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## Processus d'apprentissage des étudiants en médecine lors d'un premier jeu de rôle en psychiatrie : étude par théorisation ancrée

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English title: **Medical students' learning processes the first time they role-play in psychiatry: a grounded theory study.**

French title: **Processus d'apprentissage des étudiants en médecine lors d'un premier jeu de rôle en psychiatrie: étude par théorisation ancrée.**

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1 **Medical students' learning processes the first time they role-play in psychiatry: a**  
2 **grounded theory study.**

3

4 **ABSTRACT**

5 **Background:** Recent changes in psychiatric care and teaching that limit patient contact for  
6 medical students can be overcome in part by simulation-based education. Understanding the  
7 learning processes of medical students involved in psychiatric simulation-based programmes  
8 could usefully inform efforts to improve this teaching. This study explored the learning  
9 processes of medical students the first time they role-play in psychiatry.

10 **Methods:** We used constructivist grounded theory to analyse semi-structured interviews of 13  
11 purposively sampled medical students and the six psychiatrists who trained them. To improve  
12 the triangulation process, the results of this analysis were compared with those of the analyses  
13 of the role-play video and the debriefing audio-tapes.

14 **Results:** Five organising themes emerged: improving the students' immediate perception of  
15 patients with mental disorders; cultivating clinical reasoning; managing affect; enhancing  
16 skills and attitudes and fostering involvement in learning psychiatry.

17 **Conclusion:** Results suggest that psychiatric role-playing can improve students' progressive  
18 understanding of psychiatry through the development of intuition and by allaying affects.  
19 Emotional elaboration and student involvement appear to be key features.

20 **Key words:** Role playing; simulation training; psychiatry; students, medical; learning.

21

22

23 **Processus d'apprentissage des étudiants en médecine lors d'un premier jeu de rôle en**  
24 **psychiatrie: étude par théorisation ancrée.**

25

26 **RESUME**

27 **Objectifs:** Ces dernières décennies, les opportunités formatives des étudiants en médecine  
28 directement auprès des patients ont été limitées par les évolutions des soins psychiatriques  
29 (fermetures de lits, spécialisation des services, déplacement des soins vers la pratique  
30 ambulatoire, etc.) et des modalités d'enseignement (manque de médecins séniors, complexité  
31 et sévérité accrue des patients hospitalisés, etc.). En soutenant un apprentissage expérientiel,  
32 la pédagogie par simulation pourrait aider en partie à dépasser ces difficultés. Cette étude  
33 explore les processus d'apprentissage des étudiants en médecine lors de leur premier jeu de  
34 rôle en psychiatrie, afin de soutenir le développement de la simulation psychiatrique en  
35 France.

36

37 **Méthodes:** Dans le cadre de l'enseignement de la psychiatrie à l'Université Paris-Centre, un  
38 jeu de rôle était proposé à un tiers des étudiants de 5<sup>ème</sup> année de médecine en 2018. Ces jeux  
39 étaient menés par un binôme d'enseignants, parmi six volontaires: l'un jouant le patient, l'autre  
40 assurant les briefings et débriefings. Un des 4 étudiants par groupe menait alors un entretien  
41 simulé aux urgences de 10-15 minutes avec l'enseignant-patient, portraiturant soit une  
42 dépression avec idées suicidaires, soit les suites d'une attaque de panique. Les 3 étudiants et  
43 l'enseignant observateurs visionnaient la retransmission du jeu dans une salle séparée. Un  
44 débriefing était ensuite mené suivant la structure "description, analyse, synthèse".

45

46 Nous avons utilisé une méthodologie qualitative par théorisation ancrée pour analyser les  
47 entretiens menés avec 13 étudiants en médecine recrutés de façon dirigée, et ceux des 6

48 enseignants qui les ont formés. Afin d'améliorer la triangulation, les analyses ont été  
49 confrontées à celles des enregistrements vidéo et audio des jeux, et briefings et débriefings  
50 respectivement.

51

52 **Résultats:** Cinq thèmes organisateurs ont émergé: améliorer la perception immédiate des  
53 personnes avec un trouble psychiatrique; cultiver le raisonnement clinique; métaboliser les  
54 affects; améliorer les habiletés et attitudes; et soutenir l'investissement dans l'apprentissage en  
55 psychiatrie. Ces résultats sont cohérents avec la littérature scientifique portant sur la  
56 simulation développée dans d'autres spécialités médicales. Cette approche pédagogique  
57 favorise la réflexivité des étudiants, l'apprentissage entre pairs, l'empathie, et plus  
58 globalement, toutes les compétences "non techniques" (communication et relation avec le  
59 patient, professionnalisme, etc.).

60

61 En psychiatrie, la littérature insiste sur l'apprentissage de tableaux psychopathologiques et de  
62 compétences d'entretien par la simulation humaine pour les étudiants en médecine. Nos  
63 résultats suggèrent que cet apprentissage pourrait passer par une *compréhension* de ce qui se  
64 joue pour les patients, reposant notamment sur les "*premiers ressentis*" qui émergent chez  
65 l'étudiant dans la rencontre des patients. En soutenant la perception première d'une forme  
66 holistique, les jeux de rôle pourraient favoriser chez les étudiants le développement de  
67 *l'intuition* dans le raisonnement clinique, complémentaire aux processus *analytiques*, plus  
68 traditionnellement enseignés lors des études de médecine. Cependant, l'identification et  
69 l'intégration de ces premiers ressentis au raisonnement clinique supposent une temporalité  
70 incompressible, ainsi qu'une qualité d'attention et de bienveillance particulière de l'enseignant  
71 et du groupe de pairs lors du débriefing, afin de les faire émerger et leur apporter une réelle  
72 pondération dans la pratique clinique ultérieure. Des approches pédagogiques favorisant

73 l'intuition pourraient également trouver leur place pour renforcer cet apprentissage, telles que  
74 la médecine narrative ou les groupes Balint.

75

76 Néanmoins, la méthodologie qualitative, le recrutement monocentrique, l'exploration d'un  
77 seul jeu de rôle et la rareté relative de l'implémentation de cette intervention au moment de  
78 l'étude limitent la généralisation des résultats.

79

80 **Conclusion:** Cette étude suggère que les jeux de rôle pourraient améliorer progressivement la  
81 compréhension de la psychiatrie par les étudiants en médecine, en développant leur intuition  
82 et en régulant leurs affects. L'élaboration émotionnelle et l'investissement des étudiants  
83 apparaissent comme des aspects clefs.

84

85 **Mots-clefs:** Jeux de rôle; formation par simulation; psychiatrie; étudiants en médecine;  
86 apprentissage.

