



# Development and inter-rater reliability of a tool assessing hypnotic communication behaviours adopted by nurses caring for children with cancer: The Sainte-Justine Hypnotic Communication Assessment Scale

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## ABSTRACT

**Background:** Several studies in pediatric oncology have shown the successful effects of using hypnotic communication techniques (HCTech) during painful medical procedures. Since no studies assessed the precise use of these techniques with a validated tool, it is unsure that the observed relationships involve the use of HCTech. **Objectives:** To develop a scale evaluating healthcare professionals' behaviours when using HCTech and to evaluate its inter-rater reliability.

**Methods:** This study involved the preliminary steps of the Sainte-Justine Hypnotic Communication Assessment Scale (SJ-HCAS) development process. As part of a larger intervention study, the SJ-HCAS was developed in three steps by five experts and four lay raters using an iterative process applied to subsets of video-recorded nurse-patient interactions. The development aimed to maximize clarity and precision of items as well as minimize redundancy amongst items. Inter-rater reliability was assessed in a randomly selected sample of 1/3 of collected video-recorded interactions (n = 42).

**Results:** The final version of the scale is composed of 11 items categorized in two domains pertaining to Relationship and Technique. We found excellent inter-rater reliability for both subscores and total score in two independent inter-rater comparisons (median ICC = 0.879), with most items showing very good to perfect inter-rater reliability (median Kappa = 0.847).

**Conclusions:** The results support further work with the SJ-HCAS. The scale has the potential to help ensure the integrity of hypnotic communication training in children which could ultimately promote the dissemination of the practice of HCTech.

## 1. Introduction

Along their cancer trajectory, children have to undergo many painful invasive medical procedures which may affect them daily. It is well-known that children are greatly affected by different types of pain, including pain caused by medical procedures.<sup>1</sup> Among them, venipunctures are a common source of pain in hospitalized children.<sup>2,3</sup> These needle procedures are associated with a significant level of pain and distress for pediatric patients.<sup>4</sup> In fact, patients report that painful procedures represent one of the most difficult parts of cancer suffering.<sup>5,6</sup> Compared to adults, procedural pain is a greater source of anxiety and discomfort for children.<sup>7</sup> Studies have even found long and lasting negative consequences years after the end of treatment.<sup>8,9</sup>

Interestingly, previous medical experiences have been shown to be predictive of the child's reaction to future medical procedures.<sup>10–12</sup>

It is thus of major importance for healthcare professionals to use appropriate pain and distress management techniques. Different methods have been developed, including pharmacological interventions and non-pharmacological interventions.<sup>13</sup> In pediatric settings, hypnosis is often used to relieve physical or emotional suffering.<sup>14</sup> Clinical hypnosis and hypnosis-derived communication techniques such as hypnoanalgesia (hypnotic suggestions to relieve pain<sup>15</sup>) have great potential as children are easily absorbed in fantasy and imagination.<sup>16</sup> In the Ericksonian tradition, the induction of hypnotic states and phenomena appears to be primarily approached as a matter of communication of ideas and the elicitation of trains of thought and associations

