailler ensemble, par exemple, dans ses relations avec le co-débriefeur (Excellent: le tuteur applique un modèle de rôle avec les étudiants et le co-débriefeur) ^b .		0.57	2.98 (0.89)	3.57 (0.55)	-6.26*
4. Created a learning environment in which the principles of interprofessional education were demonstrated or clearly explained (eg, did not focus on 1 provider group; acknowledged all professionals' contributions; acknowledged, respected, celebrated diversity in group). Crée un environnement d'apprentissage dans lequel les principes de la formation interprofessionnelle sont démontrés ou clairement expliqués (par exemple, ne se concentre pas sur un groupe de professionnels; reconnaît les contributions de tous les professionnels; respecte et célèbre la diversité du groupe).	0.62		3.08 (0.98)	3.60 (0.53)	-4.95*
5. Openly encouraged participants to learn from other health providers' views, opinions, and experiences (eg, asked questions that generated free exchange of ideas, openness, and sharing among all professions). Encourage ouvertement les participants à apprendre des points de vue, opinions et expériences des autres professionnels (p. ex., pose des questions qui favorisent l'échange d'idées, l'ouverture et le partage parmi toutes les professions) (Excellent: recherche activement les opinions et points de vue, éventuellement divergents ou complémentaires) ^b .	0.64		2.77 (1.09)	3.59 (0.57)	-6.90*
6. Used learning and facilitation methods that encouraged participants from different professions to learn with, from, and about each other (eg, icebreaker games, case studies, group discussions).	Removed	Removed	Removed	3.54 (0.58)	-
7. Invited other professions to comment and share their experiences, perspectives as questions or comments were made in the large group.	Removed	Removed	Removed	3.53 (0.60)	-
8. Used appropriate facilitator skills to keep discussion topics on track. Maintient et recentre si nécessaire la discussion sur une thématique interprofessionnelle.	0.60		2.90 (1.01)	3.54 (0.53)	-5.92*
9. Acknowledged and respected others' experiences and perceptions. Reconnaît et respecte les expériences et les perceptions des autres (Excellent: Recherche les perceptions des étudiants et du co-débriefeur; Suffisant/bon: Recherche les perceptions des professionnels; Pauvre: Ne recherche les perceptions que des professionnels de sa branche) ^b .		0.78	3.17 (0.86)	3.65 (0.50)	-5.14*
10. Encouraged members of all professions to contribute to decisions and seek opinions from others in the group during case or patient discussions and decision-making activities. Encourage les membres de toutes les professions à contribuer aux décisions, à demander l'avis des autres membres de l'équipe, y compris du patient, lors des discussions de cas et de prise de décision. (Décision collective/consensuelle y.c avec le patient comme membre de l'équipe) ^b .	0.80		2.96 (0.97)	3.58 (0.53)	-5.58*
11. Asked participants to share their professional opinions, perspectives, and values relative to patient care and collaborative practice. Demande aux participants de partager leurs opinions professionnelles, leurs points de vue et leurs valeurs par rapport au patient, aux soins et la pratique collaborative.	0.43		2.77 (0.92)	3.53 (0.57)	-7.12*
12. Identified professional differences in a positive manner as participants offered their professional experiences and perceptions. Identifie les différences professionnelles de manière positive, lorsque les participants partagent leurs expériences et perceptions. (Excellent: Renvoie à la complémentarité des rôles professionnels) ^b .	0.82		2.84 (1.06)	3.55 (0.53)	-5.80*
13. Asked health professionals to indicate their profession and discuss each other's roles and responsibilities in the delivery of patient care. Demande aux participants d'indiquer leur profession et de discuter de leurs rôles et responsabilités dans la prise en soin des patients (Excellent: sur la base des éléments collectés en 11, décontextualise en discutant, de façon générale, des rôles et responsabilités de chaque professionnel) ^b .	0.74		2.51 (1.02)	3.50 (0.59)	-8.18*
14. Listened to and acknowledged participants' ideas without judgment or criticism. Écoute et reconnaît les idées des participants sans jugement ni critique (Excellent: n'émet aucun jugement de valeur, ni positif, ni négatif) ^b .		0.87	3.45 (0.78)	3.69 (0.47)	-2.89*

(Continued)

Table 1. (Continued).

Items	Fr-IPFS N = 89		Original IPFS ^a N = 289		Scores Comparison T-student *p < .05
	Principal component analysis		Scores (1 = poor, 2 = fair, 3 = good and 4 = excellent)		
	Factor 1: Opportunity of IP learning	Factor 2: Psychological safety	Means (SD)	Means (SD)	
15. Asked questions to encourage participants to consider how they might use each others' professional skills, knowledge, and experiences. Pose des questions pour encourager les participants à réfléchir à la façon dont ils pourraient utiliser les compétences, connaissances et expériences des uns et des autres (dans une perspective de transfert) ^b .	0.85		2.68 (1.13)	3.52 (0.57)	-6.40*
16. Helped participants work through differences in a spirit of openness and collaboration when differing opinions arose (eg, led the discussion and ensured that all participants had an opportunity to express their views openly). Aide les participants à surmonter les désaccords dans un esprit d'ouverture et de collaboration (par exemple, anime la discussion de façon à ce que tous les participants aient l'occasion d'exprimer leurs opinions ouvertement, sans crainte) ^c .	Removed	Removed	3.07 (0.93)	3.52 (0.56)	-3.79*
17. Used effective communication skills to clarify and resolve misunderstanding and conflict, if applicable. Utilize des techniques de communication efficaces pour clarifier et résoudre les malentendus et les conflits, le cas échéant (par exemple le DESK, CNV, autre). ^c	Removed	Removed	3.03 (1.17)	3.63 (0.52)	-2.87*
18. Discussed issues related to hidden power structures, hierarchies, and stereotypes that may exist among different health professionals. Discute des problèmes liés aux structures de pouvoir cachées, aux hiérarchies et aux stéréotypes qui peuvent exister parmi les différents professionnels de la santé. ^c	Removed	Removed	2.32 (1.05)	3.37 (0.74)	-7.61*
Eigenvalue	6.45	1.27			
Percent variance explained	49.7	9.8			
Cronbach's alpha	0.91	0.73			

^aSargeant et al. (2010); * p -value < 0.05; ^b Clarification of the item; ^c items removed from analysis.

scores could be explained by the duration of the trainer's sessions, which were shorter in our context than in the original study. Facilitating interprofessional simulations is a particularly demanding and difficult task. Trainers have to facilitate interprofessional collaboration and manage the learning of specific skills needed by each learner. Trainers should be trained on simulation best practice and develop their IPE competencies to teach more effectively. Our results may suggest that the time allowed for the train the trainer's sessions contributes to improve teaching skills and competencies in IPE simulation.

Our study has some limitations. Only a small number of IPE simulation took place during the period of data collection and some trainers did not agree to be observed, so the sample size was relatively small. Further studies are necessary to confirm the results and the robustness of the substructure on a wider range of health care professionals.

Conclusion

This study provides evidence that the IPFS-Fr can be used to assess facilitation competencies in IPE simulation among trainers. In support of feedback, it can also help to develop those skills further. Yet, one of the most challenging aspects of IPE simulation is teaching interprofessional competencies while managing the complexity of interprofessional co-debriefing. Indeed, trainers should act as role models in their interactions with the co-debriefer. They also should facilitate the exchange of viewpoints, sharing of representations, reciprocal expectations and needs of each profession.

To help trainers improve their competencies, we are developing a specific tool. Nevertheless, the IPFS provides a relevant basis for effectively animating IP simulation.

Declaration of interest

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

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