87 **Introduction**

88 Recent changes in the models of psychiatric care delivery (e.g., ward closures, restructuring  
89 of community psychiatric services, specialist teams) and bedside teaching (e.g., lack of senior  
90 clinicians, patients with more complex and severe illnesses) have limited the contact with  
91 psychiatric patients available to medical students (1). This can be overcome in part by offering  
92 students experiential and interactive learning opportunities within simulation-based education  
93 (SBE) (2).

94 However, simulation within psychiatry is typically different from that in other medical  
95 specialties. The ability of simulated patients (SPs) to accurately portray the cognitive,  
96 affective, and behavioural complexity of mental disorders is a challenge to the authenticity of  
97 psychiatric SBE (PSBE) (3). Through SPs' strong personal involvement, required to make  
98 simulation appear real, PSBE may generate phenomena such as role adherence and symptom  
99 induction, which raise ethical issues for depicting a patient with, for example, suicidal  
100 ideation (4). Yet, training real patients may be challenging too: some patients may develop a  
101 detached style resistant to any acting and rehearsal training, while others may choose to  
102 describe their own opinions rather than portray symptoms, as about their preferences for  
103 psychotropic medication (5). The psychological consequences of training real patients may  
104 also include decompensation or retraumatisation. Nonetheless, a recent thorough systematic  
105 review - including meta-analyses- provided encouraging results that support effectiveness of  
106 psychiatric SBE for medical doctors (6). Significant differences were reported on behaviours,  
107 skills, knowledge and attitudes of medical doctors for simulation groups compared with both  
108 active and inactive control group at immediate post-test. And at 3-month follow-ups,  
109 significant differences were found for participants' behaviours and skills, and for patient  
110 benefits outcomes.

111



112 Approaches to address psychiatric SBE issues vary according to the worldview adopted, that  
113 is according to the "ways of thinking about reality and knowledge" (7)(8). A post-positivist  
114 trainer, with an orientation toward objective reality, will focus on issues of realism in SP  
115 psychiatric portrayal. In contrast, an interpretivist (including social constructivist) trainer,  
116 inclined to interpret reality as subjective and constructed by individuals, will focus on the  
117 trainee's learning activity. Applying the social constructivism approach does not deny the  
118 importance of realism, and the patient-player must be "good enough". Nonetheless, realism is  
119 less important than what the learner actually learns. Thus, in this approach, it is necessary to  
120 understand *how* the trainee learns, that is, *how the learning is constructed in the trainee's*  
121 *mind* during and after SBE, in relation to the psychiatric simulation pedagogy; that is, the  
122 *trainee's learning process*. In the constructivist approach of our study, *process* are defined as  
123 “ unfolding temporal sequences that may have identifiable markers with clear beginnings and  
124 endings and benchmarks in between. The temporal sequences are linked in a process and lead  
125 to change. Thus, single events become linked as part of a larger whole. » (9)(p.10). This  
126 understanding of learning process can be what will help educators to improve pedagogical  
127 conditions, by enabling them to act directly on how the trainees learn. This in turn may result  
128 in improving the content that is learned. Moreover, understanding learning processes may  
129 support authentic learning, that is, doctors who are authentically involved with their patients  
130 rather than those "who behave appropriately".

131

132 The core elements of learning in SBE can be defined as follows: "*The learner enacts a task*  
133 *set in a specific place and moment, which evokes real-world situations. This interactive*  
134 *experience occurs over time, so that the learner's actions produce effects, which may prompt*  
135 *other actions. The contextually bound enactment is generally accompanied by the learner*  
136 *undertaking the task as if it was real, even though they are aware that it is not*" (10). Several

137 theories have been created to explain learning in SBE (11). Behaviourism, for example,  
138 focuses on strategies and behaviour change, thereby influencing knowledge and competence  
139 acquisition. Constructivism (including *Kolb's cycle*) builds on subjective understandings and  
140 processes that influence decision-making. Social cognitive learning theory focuses on situated  
141 and social knowledge and competence acquisition, especially through self-efficacy (belief in  
142 one's capacity to take action). But all theories of adult learning are not equally relevant to a  
143 particular setting (12), as learning in psychiatric SBE. A qualitative approach makes it  
144 possible to develop an analytical framework that starts from the trainee's viewpoint to  
145 understand learning processes. It can provide insight into the processes that actually occur  
146 during learning, rather than those that educators think naturally occur.

147

148 We recently conducted a comprehensive review (13) of qualitative studies on PSBE for  
149 health professionals identified some themes about this learning: confusion by uncertainty;  
150 handling difficult situations; letting go of stigmatisation (14)(15)(16), etc. Nonetheless, most  
151 studies focused on *perceptions* and *learning experience* and content, and not on *learning*  
152 *processes*. Moreover, input from teachers could substantially enhance the triangulation of  
153 these findings (17). Within the SBE experience, data capturing the interaction of individuals  
154 — including group construction of knowledge — may also provide deeper insight into the  
155 complexity of learning processes (18). We found no such triangulation in qualitative studies  
156 of PSBE.

### 157 ***Objective***

158 Thus, we aimed to explore medical students' learning processes during human simulation in  
159 psychiatry, because human simulation remains the most common form of PSBE for medical  
160 students (6). We focus on *role-play*, which is well suited for psychiatry, where diagnosis and  
161 care rely mainly on face-to-face interviews (19) and are less affected by the time and resource

162 constraints that often limit SBE implementation. We focused on a *first* PSBE experience for  
163 students, to study this process *at the very beginning*, as it emerges to support their  
164 development of authentic behaviour. Thus, this study explores medical students' learning  
165 processes during their first experience in a psychiatric role-play, and through this, tries to  
166 understand to what extent this first experience influences students' learning in psychiatry.

167

168

## 169 **Methods**

### 170 ***Design***

171 Given the complex mental and interpersonal processes involved in PSBE learning, our  
172 research was inspired by constructivist grounded theory (CGT) (9). We used interviews to  
173 explore in depth how students think about the influence of their first psychiatric role-play on  
174 their learning in psychiatry. To enhance triangulation of analysis, students' views were  
175 supplemented with trainers' views on this learning and with our analysis of the videotapes of  
176 role-plays and audio-tapes of the debriefings. Researchers' assumptions, reflexivity and  
177 deeper methodological details are reported in appendix 1.

178

### 179 ***Setting***

180 The study was conducted at University of Paris-Centre in 2018 (France). Each trimester, one  
181 third of students was randomly selected to attend a mandatory half-day SBE, which included  
182 a one-hour psychiatric role-play session, as reported on Figure 1. Of the 94 students  
183 participating in this SBE, 38 underwent their morning clerkship in a psychiatric department.  
184 Six assistant professors of psychiatry volunteered to act as trainers. Each role-play was led by  
185 two of them: one playing the patient, the other leading the debriefing.

