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Emotionally Difficult Experiences Faced by Medical Students During Training

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Abstract

Purpose: To investigate (1) emotions-triggering situations faced by medical students; (2) their prevalence across training; (3) whether they aroused student's emotions, and (4) whether students' reactions varied across training.

Method: A pilot study analysed 60 written reports from 4th-year medical students from the Federal University of Ceará, Brazil, regarding recent emotionally difficult training experiences. Six types of emotions-triggering situations were chosen. A diary of a fictitious student reporting each situation was prepared, with two different endings – either a neutral or an emotional development. In a web-survey, 188 medical students evaluated those diary-entries (3 in a neutral; 3 in an emotional version), rating how frequently they had encountered similar situations and the emotions triggered by the reading. Data were analysed using Chi-square, t-tests and ANOVA.

Results: Frequency of similar experiences depended on situation type ($p < .001$) varying across training in 4 of the 6 situations. All situations were emotion-triggering, regardless of whether students had or not experienced them before. A significant main effect of training showed that students at different phases reacted differently; at the clinical phase emotional arousal was higher than in clerkship for 2 situations.

Discussion: Awareness of situations considered emotionally difficult may provide information for the development of educational interventions that emotionally support medical students.

Keywords: Emotions-triggering situations; Medical students' emotions; Medical training

1. Introduction

Throughout their training, medical students unavoidably deal with demanding situations in which emotionally charged relationships are the rule rather than the exception. Students seem to experience medical education as emotionally difficult[1,2,3] and researchers have attempted to investigate which situations tend to arouse

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negative emotions in students.[4,5] These studies refer to general categories as "assuming the role of a doctor", "distressed patients" or "fear of making mistakes".[6] A more comprehensive view of specific situations considered by students as difficult and that can trigger negative emotional reactions is still required, especially for settings with less than ideal conditions of learning.

This study was designed to identify which are the potentially emotions-triggering experiences that medical students tend to encounter throughout their training. Arguably, emotionally charged experiences can be expected to occur throughout medical training. However, it is possible that students perceive some types of situations as particularly emotionally difficult. Better understanding of what are these situations is important, because it opens the door for developing strategies to prevent the eventual negative influence that they may have on learning. Research on the influence of emotions on cognition suggests that students' emotional reactions to particularly difficult situation may hinder their learning.[7] The interaction between emotions and cognition seems to be a complex one, but before studying whether and how emotions triggered by medical school routine situations affect students' learning we need to have a clear picture of what these situations are.

In a pilot exploratory study, we looked directly into the students' actual experiences, as recalled and described by themselves. Our objective was to identify situations that actually tend to occur and are experienced by the students as emotionally charged and difficult. Next, we aimed at verifying how pervasive the situations that emerged from the pilot exploratory study in fact were. We developed a series of "diary-entries" using the experiences reported by the students in the pilot study and conducted a web-based survey aimed at exploring: (1) the prevalence of these situations in the daily life of our participants and whether it varies throughout the years of the undergraduate training; (2) whether these situations in fact trigger emotions and to what extent, and; (3) whether students' emotional reactions to these situations vary across training stages.

2. Methods

2.1. Pilot study

Participants were 60 4th-year medical students from the Federal University of Ceará, Brazil. The school has a six-year programme with the last two years dedicated to clerkships. All 70 students enroled in the 4th-year of the programme were invited by two of the co-authors (TK, JRSF), after a regular lecture, to voluntarily participate in the pilot study. Those who agreed were recruited and sign an informed consent form. Participants were asked to write down a brief description of an experience that they had recently had during their educational activities and considered emotionally charged. They were informed that they could report any type of experience that had occurred in different settings, for example, during didactic activities, in interactions with colleagues or faculty, or when encountering patients during practical clinical activities. Students wrote down their experiences in silence and individually, delivering their reports to the researchers when they completed the task.

Sixty stories were collected, 12 of which were excluded because they consisted of only a few words whose meaning could not be identified. The 48 remaining reports were analysed in a group meeting in which the co-authors (TK, SM, JRSF, AML) read them and identified, through a consensus model, different categories of experiences and recurrent situations. Subsequently, the first author searched the literature to check if similar situations were reported among results from other studies in other settings.[5,8–11] Six recurrent categories were identified and appeared consistent with the literature as follows:

a) Preventable medical errors in which the student was involved leading to severe consequences for the patient.
b) Discriminatory behaviours displayed by superior staff members against patients because of the patients' background, social or economic conditions.
c) Conflict between educational interests and the patients' needs leading to disrespectful behaviours adopted by teachers with students' interests placed above patients' needs and wishes.
d) Disgust provoked by certain patients or conditions that were felt as repugnant but required close physical contact for care to be provided. Students were expected to control and hide their feelings and often felt guilty about them.
e) Low quality of health services and restricted institutional resources for patient care, leading students to feel anxious and impotent to help patients who were suffering the consequences.

f) Careless or neglecting behaviour showed by senior doctors towards patients, sometimes threatening patients' health or even patients' life.

