

# Dissociative Experience And Handedness Among Students In Health Care Sector

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## Abstract

**Background:** Dissociation is a defense that ranges as a continuum from common everyday dissociations to incapacitating psychopathology. This study therefore tries to estimate the frequency of dissociative experiences and its association with handedness and demographic variables.

**Methodology:** A cross sectional study of dissociative experience and handedness was conducted from January to December 2021. Consecutive students after consent and completion of socio demographic questionnaire were assessed using MINI PLUS, Edinburg handedness inventory and dissociative experience scale to study handedness and dissociative experiences. The data collected and analysed using independent t test and ANOVA.

**Results:** Of the 93 students, 81.7% were females and 60.2% were single. The most common dissociative experience was listening to someone talk and realizing they did not hear all or part. (31.93%) The others were watching television or a movie they become absorbed in the story (22.15%) and doing things with amazing ease and spontaneity that would usually be difficult (18.81%) The least common dissociative experience was of looking in a mirror and not recognizing themselves. (0.96%). While depersonalization (1.18%) and derealization (4.93%) were rare. No association was found between handedness and dissociative experiences. Among students from different health care groups, the experiences like feeling they are watching themselves, sometimes not recognising family, derealisation, and jamais vu were found more in MBBS students than interns and nursing students.

**Conclusion:** Dissociative experiences exist as a continuum and are experienced to varying degrees. The experiences are more in certain groups, who may need stress reduction and support.

**Key words:** Dissociative Experiences, Handedness, Students, Health care

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Janet hypothesized dissociation as a crucial psychological process with which the organism reacts to overwhelming trauma.<sup>1</sup> Dissociation is a defense against the helplessness and pain caused traumatic experiences.<sup>2</sup> Dissociation is adaptive and allows persons to go about their lives as if nothing traumatic had happened and part of this adaptive concept is the idea that dissociative experiences range on a continuum.<sup>3</sup> A continuum ranging from common everyday dissociations, such as daydreaming, to incapacitating psychopathology.<sup>4</sup> And evidence for the existence of a dissociative continuum derives from studies with the Dissociative Experiences Scale (DES) the most thoroughly validated index of dissociative experiences.<sup>5</sup>

The prevalence of dissociative experiences may be more in college students, who have perennial academic and peer stressors and may be more in students in the health care field.<sup>6,7</sup> Research done in college students in the United States show that dissociative experiences were reported more psychopathology, poorer college adjustment, and a greater extent of psychological, physical, and sexual maltreatment. However, despite these subjects who scored in the upper 2% of the population on the DES failed to meet criteria for a dissociative disorder.<sup>6</sup> A study on postgraduate nursing students showed that 5.22% students had somatoform and dissociative experiences.<sup>7</sup> Further, studies show that non-right handedness accounted for a high variance on the DES, including both pathological and nonpathological dissociative experiences.<sup>8</sup> The studies therefore are non-focused and have not systematically recorded the dissociative experiences, or estimated their prevalence or

correlated across a high stress population and correlated it with handedness. This study therefore tries to estimate the frequency of different dissociative experiences among students of different fields of healthcare and to examine its association with handedness and socio-demographic variables.

### **I. MATERIALS AND METHODS**

A cross sectional study of dissociative experience and handedness among MBBS students, nursing students and house-surgeons posted in the psychiatry department was conducted from January to December 2021. An institutional review board approval was obtained prior to the study. All students who gave written informed consent and completed the assessments were included. A semi structured questionnaire was used to collect socio-demographic data. The mini-international neuropsychiatric interview (MINI PLUS) was used to rule out any active psychiatric diagnosis.<sup>9</sup> The handedness was assessed using the Edinburg handedness inventory<sup>10</sup> and the dissociative experiences were recorded using the dissociative experiences scale. (DES)<sup>5</sup>The DES is a 28-item questionnaire that enquires about different dissociative experiences that one might experience indaily life. The scale determines to what degree each experience described in the question applies to a person and select the number to show what percentage of the time you have the experience (from 0% - never to 100% - always). The language validity was established by translation and back-translation procedure, and a pilot study showed a Cronbach's alpha of 0.87.

Consecutive students were selected after written informed consent and completion of socio demographic questionnaire were assessed using MINI PLUS to rule out any activepsychiatric diagnosis. Edinburg handedness inventory and dissociative experience scale was administeredto study handedness and dissociative experiences. The data collected was represented as categorical and continuous variables and was analysed using independent t test andANOVA. The data analysis was done in SPSS version 16 for windows.