186

187 Each one-hour role-play used one of two scenarios, randomly chosen: a patient with  
188 depression and suicidal ideation or a patient having a panic attack (see Box 1 for Summary of  
189 scenario). Each session was attended by four students who were not aware of the cases prior  
190 to the session. A student volunteer conducted a 10–15 minute interview with the trainer-  
191 patient in a separate small consultation room, while the other three students and the remaining  
192 trainer watched the role-play interview live by video transmission. Finally, the trainers  
193 conducted a debriefing, lasting an average 40 minutes, with the four students. Debriefing  
194 followed three stages (20) — descriptive, analytic and application — intended to foster a  
195 reflective attitude in dealing with psychiatric patients.

### 196 *Participants*

197 Figure 1 is a flow chart summarising the participants, inclusions, exclusions, and procedures.  
198 We recruited fifth-year medical students between November 2017 and May 2018. A  
199 purposive sampling strategy was used to optimize diversity according to the following  
200 variables (self-reported by students by a self-administered questionnaire at the start of the  
201 half-day SBE): age, gender, psychiatric clinical rotation, player or observer during role-play.  
202 Then, subsequent theoretical sampling was guided by categories and concepts that emerged  
203 from initial data collection. In May 2018, we asked all the six trainers conducting these  
204 simulations for interviews. Participants were not compensated for these interviews.

205

### 206 *Data collection*

207 Before the sessions we sent all students information by email, including the study's purpose,  
208 emphasis on voluntary participation, confidentiality of interviews, and absence of  
209 consequences on their grades for their participation (or non-participation). All simulations  
210 were video-recorded, and the debriefing audio-recorded after obtaining informed consent  
211 from each student; they were also informed they could opt out at any point. XXX

212 (psychiatrist) included students at the end of the half-day simulation training, and trainers at  
213 the end of all role-play sessions. She conducted individual face-to-face semi-structured  
214 interviews with the volunteer students. The sampling strategy was adjusted as appeared  
215 appropriate as we proceeded, and data analysis took place throughout the study. This iterative  
216 method enabled us to improve our understanding of the emerging themes and obtain deeper  
217 insight into key concepts. The interview guide (see Box 2) was built on a review of the  
218 literature conducted by some authors of this article (6) and the research team's experience. We  
219 ended data collection when we reached theoretical saturation, that is we collected sufficient  
220 data to reach an adequate understanding of the emerging themes (21)(22) .

### 221 *Data analysis*

222 Interviews were audio-recorded, transcribed verbatim (first in French for analysis and then in  
223 English by an English native person for publication), de-identified, and entered into N'Vivo  
224 10 (QSR International, Duncaster, Australia) for data management by constant comparative  
225 analysis (9). XXX, YYY and ZZZ (respectively, psychiatrist, psychologist and health  
226 anthropologist, deliberately varied professions intended to improve triangulation)  
227 independently performed the open coding, looking for recurrences, first among students' and  
228 then among trainers' interviews. We proceeded through constant comparison, that is, we  
229 compared incidents with other incident while developing and refining emerging  
230 characteristics and properties of categories. Together, they then conducted the axial coding,  
231 looking at relationships among the codes. They identified themes or influencing factors and  
232 categories, discussed them with the research team, and explored them more deeply in  
233 subsequent interviews. Underlying concepts and their relationships were examined in the  
234 existing literature.

235 Students' narratives were compared with the trainers' perceptions and researchers'  
236 observations of the role-play video and the audio-recorded debriefing. Researchers' reflexivity

237 was improved by memo-writing, which enabled them to engage in continuous self-awareness  
238 of their role in co-constructing the results and to keep track of reflections and interpretations.  
239 Finally, analyses were submitted to all participants for feedback to improve the relevance of  
240 the analysis.

#### 241 *Ethical approval and consent*

242 The Institutional Review Board of West Paris University Hospitals (Comité de la Recherche-  
243 Hôpitaux Universitaires Paris Ouest- CERHUPO) approved this study, as reference number  
244 2017-12-04.

245

#### 246 **Results**

247 The data we collected comprise 19 interviews (13 students and 6 trainers) and 11 video  
248 recordings (2 participants attended the same PSBE sessions) of the psychiatric role-play  
249 sessions and audio recordings of the debriefings. Interviews lasted an average of 30.7 minutes  
250 for both students and trainers. Table 1 summarises the students' characteristics.

251

252 We identified five organising themes that enabled us to better understand the learning  
253 processes. Themes and subthemes are summarized in Table 2. No notable discrepancies were  
254 observed between trainers and students, except about the affective elaboration and the body  
255 features, both discussed in more detail by the trainers. Appendix 4 provides deeper analysis  
256 by adding more direct quotations from the interviews and comparing the interviews of  
257 students and of trainers as well as the analyses of both the video and audio recordings.

258

#### 259 *Improving their immediate perception of the patientcheck*

260 Through psychiatric role-playing, students first "sense things" about the patient, reached a  
261 global intuitive perception of him or her, which was necessary to understand clinical  
262 situations, and which supplemented the students' analytical perception.

263 [S= role-play student, O= observer, T= trainer]

264

265 O1: *"it's hard to understand when you don't see it ....[Psychiatry is] really super abstract.*  
266 *Specialties like endocrinology ... you can learn checklists. But a depressive patient, for*  
267 *example, you need to feel him, you have to have seen him to realize, with finesse..."*

268

269 O5: *"It's true that psychiatry is really... the perfect example of ... the specialty where it's*  
270 *necessary, where you need to feel things... yes, feel things about the patient."*

271

272 While medical studies stimulated students to spot symptoms by an objective approach,  
273 psychiatric role-play offered them the opportunity to realize that clinical perceptions in  
274 psychiatry were shaped by a degree of subjectivity, based on both the patients' presentations,  
275 and the professionals' perceptions and ways of making sense of them.

276

277 O3: *"Uh... you have to be very attentive to the patient: it's precisely what he is saying, and*  
278 *how he's saying it, what he's doing, and how he is doing it."*

279

280 T5 *"It was a simulation where uh... finally uh... the student was having some difficulty*  
281 *perceiving that the person across from him felt a little anxious."*

282

283 Moreover, psychiatric role-play introduced students to the particularly detailed observation  
284 required for grasping the explicit and implicit meanings of clinical situations. Finally,

285 psychiatric role-play served as an initiation to psychiatric vocabulary — the many words and  
286 expressions that shape psychiatric perception.

287

288 P3: *"Having faces to connect to words to perceive that the other person was a little anxious."*

289

290 P2: *"In a book, there's a language barrier. Psychiatry it's after all another language. Uh...*

291 *almost each clinical situation has a word. It's very complicated. So it's not worth it to learn*

292 *what we don't understand... and them... thus putting words on the things we see, that we try*

293 *to understand... that we can remember by something visual, rather than with a simple*

294 *definition ... uh...a sentence or words... that's already easier."*

295

### 296 ***Cultivating clinical reasoning***

297 First, by developing a more subtle, profound perception of the patient and by paying attention  
298 to the physical and emotional processes, students learned to acquire an intuitive approach to  
299 clinical reasoning, complementary to analytic reasoning.