These categories were therefore subsequently used for the elaboration of the main study material.

2.2. Main study

2.2.1. Participants

One hundred and eighty-eight medical students (M_{age} = 22.6 years; SD, 2.97; 103 female) from the Federal University of Ceará, Brazil participated in the study. Seventy students (37%) were in the Basic Sciences years (years 1–2), 81 (43%) in the Clinical Stage (years 3–4), and 37 (20%) in Clerkship (years 5–6).

All 800 medical students enroled in the MD programme at the university were invited by email to voluntarily participate in the study. From them, two hundred twenty students (27.5%) accepted the invitation. Thirty-two were subsequently removed from the data set due to missing values, leading to the final 188 participants. The email contained an informed consent form to be read and checked by participants before they proceed to the task.

2.2.2. Materials

The web-based main study requested participants to read and evaluate six diary-entries describing different professional experiences of a 4th-year student. Each diary-entry briefly reported (around 270 words) one of the six potentially emotions-triggering situations that emerged from the pilot study, using the writing style and language presented on the student's reports, to make them as realistic as possible. Each entry was prepared in two versions: emotional and neutral (see example in Appendix A) as follows:

a) *Medical error leading to severe consequences for patient.* The diary-entry described a diagnostic error made by a student while seeing a child with bacterial meningitis, which ended up leading either to the death of the child (emotional version) or to the correction of the error on time by the senior doctor (neutral version).
b) *Discriminatory behaviours towards patients.* The diary-entry described a patient who was a criminal, wounded during a robbery and waiting at the emergency room, and an attending doctor either letting him purposely waiting and seeing other patients who arrived after him (emotional version) or seeing him on his turn like with any other patient (neutral version).
c) *Conflicts between educational interests and the patients' needs, leading to disregard for the latter.* The diary-entry described an elderly female-patient asking not to be examined in front of male students, and the doctor either refusing to accept her request by arguing that the clinic is an educational setting (emotional version) or accepting the patient's request (neutral version).
d) *Disgust with certain patients' conditions*. The diary-entry described a student seeing for the first time a patient who has miiasys, and the larvae needed to be removed from his ear and head. In the emotional version, the patient and mother were very dirty and the student reacted by feeling repugnancy and, consequently, guilt whereas in the neutral version the student was curious about something he never saw before.
e) *Low quality of institutional care, negligence and limitations leading to students feeling impotent.* The diary-entry described a patient waiting for treatment in a hospital, while his condition worsened either probably leading to obit (emotional version) or to being saved by the attending doctor's arrival just on time (neutral version).
f) *Careless behaviour showed by senior doctor leading to threatening patient's life*. The diary-entry described a patient who had a cardiac arrest in the emergency room, and the senior doctor showed either to be indifferent with the patient's fate (emotional version) or saved the patient (neutral version).

In addition to reading the entries, students answered a three-item questionnaire (Appendix B), which aimed at identifying whether they had previous experiences with the situation portrayed and the degree of emotions it triggered. The latter was investigated by using an adaptation of the PANAS Scale to check if the situations reported in the diaries in fact triggered negative emotions. The PANAS Scale is a 20-item Positive and Negative Affect Scale [12] that has shown to be internally consistent and reliable. The scale was adapted to the present study by removing the items referring to positive emotions, resulting in a 10-item 5-point Likert scale about negative emotions.

2.2.3. Procedure

All students enroled in the MD programme received an email containing explanations about the study objectives and tasks. In the body of the email, there was a link to the research site, where they accessed their material.

Each participant was requested to read one diary-entry and immediately answer the 3-item-questionnaire about it.

Table 1
Frequency of students (percentages into brackets) who reported having had or had not experiences with situations similar to the one described in the emotional version of the diary as a function of the type of diary and training stage.