### **II. RESULTS**

Of the 104 screened, 6 were avoided as they had a primary diagnosis and 5 were excluded as they returned incomplete questionnaires. So, the final sample had 93 students. Of the sample 81.7% were females and 60.2% were single. The religious distribution was Muslims (83.87%), Hindus (13.98%), and Christians (2.15%) The majority were interns (84.9%), followed by MBBS students (8.6%) and nursing students. (6.5%) The predominant handedness was usually or always right (95.7%), while it was usually or always left in 3.3% and only 1.1% were ambidextrous. Examining the frequency of dissociative experiences from 0-100%, showed that every person in the sample at least had one dissociative experience at least 10% of the time

The dissociative experience that had the highest percentage chanceof occurring was the experience of listening to someone talk and they suddenly realize that they did not hear all or part of what was said. (Percentage= 31.93%, SD=22.03) The others in descending order of frequency were watching television or a movie they become so absorbed in the story that they are unaware of other events happening around them (percentage= 22.15%, SD=25.35), find that in certain situations they can do things with amazing ease and spontaneity that would usually be difficult for them (percentage= 18.81%, SD=21.25), inability to remember whether they have done something or have just thought about doing that thing (percentage= 18.06%, SD=20.06), when alone they talk out loud to themselves (percentage= 17.09%, SD=20.34), sit staring off into space, thinking of nothing, and are not aware of the passage of time (percentage=16.67%, SD=18.72) and being unsure whether things that they remember happening really did happen or whether they just dreamed them. (percentage=16.67%, SD=19.35) (Table 1)

The rarest dissociative experience-based percentage of occurrence was of looking in a mirror and not recognizing themselves. (percentage=0.96%, SD=4.18) The other rarer dissociative experiences were depersonalization (percentage=1.18%, SD= 6.2), finding themselves dressed in clothes that they don't remember putting on (percentage=1.93%, SD= 4.7), looking at the world through a fog so that people or objects appear far away or unclear (percentage=1.93%, SD= 6.7), and derealization. (Percentage=4.93%, SD=12.3). (Table 2) The study did not find any association found between handedness and the different dissociative experiences.

The dissociative experiences like not hearing all or part of the conversation when talked to(34.73% Vs. 19.41%;  $t=2.67$ ,  $p=0.009$ ), not knowing how they got to a particular place(6.05% Vs. 1.76%;  $t=2.41$ ,  $p=0.017$ ), becoming so involved in a fantasy or daydream that it feels real (16.57% Vs. 7.05%;  $t=2.84$ ,  $p=0.06$ )and not knowing whether they did something or just thought about (20% Vs. 9.41%;  $t=2.73$ ,  $p=0.009$ ) it were found more in females than males. More single people than married had the experience of being accused of lying despite believing they were not. (11.03% Vs. 3.24%,  $t=2.93$ ,  $p=0.004$ )Among students from different health care groups, the experiences like feeling they are watching themselves, sometimes not recognising family, derealisation, reliving experiences unsure as to whether real or dream, jamais vu and not knowing whether they did or thought about it were found more in MBBS students than interns and nursing students. (Table 3)

### **III. DISCUSSION**

The current study shows based on a frequency of dissociative experiences, every person in the sample at least had one dissociative experience at least 10% of the time. This is evidence of a continuum from normal experience to psychopathology. The findings of an earlier study, also provides tentative support for the concept of a continuum of dissociative experiences.<sup>6</sup>

The most common dissociative was listening to someone talk and realizing that they did not hear all or part of it, followed by becoming absorbed in the story that they are unaware of other events, finding in situations, they can do things with amazing ease and spontaneity that would usually be difficult for them, inability to remember whether they have done something or have just thought about doing it and talking out loud to themselves when alone. However, we were unable to come across any study to substantiate the distribution of the most common dissociative experiences. Further no data on this exists in international and national literature. Therefore, a detailed study across cultures, needs to be undertaken to elucidate this point. The same holds good for the least common experiences like, looking in a mirror and not recognizing themselves, depersonalization and derealization.