300

301 P3: *"It really changed my approach, less categorical, more free (...). Because I had a very*  
302 *emergency-department screening-type approach, highly structured by DSM categories."*

303

304 I6: *"here with the role-playing, 'they come out with "item number..."', because if not, they are*  
305 *very highly formatted. I remember some who said "well, us, we learn symptoms to answer*  
306 *multiple-choice questions!"*

307

308 Moreover, psychiatric role-play appeared to lead students to think about the patient's  
309 perspective, which could not be easily understood from a book. They learned to figure out



310 what and how the patient feel and think, even when it is difficult-to-understand or hermetic,  
311 as psychosis can be. It enabled them to explore more deeply and provide appropriate care.

312

313 O5: "*[The] patient isn't always aware of his problems. He doesn't always want to be treated.*  
314 *That's the whole complexity of the thing. He's not going to come and make a list of what*  
315 *characterizes him. And then after, understanding why someone doesn't want to live anymore,*  
316 *it's not so obvious; you have to go inside their head and understand the logic...."*

317

318 O6: "*a case vignette says: 'the patient is depressed.'* We don't ask any question, even if we  
319 *don't understand anything; we can have a great grade on the case. There, with a patient, you*  
320 *have to read between the lines what he doesn't say, uh ... uh, the way he is... Training with*  
321 *simulation training, it's trying to understand his own logic to figure out how to help him. We*  
322 *can't only apply a single management."*

323

324 Thus, watching or role-playing a clinical situation cultivated reflexivity, which helped then  
325 students to raise questions, define priorities, and organize temporal sequences.

326

327 O2: *« well, there is a time when we only see our own perception of things, what we want to*  
328 *see. And after, we discuss it. And the others lead you to notice things that you hadn't seen.*  
329 *One of the medical students asked: ' do we tell the patient the diagnosis here?' and about*  
330 *what we should answer. That raised questions for me about things I've never thought about."*

331

332 O6: "*well, even if you know the course material perfectly, it's possible to not know what's*  
333 *important and what isn't. In the textbook, everything is at the same level. We retain what*

334 *might come up in the exams and in multiple-choice questions. Sometimes we retain the wrong*  
335 *statements better, to remember not to choose them! Here at Ilumens, you can prioritize."*

336

337

338 Finally, because the scenarios used for role-playing offered a synthesis of the main symptoms  
339 of two common clinical situations, they were seen as dimensional prototypes of psychiatric  
340 disorders that made a comprehensive multi-axial understanding possible. The perception of  
341 depression, for example, through the lens of withdrawal and slowdown alone, would not  
342 enable students to understand the patient's suffering, while the debriefing helped them acquire  
343 a representation of a global loss of vital energy. Psychiatric role-play thus was perceived as a  
344 step that prepares students for practice by making it possible for them to understand  
345 progressively more complex situations in clinical settings.

346

347 O4: *"Here with the simulation scenarios, the psychiatrists who play the patients will*  
348 *concentrate symptoms, that is, they'll put together symptoms to teach the medical student a*  
349 *typical presentation. And with this model in mind, [the student] will be able to deal with*  
350 *psychiatric diseases in real life, perceiving their nuances and variations."*

351

352 O8: *"In the clerkship, you can multiply the points of view, and cross them; tell yourself 'I was*  
353 *told he had this disease.' This other patient, I was told he had that disease too, but the*  
354 *presentation is different. The multiplicity of patients lets you get an idea of a pathological*  
355 *entity. Whereas in simulation the whole interview will focus on essential features for the same*  
356 *patient; it shows a model; and then we discuss it and we go deeper. They're complementary,*  
357 *in fact."*

358

359

360 *Managing affect*

361 Several emotions were reported by students to influence learning in psychiatric role-play.  
362 They dealt with features of both psychiatry and simulation: before meeting patients (e.g.  
363 prejudice, fear, rejection, curiosity), during the meeting (distress, anguish of death, fatigue,  
364 boredom) and in its aftermath (shame, motivation to overcome, frustration). These emotions  
365 could support learning (by desire, motivation, curiosity, play) or limit it (fear of patients with  
366 psychiatric diseases, not knowing how to deal with them, shame) or both (stress, frustration at  
367 failing).

368

369 P1: " *You know, schizophrenic patient for example, it's like.. it can be impressive, even*  
370 *frightening! I was not very motivated*".

371

372 Psychiatric role-play helped students to recognise it, so that they could take them into account  
373 for clinical reasoning and care. For student-observers, corporal, affective, and cognitive  
374 identification with the role-player helped to feel affects too.

375

376 P2: "*It could really have been a friend. Someone we know .... and I didn't really know what to*  
377 *say... I think it threw me off. Because I really identified with her.* "

378

379 T3: "*There is a kind of projection. They try to imagine themselves in the student role-player's*  
380 *situation, they experience it as they would a good film, where they put themselves in the*  
381 *character's shoes. They really feel it from inside. There's a real emotional participation.*"

382

383 The debriefing process helped the students, who needed to deal with their emotions, to  
384 identify those emotions and to verbalize and think about their meaning, both for the patient  
385 and themselves. Through the process of elaborating their emotions, students learned how to  
386 deal with them and manage them more quietly. Students emphasized this learning helped to  
387 induce self-confidence.

388

389 T4: *"And so, the question of 'can we say everything to a psychiatric patient?' It's really so  
390 they don't panic when faced with a person."*

391

392 O8: *"Yes, by taking more care about students in such spaces, we will have better doctors.  
393 They will be more confident and thus more tranquil. And I think that we are all afraid to show  
394 our weakness and to talk about what we feel. But here in debriefing, we were able to speak  
395 about ourselves without being indiscreet. And learning how to manage this with confidence."*

396

### 397 ***Enhancing skills and attitudes***

398 With role-play, students applied their natural interactive style and common sense to test  
399 several ways of asking questions, reassuring the patient, etc. They tried then to readjust  
400 according to the reactions of the patient-player. The audio of the debriefings showed  
401 collective elaborations about, for example, the correct use of silence, the appropriate choice of  
402 words, the range of suitable relational adjustments required at each main point of the  
403 interviews, etc. The trainer facilitated the discussion, while questioning the students about  
404 alternative ways of conducting psychiatric interviews; that is, of structuring interviews more  
405 flexibly, exploring in more depth, while improving the alliance with the patient.