	Basic Sciences		Clinical Stage		Clerkship		Total		Statistics[a]
	Yes	No	Yes	No	Yes	No	Yes	No	
Medical error threatening patient's safety	12 (36.4)	21 (63.6)	15 (34.9)	28 (65.1)	10 (47.6)	11 (52.4)	37 (38.1)	60 (61.9)	$X^2(2)=1.04$, $p=.661$, Cramer's $V=.10$
Discriminatory behaviour towards patients	9 (25.7)	26 (74.3)	26 (68.4)	12 (31.6)	9 (52.9)	8 (47.1)	44 (48.9)	46 (51.1)	$X^2(2)=13.44$, $p=.001$, Cramer's $V=.386$
Conflicts between educational interests and the patients' needs	21 (60.0)	14 (40.0)	30 (78.9)	8 (21.1)	12 (70.6)	5 (29.4)	63 (70.0)	27 (30.0)	$X^2(2)=3.12$, $p=.210$, Cramer's $V=.186$
Disgust with patients' physical conditions	15 (45.5)	18 (54.5)	35 (81.4)	8 (18.6)	19 (90.5)	2 (9.5)	69 (71.1)	28 (28.9)	$X^2(2)=16.63$, $p=<.001$, Cramer's $V=.414$
Low quality of health care	13 (39.4)	20 (60.6)	29 (67.4)	14 (32.6)	15 (71.4)	6 (28.6)	57 (58.8)	40 (41.2)	$X^2(2)=7.84$, $p=.020$, Cramer's $V=.284$
Careless doctors' behaviours	7 (19.4)	29 (80.6)	21 (55.3)	17 (44.7)	10 (58.8)	7 (41.2)	38 (41.8)	53 (58.2)	$X^2(2)=12.26$, $p=.002$, Cramer's $V=.367$

[a]Statistics presents results of Chi square tests of association between training stage and frequency of having had experiences with the situation described in each diary.

Then they proceeded to read the second diary-entry and second questionnaire, and so on until they finished all six entries and questionnaires. Each participant read 3 diary-entries in the neutral version, and 3 in the emotional version, but which diary was evaluated in each version varied for each participant in a within-subjects design. The order in which each diary appeared to each participant also varied. To counterbalance which diary would be evaluated in the emotional and in the neutral version and the order in which each diary would appear, four different versions of the e-mail presenting the task were prepared. These versions presented the same instructions and the six diaries, varying only in the version in which each diary was presented and the order in which it appeared. Students were then randomly assigned to one of the four versions of the e-mail in which each diary version (emotional or neutral) and order intercalated differently.

Data were automatically collected and stored at the server site http://pt.surveymonkey.net/home.

The study was approved by the Research Ethics Committee of the Federal University of Ceará.

2.2.4. Data analysis

Chi-Square tests were performed to check sample uniformity between the two versions of each diary with respect to genre and years of training. Independent *t*-tests were performed to check for differences in age.

Participants were grouped, for the analyses, in three educational stages: Basic Sciences, which included students from 1st and 2nd years, Clinical Stage, with students from 3rd and 4th years, and Clerkship, with students from 5th and 6th years. This grouping was necessary, because experience with clinical encounters, which tends to increase across these educational stages, was expected to influence the way participants identify with and react to the situations described in the diaries.

To answer the question whether those situations are indeed part of students' life and whether experiences vary across training phases, we analysed, in the emotional version of each diary, students' responses to the first question of the questionnaire ("Did you already experience a situation similar to this one during your training?"). First, a Chi-Square test was performed to compare the frequencies of "Yes" and "No" ("Not sure" answers were merged with "No") in each type of situation/diary in the whole group of students. Subsequently, a series of Chi-Square tests was performed to compare the frequencies of having and having not experience with each situation across educational stages.

To verify whether the situations described in the diaries indeed triggered emotions, first, for each

Table 2
Mean score (range, 0–5) of negative emotions obtained when students evaluated the situations described in the diaries as a function of type of situation/diary and version (emotional or neutral).

	Emotional version			Neutral version			Statistics
	n^a	Mean	SD[b]	n^a	Mean	SD[b]	
Medical error threatening patient's safety	97	2.88	1.13	91	2.15	0.94	$t\ (186)=4.79,\ p<.001$
Discriminatory behaviour towards patients	90	2.25	0.85	97	1.84	0.95	$t\ (185)=3.12,\ p<.002$
Conflicts between educational interests and the patients' needs	90	2.89	1.51	97	1.34	0.58	$t\ (185)=9.42,\ p<.001$
Disgust with patients' physical conditions	97	1.99	0.81	90	1.60	0.67	$t\ (185)=3.65,\ p=<.001$
Low quality of health care	97	2.98	1.02	91	2.42	1.00	$t\ (186)=3.81,\ p=<.001$
Careless doctors' behaviours	91	2.97	1.06	97	1.97	0.86	$t\ (186)=7.01,\ p=<.001$

n^a = the number of students that evaluated the diary in the version.
SD[b] = standard deviation.

participant, for each diary, we computed the mean score for all the emotions listed in the scale. Subsequently, a mean score of negative emotions on the emotional version and on the neutral version was computed. Independent t-tests were performed to compare mean scores of negative emotions obtained on the neutral and emotional version of each diary.