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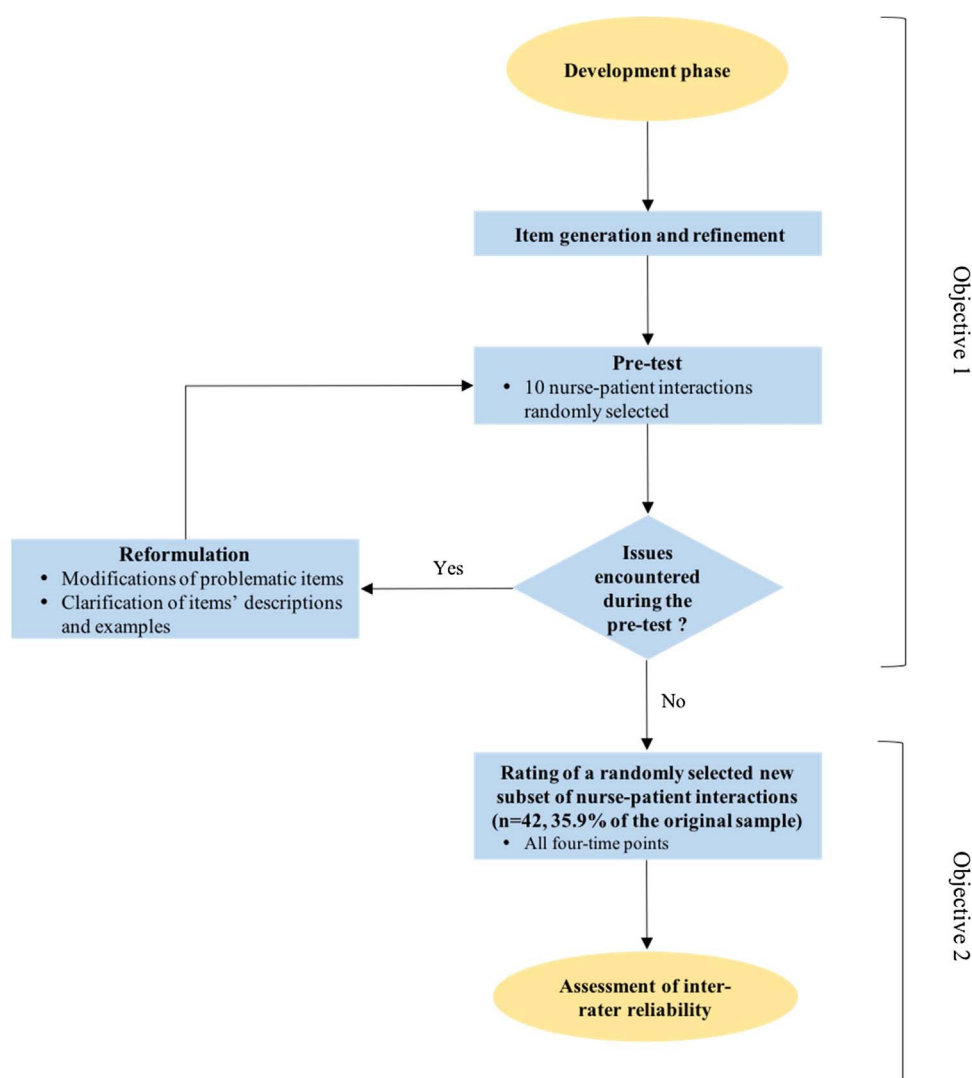


Fig. 1. Development process of the Sainte-Justine Hypnotic Communication Assessment scale and inter-rater reliability study.

within the subject and consequent behavioural responses.<sup>17</sup> Moreover, several studies in neuroscience have shown that hypnosis modifies brain activity in the anterior cingulate cortex, which plays an important role in pain modulation.<sup>18,19</sup>

Previous studies in pediatric oncology have shown that HCTech not only decrease procedure related pain<sup>5,20–29</sup> and distress<sup>5,20,23–27</sup>, but also reduce anxiety<sup>5,20,21,23–27,29,30</sup> and fear<sup>22</sup>. However, all these reports call for an independent professional practising hypnosis while the medical procedure is being performed by another healthcare professional (e.g. nurse). None of the studies address the effect of hypnosis communication as used by the professionals (e.g. nurse) themselves. This is a strong limitation to the dissemination of the intervention as it increases costs and is often not feasible in the daily activity of an outpatient clinic. Interestingly, none of the previous studies actually measures treatment integrity, i.e. to what extent the used communication techniques were effectively altered by training and if professionals use HCTech. Consequently, there is no guarantee that the observed relationships (e.g. pre-post differences on a pain scale) actually involve hypnotic communication. In addition, we do not know which components and what intensity in such communication could optimize improvements.

The first objective of this study was to develop a scale assessing pediatric healthcare professionals' behaviours when using HCTech. The second objective was to evaluate the inter-rater reliability (IRR) of the communication scale. We focused on the level of agreement between

raters on scores derived from the scale as well as on individual items.

## 2. Methods

The scale was developed as part of a research project taking place in our cancer care centre (CHU Sainte-Justine) aiming at evaluating the effects of training nurses to use HCTech in clinical practice (see study protocol<sup>31</sup>). The purpose of the present scale is to assess pediatric oncology nurses' behaviours when using HCTech to deal with patients' procedural pain and distress during venipunctures.

### 2.1. Participants

To evaluate verbal and nonverbal communication during nurse-patient interactions, venipuncture procedures performed at the CHU Sainte-Justine daycare hematology-oncology clinic were video-recorded. Participant recruitment was completed by May 2015. Six female oncology nurses took part in the study. Inclusion criteria for the nurses were (1) working in the daycare clinic, (2) having experience performing venipunctures with children and (3) having no prior experience in hypnosis. Six patients were assigned to each nurse, using a convenience sampling method.

Eligible patients were identified from the clinic's computer database. Patients' inclusion criteria involved (1) being aged between 5 and 18 years old, (2) having a good understanding of French and (3) having

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