406

407 P4: *"I had the feeling that I let the patient push me around. And that I didn't manage to*  
408 *refocus ... uh, that that I'd lost myself. I learned how to deal with the patient's concern."*

409

410 P3: *"And here I felt the patient, he withdrew... I think because I asked emergency-department*  
411 *screening-type questions. Afterwards, I didn't succeed in regaining it?"*

412 P3 in V8: *"how is your mood? Are you in moral pain?"*

413 T4: *um... moral pain?"*

414

415 Moreover, facing the clinical situation, for example a patient with suicidal ideation, raised  
416 questions for both student-players and student-observers about their own reactions inside the  
417 particular situation. The debriefing then allowed them to question their representations about  
418 this particular situation and then about the barriers and incentives to appropriate care. For  
419 example, most students were uncomfortable asking about suicidal ideation; some worried that  
420 if speaking about these ideas could induce them in the patient's mind or even precipitate a  
421 suicide attempt.

422

423 P3: *"We read, it's all clearly written down in our notes... and one day we get there, and it's*  
424 *stuck, blocked... and we don't know why, and we don't know what to do... we panic."*

425

426 The first psychiatric role-play thus appeared useful for learning to recognise, question, and  
427 fine tune the skills and attitudes appropriate for dealing with a common psychiatric situation.  
428 However, some students considered that it was wasted because they were not able to replay  
429 the simulation to apply the skills and attitudes learnt, and to refine it again, until reaching  
430 appropriate transfer of learning.

431

432 T1: *"They also have to face with the fact that... everything doesn't go as planned, the*  
433 *unforeseen happens. And in medicine, when we talk about the unforeseen, there's rapidly*  
434 *anxiety about death and things like that. They realize that they know lots of things, that even if*  
435 *it's all in their head, well organized, there are places where things are going to escape them.*  
436 *And here we feel disorganization when the question of suicide is raised."*

437

438

439 ***Fostering involvement in psychiatry learning***

440 This involvement initially depended on previous representations of patients with mental  
441 disorders (fear, stigmatisation, or empathic perception) and the need to learn some psychiatric  
442 skills. Accordingly, it could evolve and improve through psychiatric role-play.

443

444 P2: *"Uh ... well it's a bit the strangeness that the patients radiate. When we see a psychiatric*  
445 *history in a medical file, we make an effort because we're doctors, but in vain... I don't know,*  
446 *it's society, culture! We all have prejudices, and we detach ourselves from the patient, and he*  
447 *doesn't understand why..."*

448

449 Indeed, both students and trainers noted that their attention was fully engaged by the learning  
450 during this psychiatric role-play. In a very limited period of time, students had to concentrate,  
451 be focused, to be "in" the role-play while simultaneously analysing the entire complex  
452 situation underway.

453

454 P5: *"while the patient is talking, and taking his time, I'm thinking: 'Are there other things he*  
455 *hasn't said? What am I going to offer him? Because here he doesn't seem to be ready to be*  
456 *hospitalized... And it's not clear because... we don't have... it's difficult to have distance. By*

457 *reading the book, we don't have distance. I'm interested in things that will be asked for*  
458 *exams. Here we don't have the time to ask ourselves questions... in every case, it was a young*  
459 *person who was depressed. With a suicide risk... then... I had to rule out bipolar disorders or*  
460 *something like that. So it seemed to me to be depressive. I didn't even think about ruling out*  
461 *other causes. Whereas on multiple choice questions or case vignettes, I manage to do it."*

462

463 Moreover, with its small-group interactive framework, clinical situation, and participation by  
464 the trainers, learning was supported by horizontal and benevolent trainer-trainee relationships.  
465 The students' involvement increased with the trainer's motivation and efforts to link theory  
466 and practice. Furthermore, in this pedagogy in which students had to reveal profound aspects  
467 of their behaviour, attitudes, and emotions, a benevolent and non-judgemental attitude from  
468 trainers appeared essential. The students' involvement and balanced group dynamics appeared  
469 to support learning, while heterogeneity within a group in terms of knowledge and experience  
470 could limit learning opportunities. Depending on the ambiance, confidence and dynamics  
471 within the group, students felt they could think freely and ask questions, or they could think  
472 that they could not.

473

474 O8: *"There's a girl who asked questions about psychotherapy. We all knew that it was*  
475 *personal questions, and everyone was respectful; because we are all affected by what we*  
476 *learn, by our personal adventures. And there with a small group where we feel secure, it's the*  
477 *place where we can talk about it."*

478

479 O8: *"In these moments, teachers have the time to show themselves as human beings and not*  
480 *as instructors or physicians. It make them more available. We dare to think more and ask*  
481 *more questions."*

482

483 Finally, direct participation with clinical simulation helped students to subjectively take  
484 ownership of the care they would offer and put themselves in the place of their future  
485 responsibilities, rather than standing behind the trainer, without having had any chance to  
486 think and act.

487

488 O3: *“The simulated patient asked, uh... 'what's going to happen to me? What do I have?' If it*  
489 *happened to me [in clinical work], I turn and say to the senior psychiatrist, 'Hey, she's talking*  
490 *to you!' We would try not do that during the clerkship. We would not take this risk of getting*  
491 *so involved . But here, we're alone, we have to manage it. It helps to take the place, to take*  
492 *the step, to feel legitimate in responding.”*

493

## 494 **DISCUSSION**

495 Our results suggest that psychiatric role-playing broadens students’ perceptions, cultivates  
496 their clinical reasoning, supports their management of affects, enhances their skills and  
497 attitudes, and fosters their involvement in the learning of psychiatry. Some of these results are  
498 consistent with key learning processes that have already been described in SBE literature,  
499 such as reflexivity (23), learning through the observation of others and of oneself (10), non-  
500 technical skills (24) and empathy (25). However, more specifically to the psychiatric context,  
501 our results suggest that role-play may improve psychiatric learning by serving as a scaffolding  
502 tool to make the subject matter more accessible for medical students by developing their  
503 intuition, working on their affect, and supporting their involvement.

504

505 Previous studies have emphasised PSBE provides students with opportunities for training in  
506 psychopathology and interview skills (26)(27). However in our study, students focused on



507 *understanding* psychiatry through their "*sense of things*" and *feelings* when first meeting a  
508 patient with mental disorders. The importance of the psychiatrist's "early feelings" when first  
509 meeting the patient has been described in psychiatric phenomenology that suggests that  
510 understanding is based on insight and global perception through pattern recognition (28)(29).  
511 In that sense, in psychiatry, addition of symptom criteria does not rely on cumulative  
512 probabilistic reasoning (which would be enhanced instead by a list of symptoms) (30). Thus,  
513 while medical studies mainly encourage the acquisition of knowledge and discrete skills,  
514 psychiatric role-play appear to develop students' *intuition*. According to dual-process theory,  
515 intuition is a cognitive process based on insights and holistic perceptions through pattern  
516 recognition, emerging rapidly, without effort, below the threshold of perceptible  
517 consciousness, and depending on the context (31)(32). Intuition is used in clinical reasoning  
518 as a complement to analytical processes, which involves "a rational and deliberate judgment  
519 based on additional information collected actively", more familiar to biomedical studies as the  
520 "hypothetico-deductive process" in clinical reasoning (32). Yet, these "first feelings" may be  
521 subtle, ephemeral, even unconscious. This suggests that the trainer, at the start of the  
522 debriefing, should work to ensure a calm atmosphere where students feel free to speak - and  
523 make mistakes- to enable these feelings to emerge consciously in students' thoughts and  
524 narratives. The trainer's recognition of these feelings as essential may help students to use  
525 them in providing care. They may then be strengthened by complementary approaches that  
526 also foster intuition (such as art, movies, narrative medicine or Balint group) (33)(34).