To investigate whether students reacted differently as they progressed in their training, we performed separate one-way analysis of variance (ANOVA) with training stage as between-subjects factor on the mean emotional reaction score obtained in the emotional version of each diary. Post hoc tests (with Bonferroni correction) were performed to further explore the results of these analyses.

Significance level was set at $p < .05$ for all comparisons. SPSS version 17 for Windows was used for the statistical analyses.

3. Results

There were no statistically significant differences in gender, educational stage ($p > .050$ for all Chi-Square tests) or age ($p > .05$ for all t-tests) between participants who worked with the neutral and the emotional versions of each diary.

When analysing whether the situation described in the entries was in fact part of the students' daily life, the frequency of experiences was related to the type of situation, $X^2(5)=37.84$, $p<.001$, Cramer's $V=.260$, when all participants are taken as a single group. Three situations contributed to this association: while fewer than expected participants reported having had experiences with medical errors, more students than expected informed having faced situations of disrespect towards patients' concerns in the name of medical education and of disgust for patients' conditions. When different training stages were analysed, there was a significant association between training stage and the frequency with which students have experienced four situations: discriminatory behaviours towards patients, disgust with patients' conditions, low quality of health care, and careless staff's behaviours towards patients. In all these situations, the association between training stage and frequency of experience was driven by Basic Sciences students' fewer than expected experiences. The frequency of experiencing situations involving medical errors or disregard for patient concerns in the name of educational interests did not significantly vary between training stages (Table 1).

Table 2 presents the mean scores of negative emotions attributed to the six situations described in the entries when they were evaluated in the emotional and in the neutral version. Significantly higher mean scores were obtained in the emotional than in the neutral version in all situations, showing that the situations described in the emotional versions in fact led participants to experience negative emotional reactions.

Once established that all the situations presented in the emotional versions of the diaries were in fact potentially powerful emotion-eliciting situations, we were interested in verifying if this effect was the same for students in different stages of their training. Table 3 presents the mean scores of negative emotions obtained in the emotional version of each situation across training stages. The training stage had a significant main effect on the mean score of negative emotions only in two situations: Careless behaviour of a senior doctor when a patient is dying, and the situation portraying a patient whose physical conditions led to feelings of disgust. In both situations, students from the Clinical Stage showed significantly higher scores of negative emotional reactions to the situations than students from the Clerkship, without other significant differences between training stages. (Table 3) In the other situations, the training stage did not affect the degree of emotions triggered in students.

Table 3
Mean scores (standard deviation into brackets) of negative emotions obtained in the emotional version of the diaries as a function of type of situation/diary and training stage.

	Basic Sciences	Clinical Stage	Clerkship	Statistics[a]
Medical error threatening patient's safety	3.22 (1.13)	2.82 (1.09)	2.48 (1.10)	$F(2, 94)=2.98$, $p=.056$ Basic Sciences vs Clinical Stage, $p=.36$ Basic Sciences vs Clerkship, $p=.06$ Clinical Stage vs Clerkship, $p=.78$
Discriminatory behaviour towards patients	2.20 (0.95)	2.36 (0.75)	2.12 (0.86)	$F(2, 87)=0.60$, p .55 Basic Sciences vs Clinical Stage, $p=1.00$ Basic Sciences vs Clerkship, $p=1.00$ Clinical Stage vs Clerkship, $p=.97$
Conflicts between educational interests and the patients' needs	2.89 (1.14)	2.85 (1.02)	3.01 (2.73)	$F(2,87)=0.06$, $p=.94$ Basic Sciences vs Clinical Stage, $p=1.00$ Basic Sciences vs Clerkship, $p=1.00$ Clinical Stage vs Clerkship, $p=1.00$
Disgust with patients' physical conditions	1.90 (0.59)	2.23 (0.92)	1.66 (0.75)	$F(2,94)=4.13$, $p=.02$ Basic Sciences vs Clinical Stage, $p=.22$ Basic Sciences vs Clerkship, $p=.79$ Clinical Stage vs Clerkship, $p=.02$
Low quality of health care	2.99 (0.92)	3.13 (1.11)	2.63 (0.94)	$F(2,94)=1.77$, $p=.18$ Basic Sciences vs Clinical Stage, $p=$ 1.00 Basic Sciences vs Clerkship, $p=.60$ Clinical Stage vs Clerkship, $p=1.9$
Careless doctors' behaviours	2.98 (1.14)	3.22 (0.94)	2.38 (0.97)	$F(2,88)=3.94$, $p=.02$ Basic Sciences vs Clinical Stage, $p=.96$ Basic Sciences vs Clerkship, $p=.15$ Clinical Stage vs Clerkship, $p=.02$