The study found no association of dissociative experiences with handedness. This contrasts with an earlier study that highlights that non-right handedness accounted for a high variance on the DES, including both pathological and nonpathological dissociative experiences.<sup>8</sup> The current study shows that for specific dissociative experiences, females had a higher mean score than males. The dissociative experiences like not hearing all or part of the conversation when talked to, not knowing how they got to a particular place, becoming so involved in a fantasy or daydream that it feels real, and not knowing whether they did something or just thought about it were more in females. A comprehensive comparison across different experiences, is not possible as there are no studies examining this. However, a study on general population showed that across experiences the mean score for the women on the Dissociative Experiences Scale was non significantly greater than men ( $10.8 \pm 10.1$  Vs.  $10.7 \pm 10.2$ ).<sup>11</sup> The experiences in the study that showed a significant difference among the sexes in that study were people find that they have no memory for some important events in their lives, which was more for men than women ( $11.3 \pm 20.2$  versus  $6.8 \pm 15.5$ ;  $p < 0.001$ ) and the experience of talking out loud to themselves when alone which was more in women ( $17.5 \pm 23.4$  Vs  $11.8 \pm 19.0$ ;  $p < 0.001$ ).<sup>11</sup> The data from the different studies being preliminary no generalizations can be made from this. Further, there exists no comparative studies to assess the significance of the increased experience among singles than married on the feeling of being accused of lying despite believing they were not.

The study shows that among students from different health care groups, the experiences like feeling they are watching themselves, sometimes not recognising family, derealisation, reliving experiences unsure as to whether real or dream, jamais vu and not knowing whether they did or thought about it were found more in MBBS students than interns and nursing students. This may reflect the higher stress levels in the medical student population. The study did not independently assess the levels of stress among different groups which may have helped better conceptualize this result. Further, high dissociative experiences scores were associated to high scores in creative imagination and creative experiences, and low scores in dissociative experiences were inversely related to creative imagination and creative experiences. This is another potential confounder which has also not been examined.

This study is limited by its focus on dissociative experiences and handedness without enquiry into early life events, trauma, stress levels, creativity and personality. However, it still elucidates those dissociative experiences are present as a continuum and are not necessarily psychopathological. The most common and rarer dissociative experiences have been brought to the fore by this study. A preliminary set of data which can be expanded upon by a larger study across age groups. The study also throws initial light of dissociative experiences across sexes and their distribution among different student groups, all of which need to be studied further.

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**Table 1: Most Common Dissociative Experiences**

Dissociative Experience	Percentage	S.D.
Experience of listening to someone talk and they suddenly realize that they did not hear all or part of what was said	<b>31.93</b>	22.03
Watching television or a movie they become so absorbed in the story that they are unaware of other events happening around them	<b>22.15</b>	25.23
They can do things with amazing ease and spontaneity that would usually be difficult for them	<b>18.81</b>	21.25
Inability to remember whether they have done something or have just thought about doing that thing	<b>18.06</b>	20.06
When are alone they talk out loud to themselves	<b>17.09</b>	24.34
Sit staring off into space, thinking of nothing, and are not aware of the passage of time	<b>16.66</b>	18.72
Being unsure whether things that they remember happening really did happen or whether they just dreamed them	<b>16.66</b>	19.35

**Table 2: Least Common Dissociative Experiences**

Dissociative Experience	Percentage	S.D.
Looking in a mirror and not recognizing themselves.	<b>0.96</b>	4.18
Depersonalization	<b>1.18</b>	6.2
Finding themselves dressed in clothes that they don't remember putting on	<b>1.93</b>	4.7
Looking at the world through a fog so that people or objects appear far away or unclear	<b>1.93</b>	6.7
Derealization	<b>4.93</b>	12.3

**Table 3: Dissociative Experiences among Different Student Groups**

Dissociative Experience	Student Groups			F and Sig.
Feeling they are watching themselves	MBBS (I-J)	Interns	23.9	<b>F=9.62</b> <b>P&lt;0.001</b>
		Nursing Students	17.5	
Derealization	MBBS (I-J)	Interns	16.3	<b>F=4.89</b> <b>P=0.01</b>
		Nursing Students	18.3	
Reliving experiences unsure as to whether real or dream	MBBS (I-J)	Interns	21.09	<b>F=5.67</b> <b>P=0.005</b>
		Nursing Students	30.43	
Jamais Vu	MBBS (I-J)	Interns	16.51	<b>F=3.61</b> <b>P=0.031</b>
		Nursing Students	18.33	
Not knowing whether they did or thought	MBBS (I-J)	Interns	18.29	<b>F=3.36</b> <b>P=0.039</b>

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