527

528 Moreover, pattern recognition and comprehensive understanding together lead students to  
529 perceive the clinical situations in psychiatric role-play as prototypes, that is, a combination of  
530 typical clinical and contextual signs. In clerkships, it generally takes several clinical  
531 experiences for an understanding of these prototypes to emerge. In addition, only a fraction of

532 students in France have the opportunity to do a psychiatric clerkship. Role-playing may make  
533 some instruction in psychiatry attainable to students, by offering them a typical presentation  
534 of a given disease before they need to manage uncommon situations. It appears to support the  
535 use of intuition by offering a range of prototypes to enable pattern recognition and better  
536 long-term organisation of memory knowledge (32).

537

538 At the same time, trainers should warn students not to limit their view to this first feelings.  
539 Sensitivity to nuance is required to understand patients' individual, personal experience of  
540 their mental disorder and to respond to it appropriately. A too-simplistic psychopathological  
541 picture and feedback in a single role-play and debriefing, by excluding the conflictual,  
542 ambivalent and chaotic features of mental disorders, can create the illusion that a simple or  
543 uniform attitude is adequate. It could result in a delayed diagnosis, for example by missing a  
544 real stomach ulcer in a patient with hypochondriac delusions. Moreover, drawing prototypes  
545 of mental disorders that are overly clear may support a rigid categorical approach to mental  
546 disorders, strengthening the line separating the "ill" patient from the "normal" doctor. This  
547 prevents the necessary dimensional approach, which sees continuity between normal and  
548 pathological, and supports empathy toward patients with mental disorders, by recognising our  
549 common condition as humans (35). Careful debriefing can improve intuition, making it more  
550 nuanced and subtle through careful monitoring by analytic system.

551

552 More globally, psychiatrists often "develop the capacity to use their empathic response to the  
553 patient as part of their diagnostic data" (36). In addition, intuition (thus clinical reasoning) is  
554 influenced by affects (32). Our participants nonetheless describe a wide range of emotions  
555 that are involved in psychiatric role-play. Consistent with the essential place of emotion  
556 previously described in PSBE (37)(38)(39)(40)(41), our results suggest that debriefing

557 enables *identification, verbalisation, elaboration, and management* of affects, a finding  
558 supporting the hypothesis that the analytic process is a regulator of emotions. At the same  
559 time, our results suggest psychiatric role-play encourages students' motivation in appropriate  
560 conditions (group dynamics and the trainers' motivation, preparation and benevolence), even  
561 though participants reported several reasons for rejecting psychiatry (fear of patients and  
562 madness, misunderstanding of irrational delusions, complexity of care, and prejudices about  
563 psychiatry per se). In view of the high level of involvement described by our participants in  
564 meeting, for example, a suicidal patient played by the therapist in psychiatric role-play, PSBE  
565 can be seen as an event arousing anxiety and/or doubt of oneself. This is considered one of the  
566 main stimuli that trigger the attachment behaviour system in adults (42)(43), as described in  
567 attachment theory. Thus, we can hypothesize that psychiatric role-play acts as a secure base: it  
568 reassures students, calming their fears. Then this releases them for an authentic encounter  
569 with psychiatric patients and to be reflexive. Moreover, participants described benevolence  
570 and a non-judgmental approach both by the trainer and in the group as essential for allowing  
571 reflexive discussions. Thereby, by allaying the attachment system, psychiatric role-play may  
572 release students to develop their theory of mind — even empathy — about the psych affective  
573 logic of patients with mental disorders, which most students previously perceived as hermetic.  
574 This explanation may complement the concept of self-efficacy (44). Yet, in the pedagogical  
575 field, where time and cost constraints may be high, the time needed for deeper reflexivity and  
576 affect elaboration may be limited to support more visible or intuitive ways of learning (such  
577 as multiplication of experience of play). Moreover, with the development of objective  
578 structured clinical examinations for psychiatric assessment, the need for standardization to  
579 improve validity and reliability for equitable assessment creates the risk of limiting the  
580 reflexive aspects of simulation, including for example "*affect elaboration*", which may be  
581 undervalued in a 7-minute station. This may also reduce learning authenticity and underlines

582 the need for strong pedagogical alignment. This also suggests the importance of spending  
583 enough time during the debriefing process to enable affect elaboration in a truly benevolent  
584 atmosphere; perhaps by balancing the time for experiences and the time needed for profound  
585 elaboration.

586

### 587 **Limitations**

588 The CGT approach limits the generalizability of results (9). For reasons of convenience,  
589 recruitment was limited to a fraction of students in a single university in France, and the local  
590 culture may have influenced the results. Despite our precautions to separate our research and  
591 the students' educational assessment, the interlacing of involvement in instruction and  
592 research may have influenced data collection. Exploring a single psychiatric role-play made it  
593 possible to study the learning process at its initiation. However, this limited the ability to  
594 examine the effects of psychiatric role-play repeated and spaced out over time, a wider range  
595 of scenarios, or more opportunity to be one of the role players and to benefit from group  
596 support. These points may explain why results focused on clinical reasoning and less on  
597 social learning. Moreover, the PSBE features reported are almost entirely positive, perhaps  
598 because such an interactive and experiential learning opportunity is new and exciting in  
599 French psychiatry. Finally, theoretical sampling has been limited on some features – as  
600 personal or familial psychiatric background or experience- for ethical reasons, as framed by  
601 IRB.

602

### 603 **Suggestion for future research direction**

604 The central place of intuition and affect management in our result suggests specific  
605 developments in psychiatric role-play: debriefing centred on intuition and affect as essential  
606 diagnostic tools (instead of being limited to analysis of psychopathology, for example);

607 training the trainers to help these elaborations; adjuvant training for their consolidation, as in  
608 narrative medicine (33) or Balint groups (34).

609

## 610 **Conclusion**

611 Psychiatric role-play is reported to enable better understanding of patients with mental  
612 disorders, whom students often perceive as hermetic. By allaying students' affects and  
613 cultivating emotional elaboration, intuition development and student involvement, psychiatric  
614 role-play may decrease stigmatisation of these patients, enable the development of empathy  
615 and encourage students' interest in psychiatry.

616

617

618

619 \*\*\*

620

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625

626 **Authors' contributions:** ... *ANONYMISED*.

627

628 **Funding:** The author received no funding for this project. Student recruitment followed  
629 rotation schedules.