4. Discussion

This study aimed at obtaining a better understanding of which situations experienced by medical students in the course of their training elicit negative emotional reactions. First, an exploratory study collected students' experiences with situations that they considered emotionally charged and difficult. Six recurrent situations, dealing with similar subjects, emerged, and they were used to elaborate six diary-entries, each one in two versions: emotional and neutral. Those entries were subsequently evaluated by a large group of students from different stages in training using a web-based survey. Most of the situations described in the entries were indeed part of the daily life of our participants, and the frequency with which they were reported varied throughout the stages of undergraduate training in four of them. The emotional version of the entries triggered higher levels of emotions than the neutral version for all situations. Last, we compared students' reactions to the emotional version of each entry across training stages and found out that students in the Clinical Stage reacted more strongly than those in the Clerkships for two situations described in the entries: careless doctors' behaviours and disgust with patients' physical conditions.

The percentage of students who had actually experienced the situations described in the entries varied from 38.1% (medical errors threatening patient's safety) to 71.1% (dealing with feelings of disgust raised by patients' conditions). This information supports the findings from the pilot study and suggests that the situations brought to students' evaluation were in fact pervasive and frequent for our population though in varying frequencies.

How often these situations are encountered across training phases showed to be different in four of the six situations (careless doctors' behaviours, disgust with patients' physical conditions, low quality of health services and discriminatory behaviour towards patients), with students from the Basic Sciences years reporting fewer experiences than older students do. This was expected, since students at Basic Science level have fewer activities in clinical settings and less contact with patients, while all entries described clinical encounters.

The emotional version of the entries elicited more negative emotions than the neutral versions in all situations, which indicates that the six situations studied are in fact emotional triggers. Apparently the emotional reactions occurred regardless of whether students reported having or not experienced that situation before. For example, dealing with feelings of disgust raised by patients' conditions was experienced

by 71% of students and the mean score of emotions elicited was 1.99 (scale from 1 to 5); while medical errors threatening patient's safety was the least common (38%) situation but elicited 2.88 in the same scale.

The level of emotional reactions to the entries varied across training years only in two situations: careless behaviours by senior staff towards patients' life and disgust for repulsive patients' conditions. In both situations, the descriptions elicited more emotional reactions among students in the Clinical Stage than among students in the clerkship. This finding is in line with previous studies that have described that students at Clinical Stage (3rd and 4th years) tend to be particularly subject to emotional reactions.[6] Their vulnerability can be probably traced to the fact that they are in the beginning of their clinical practice and probably encountering situations and facing dilemmas inherent to clinical encounters for the first time. Tolerance for uncertainty and coping with responsibility, for example, are skills still being developed at this stage.[6] A better understanding of the reasons for such vulnerability can be an important step on finding ways to support and effectively teach those students.

First-year students might be less emotionally involved in the situations described since their contact with patients is minimal and normally protected from extreme situations. Emotions are higher when learners have to assume greater levels of responsibility and master more information.[13] More experienced students' levels of reactiveness almost return to those of first-year students, maybe due to adaptation to routine, which has been shown to include, sometimes, a decrease in empathic concern[1] and detachment.[11] Another explanation is that overwhelmed trainees try to suppress emotions to avoid loosing control over them.[14]

A study by Leape and colleagues[15] described disrespectful behaviour in health care settings in its various forms: disruptive behaviour; demeaning students, residents and staff members; passive-aggressive behaviour, dismissive treatment of patients, among others. Disrespect is a threat to patient care and safety, inhibiting communication, compliance and implementation of treatment plans. It also compromises teamwork, puts staff at risk of dissatisfaction, high turnover and burnout.[15] As it emerges from our results, students are especially sensitive to disrespect in its various forms. Emotions triggered by our diary-entries are similar to those described as resulting from disrespectful behaviour – fear, anger, shame, frustration between others.