630

631 **Ethical approval and consent:** The research committee of ... approved this study: ....

632 Before the sessions we sent all students information by email, including the study's purpose,  
633 emphasis on voluntary participation, confidentiality of interviews, and absence of  
634 consequences on their grades for their participation (or non-participation). Written consent  
635 was obtained from all participants.

636 **Trial registration:** Clinical trial Number ...

637

638 **Consent for publication:** Not applicable.

639

640 **Competing interest:** ...

641 The other authors have no competing interest to report.

642

643 **Authors' information:** This study ... is part of ... PhD project, together with a second study  
644 ... and an exhaustive systematic review on simulation for psychiatry training (...). This PhD  
645 project sought to support an appropriate use of PSBE to foster its implementation in  
646 psychiatry and a learner-centered paradigm in France.

647

648 \*\*\*

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752

753

754 **Figure 1- Methodological process**  
755 *STUDENTS: November 2017-May 2018*

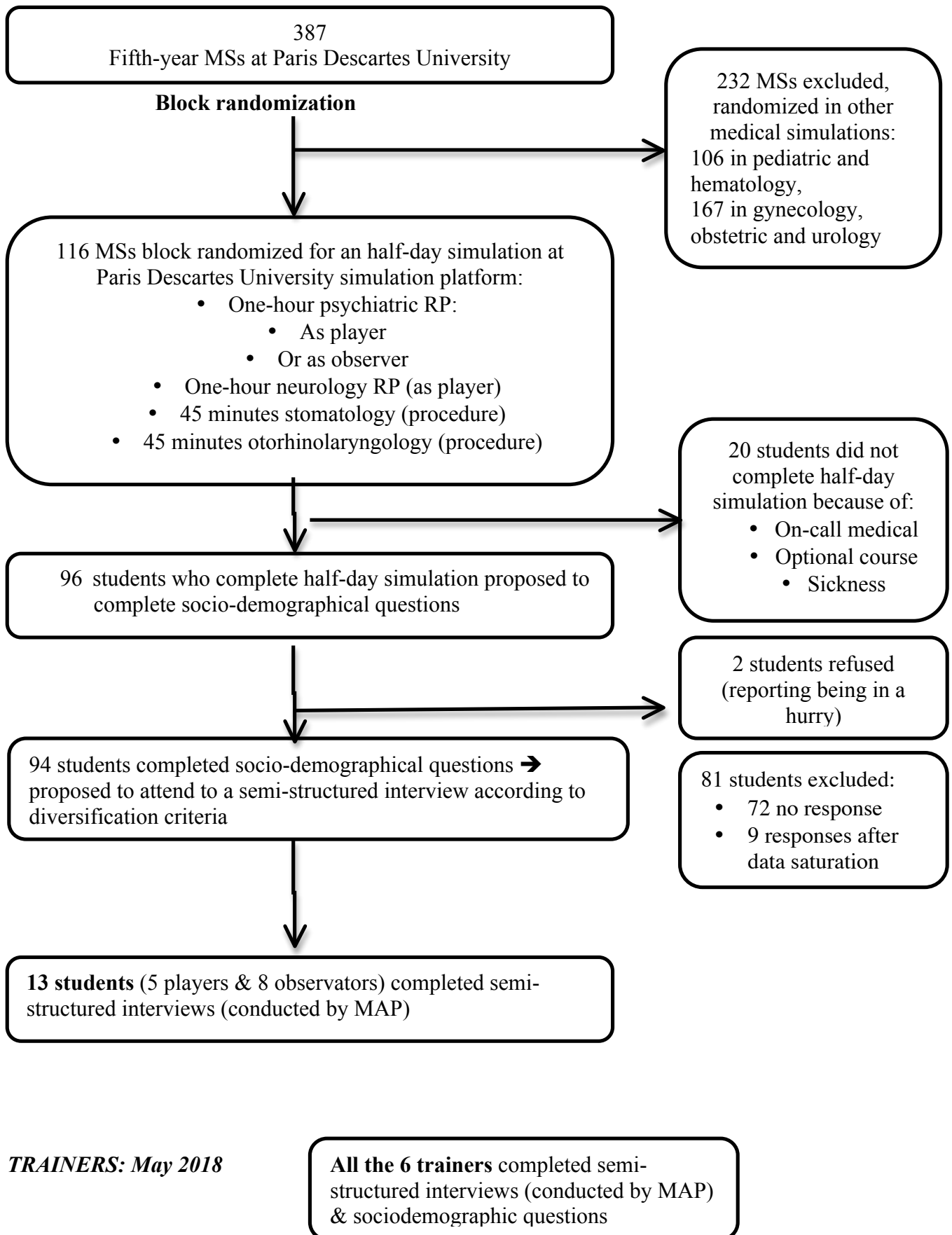
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**Figure 1- Methodological process**  
**STUDENTS: November 2017-May 2018**



## Box 1. Summary of role-playing scenarios

<p><i>Scenario 1</i></p>          <p><i>Briefing</i></p>	<p>Camille (gender-neutral name used for men and women in French) is a young woman/man aged 23 years. S/he studies literature at a university in Paris, living alone in a flat, with a cat. Her/his parents and younger brother (age 20 years) live in the country, around 3 hours away. S/he has no psychiatric history. But her/his mother had a depression around 20 years ago.</p> <p>Since breaking up with her/his partner 3 months ago, s(he) has struggled. S/he went out in several parties, increasing her/his alcohol use. But after a few weeks, s/he gave up, and began to withdraw. Contacts with friends became increasingly rare. S/he spent increasing time in bed, but did not sleep well. S/he has lost her appetite (and 5 kg) and hasn't attended any university lectures in the past 2 months. S/he has no plans anymore, except a plan to commit suicide. S/he has been thinking about death for 4 weeks and bought a bottle of whisky a few days ago to give her-/him-self courage. S/he has several tablets of anti-malarial drugs in the flat. The only thing that worries her/him is leaving the cat.</p> <p>S/he has not yet talked about her/his suicidal ideas to anyone. But in view of her/his withdrawal, the parents have asked a close friend to bring her/him to the emergency room.</p> <p>"You are called by the emergency department physician at 9 pm for a psychiatric evaluation of a young person consulting for "distress". The physical exam is normal. Your colleague is not really worried about this patient, but thinks she/he would benefit from "talking to someone". Complete the psychiatric interview to provide appropriate diagnosis and care."</p>
<p><i>Scenario 2</i></p>          <p><i>Briefing</i></p>	<p>Morgan (another gender-neutral name) is a 25 year-old young woman/man.</p> <p>S/he has been driven by firemen to emergency unit because s/he has just had a panic attack for the first time. S/he has no psychiatric history known, neither personal nor familial. S/he doesn't use alcohol or drugs. S/he reports that s/he was in the subway. Her/his heart got crazy and s/he felt unable to breathe. S/he seems very upset. S/he had the feeling that s/he would die. S/he is asking a lot of questions about her/his health and needs to be reassured.</p> <p>"You are called by the emergency department physician for a psychiatric evaluation of a young person consulting for "feeling faint." The physical exam is normal, except for regular tachycardia, sweating, and trembling. Your colleague wants a psychiatric evaluation. Complete the psychiatric interview to provide appropriate diagnosis and care."</p>