Emotions were found to affect various cognitive components and processes[16] and it is reasonable to assume that they have a profound influence on complex learning. High levels of stress, anxiety and boredom were found to be negatively related to academic performance (as course examination grade) between first and second-year medical students.[17,18] Many educators avoid discussing emotions with students because they might feel they do not know enough about students' emotions and the situations experienced as emotionally difficult during training.[13] Awareness of experiences that may raise emotional difficulties to students in training, such as the situations that emerged from this study, may help teachers recognise when students are at risk of facing emotionally difficult events and consider how these situations can be minimised.

This study has some limitations. First, some variables may have unduly influenced the results obtained. For example, in line with other studies, rate responses for 5th and 6th years' students was lower than the other groups probably because they have a busier schedule and less contact with the didactic activities at the university, where the survey was released.[1] The overall response rate was low (27.5%); nevertheless, a relatively large number of students from different stages of training participated, leading to a uniform sample. This is a cross sectional study which demands cautiousness on making conclusions based on group comparison within our sample and the development of emotions over time. There are also questions about the generalisability of results, since the study was conducted on a single medical school, representing one local context. However, situations related with the poor quality of the health services in which students have their clinical practice and with lack of appropriate supervision in these settings are probably common in low-resources regions, such the one in which this study was conducted. One may assume, therefore, that students from similar low-resources contexts are likely to find similar situations, which may make our findings interesting for medical teachers from many countries. Finally, students, who are prone to emotions, or at least more open about them, would be more motivated to participate in this kind of study, which may result in selection bias.

Further exploration of the type and intensity of emotions elicited by the situations investigated in this study might lead to a deeper understanding of their possible influence on learning and performance, which is, by itself, an issue to be studied by future research. Addressing also positive emotions can enhance this understanding and provide important information regarding learning environments and effective supportive tools. For example, how can educators support students' learning? Can positive emotions be 'protective', counterbalancing the effects of negative emotions?

Disclosure

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Appendix A

Example of a diary-entry in the emotional version used in the study (medical error leading to severe consequence for patient)

"Saturday I was on duty in the paediatrics ER with one doctor only and a never-ending queue. There were no available beds and we knew that if hospitalisation was needed, we had no places. The doctor was coming from a previous shift and was quite impatient. I was examining Carolina, a cute 2-years-old that reminded me of my niece. The father said she never had anything serious, only a few colds when she started going to nursery. I took her history, performed a physical examination, and it was just a viral respiratory infection, very common - fever, drowsiness, rhinorrhoea, loss of appetite, little whining and one episode of vomiting. I reported it all to the doctor while he examined another baby, and he just nodded. He asked me to bring the prescription form, prescribed paracetamol, and we sent Carolina home.

But on Monday morning, I learned that Carolina returned on the same day already in septic shock - it was bacterial meningitis. She died the same day, the girl who could be my niece … I could not believe. I ran to the bathroom, crying, remembering the symptoms of a simple cold, thinking about how crazy my brother was for his daughter … How stupid I was to mistake meningitis for a cold? The girl was healthy, she came to the hospital, and she could have got well with appropriate medication. Imagine how the father might be! I felt guilty, ashamed, furious with myself for trying to impress the doctor, or not bother him, and now the girl was now dead. I know that legally the doctor is responsible, but I am devastated, embarrassed, and full of remorse."

Appendix B

Questionnaire of experimental study

Think about the experience of the student described in this diary and please answer the following questions. In some of the questions, you will see a scale. Please circle the score that best represent your impressions about the entry of the diary you just read considering that 1 = totally disagree and 5 = totally agree.

1. Have you (or anyone that you know) already experienced something similar during your training? Keep in mind that the experience can be similar to the one described and not exactly the same.

Yes ☐ No ☐ I am not sure ☐

2. The student's experience is described in a realistic way.

1	2	3	4	5
Totally disagree	Disagree	Do not agree and do not disagree	Agree	Totally agree

3. The scale below consists of a list of words that represent different emotions and feelings. Read each item and then mark the appropriate answer in the space left beside the word. Indicate in what measure you feel this way at this moment, after reading the student's diary. Consider the following scale

1 = not at all/2 = a little/3 = moderately/4 = very much/5 = extremely

___ Interested

___ Stressed

___ Disturbed

___ Guilty

___ Scared

___ Hostile

___ Irritated

___ Alert

___ Ashamed

___ Nervous

___ Fearful

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