## Box 2. Interview guide

<p><b>Introduction for both groups:</b> Interviews began with a brief review of the study aim and comments intended to put the participant at ease.</p>	<p><i>" Hi, First of all, I thank you again for agreeing to take part in this research. As I told you, I'm interested in examining the learning processes involved during this psychiatry role-playing session. There are no right or wrong answers. Only your viewpoint is important. If my question is unclear, please don't hesitate to tell me. I'll reformulate it or give you more explanations.  I will begin with a broad question. And I will try to help you as you develop each point you and will perhaps ask questions so that I understand as well as possible what you mean. I will try not to speak much, however, so that you can explain your views in detail. If you have some questions, if you don't mind, save them for our discussion at the end of the interview, so that my answers do not influence your discourse."</i></p>
<p><b><u>For MSs</u></b> It was conducted flexibly, with open-ended, non-judgmental questions aimed at nurturing participants' reflexivity and obtaining examples for deeper understanding.</p>	<ol style="list-style-type: none"> <li>1- What do you think about this psychiatric role-playing method for your learning in medicine? <i>Reformulations (used both, but not in the same interview):</i> What did this instruction teach you about medicine? What were its limitations in terms of your medical education or training?</li> <li>2- How is simulation related to your clinical work in terms of learning? <i>Reformulation:</i> How is simulation similar to and different from how you learn during your clerkship?</li> <li>3- How is simulation related to other kinds of medical pedagogy or teaching? <i>Reformulation:</i> How is simulation similar to and different from how you learn in other types of medical school instruction (lectures, readings, ...)?</li> <li>4- <i>Question added after the first 3 interviews*:</i> How did using role-playing change how you learn medicine?</li> <li>5- <i>Question added after the first 3 interviews*:</i> How might using role-playing change you, help you develop into the doctor you think you will become?</li> </ol>

\* Simultaneous data collection and analysis led to two additional questions used for interviews after the pilot data collection.

	<p>6- What advice would you give to a student who has not done this role-playing to optimize his/her learning?</p> <p>7- What would you recommend to faculty members to improve learning in simulation for psychiatry instruction?</p>
<p><b><u>For trainers:</u></b>  It was conducted flexibly, with open-ended, non-judgmental questions aimed at nurturing participants' reflexivity and obtaining examples for deeper understanding.</p>	<p>1- What do you think about this type of psychiatry role-playing session for medical students' learning?  <i>Reformulations (used both questions, but not at the same time):</i>  What did this instruction teach medical students about medicine?  What were its limitations in terms of what they learned/how they learned?</p> <p>2- What is the relation between simulation and medical students' clinical work in terms of medical education or training?  <i>Reformulation: How is simulation similar to and different from how medical students learn during clerkship?</i></p> <p>3- What is the relation between simulation and other kinds of medical pedagogy or teaching?  <i>Reformulation: How is simulation similar to and different from how students learn in other types of medical school instruction (lectures, readings, structured teaching)?</i></p> <p>4- <i>Question added after the first 3 interviews:</i> How could this type of role-playing change how medical students learn?</p> <p>5- <i>Question added after the first 3 interviews:</i> How could this type of role-playing change medical students into the doctor you think they will become?</p> <p>6- What advice would you give a student who has not done this role-playing to optimize his/her learning?</p> <p>7- What would you recommend faculty members to improve learning in psychiatry by simulation?</p>

**Table 1: Students characteristics**

<b>Students:</b> O: Observer student. P: Role-play student.	<b>Age</b>	<b>Gender</b>	<b>Psychiatric clerkship : Yes (Y)/No(N)</b>	<b>Previous simulation experience :</b> - Yes (Y)/no(N) - Somatic(S) / psychiatric(P) - Number of half-day	<b>Role in RP : observation (O)/ player (P)</b>
<b>O1</b>	21	F	N	Y :S / no P	O
<b>O2</b>	23	F	Y	Y :S / no P	O
<b>O3</b>	23	F	Y	Y :S / no P	O
<b>O4</b>	23	F	N	N (Italian erasmus student) / no P	O
<b>O5</b>	25	F	Y	Y :S / no P	O
<b>O6</b>	22	F	N	Y :S/ no P	O
<b>O7</b>	22	F	N	Y :S / no P	O
<b>O8</b>	33	F	Y	Y :S / no P	O
<b>P1</b>	23	M	N	Y :S / no P	P
<b>P2</b>	23	F	N	Y :S / no P	P
<b>P3</b>	23	M	Y	Y :S / no P	P
<b>P4</b>	22	F	Y	Y :S / no P	P
<b>P5</b>	23	F	N	Y :S / no P	P
<b>Total for the 13 students</b>	Mean : 23,3	11(85% ) F/2(15%) M	6Y (46%)/7 N (54%)	Y :12(92,3%) <sup>†</sup> /N : 1(7,7%)	O : 8 (61,5%) P : 5(38,5%)

<sup>†</sup> All students had 2 previous simulation experiences.



**Table 2. Themes of qualitative analysis**

Themes	Subthemes
Improving immediate perception of a patient	<ul style="list-style-type: none"> <li>• Weigh of students' own first feeling about the patient to understand</li> <li>• Identification of the part of subjectivity included in professional's assessment and patient's presentation</li> <li>• Learning nuance in observation</li> <li>• Understanding the meaning and relevance of psychiatric vocabulary</li> </ul>
Cultivating clinical reasoning	<ul style="list-style-type: none"> <li>• Development of intuitive understanding of the patient</li> <li>• Understanding psychoaffective logic of patients with mental disorders</li> <li>• Development of reflexivity, allowing prioritization in psychiatric care</li> <li>• Development of prototype about main mental disorders</li> </ul>
Managing affect	<ul style="list-style-type: none"> <li>• Awareness of affects involved in psychiatric care</li> <li>• Verbalization and thinking about their meaning</li> <li>• Processing and regulation of their effects</li> </ul>
Enhancing skills and attitudes	<ul style="list-style-type: none"> <li>• Conducting interviews with flexibility</li> <li>• Dealing with difficult situations</li> </ul>
Fostering involvement in learning psychiatry	<ul style="list-style-type: none"> <li>• Influence of representations toward psychiatry</li> <li>• Mobilization of concentration</li> <li>• Trainer's motivation and benevolence</li> <li>• Group dynamic and level</li> <li>• Supporting subjectification</li> </ul>