

Brief Report

# Validation Study of Italian Version of Inventory for Déjà vu Experiences Assessment (*I-IDEA*): A Screening Tool to Detect Déjà vu Phenomenon in Italian Healthy Individuals

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**Abstract**

The Inventory Déjà Vu Experiences Assessment (IDEA) is the only screening instrument proposed to evaluate Déjà vu (DV) experience. Here we intended to validate the Italian version of IDEA (I-IDEA) and at the same time to investigate the incidence and subjective qualities of DV phenomenon in Italian healthy adult individuals on basis of an Italian multicentre observational study. In this study we report normative data on the I-IDEA, collected on a sample of 542 Italian healthy subjects aging between 18 to 70 years (average age 40, range 18-70) with a formal educational from 1-19 years. From September 2013 to March 2016 were recruited 542 healthy volunteers from ten outpatient neurological clinics in Italy

All participants (i.e family members of neurological patients enrolled, medicine's student, physicians) had no neurological or psychiatric illness and they gave informed consent to participate in the study. All subjects enrolled had self-administered the questionnaire and they are able to complete I-IDEA test without any support.

In total 396 (73%) of the 542 healthy controls had DV phenomenon. The frequency of DV was inversely related to age as well as to derealisation, jamais vu, precognitive dreams, depersonalization, paranormal activity, remembering dreams, travel frequency and daydreams (all  $P \leq 0.012$ ). The Italian version of IDEA maintains good properties in Italian version, thus confirming that this instrument is reliable for detecting and characterising the DV phenomenon.

**Key words:** Déjà Vu, Inventory for Déjà Vu Experiences Assessment (IDEA)

## Introduction

Déjà vu (DV) experience is defined as “any subjectively erroneous feeling of familiarity for present experience with an undefined past” [1]. Recently the DV phenomenon has aroused a large interest in scientific literature because many aspects of DV are still obscure. In the current literature, there is not unique definition universally accepted to describe DV and remains unclear the significance even if the physiopathology of DV whereas it has been investigated mainly in patients with temporal lobe epilepsy (TLE) [2,3].

It is very interesting that although DV was firstly described back in 1896 [4], there are not standardised instruments to screen DV in each country as in Italy. To date, a scale-self-administered called Inventory Déjà Vu Experiences Assessment (IDEA) is the only instrument validated and able to measure the frequency of occurrence and the psycho-behavioural consequences of having DV [5]. This questionnaire represents a valuable method to explore the impact and the features of DV. It is a 23-item self-administered questionnaire containing a general section of nine questions and a qualitative section of fourteen sections focusing on qualitative characteristic of DV experiences. IDEA test has been translated and validated in Japan [6] and in this paper our purpose is to validate the Italian version of IDEA (I-IDEA) and at the same time to investigate the incidence of DV phenomenon Italian healthy adult individuals.

For this reason, the IDEA test was translated from English version into Italian and approved by the original author Sno. Here we report the validation of the I-IDEA test as well as the preliminary data analysis on prevalence of DV in an Italian multicentre observational study/survey that is on going. The possibility to have a validated instrument to collect DV offers a unique chance to study both normal and pathological DV.

## Methods

The study was approved by local ethic committee at University of Catanzaro (project ID: 28; date of approval, September 16<sup>th</sup> 2013) and has been conducted in accord with the Helsinki Declaration. All data collected from other ten centres outpatient neurological clinics in Italy (Epilepsy Centre Hospital Bianchi-Melacrino Reggio Calabria, "Tor Vergata" University of Rome, "Sapienza" University, Rome, IRCSS Neuromed, Pozzilli, University of Palermo, University of Catania, IRCCS and University of Bologna, University of Genoa) were sent to our Unit (University of Catanzaro,) and included in a common and homogeneous database. In accordance with the international guidelines for translation and cross-cultural adaptation [7], the original version of IDEA was translated in Italian by L.M; then a native speaking English reviewer translated back the Italian version in English. This latter form was compared with original one and subsequently the original author Sno approved the translated version of the Italian I-IDEA. Translation procedure was carried out according to accepted international standards [8-9]. The original English version was forward-translated by two independent translators, a mother language English teacher and a doctor speaking fluent English, that agreed with a final Italian version. This first Italian version was independently back-translated in English by another translator and by a psychologist fluent in English with experience in research, who, in turn, agreed on a final English back-translation. The Italian translation and the English back-translation were then reviewed by a multi-disciplinary committee composed by a professor of Neurology, a psychologist with experience in research unit, a physician, and a psychologist. The English back-translation was compared to the original version in order to detect any misinterpretation and ambiguity; the two versions were found to be reasonably similar. Furthermore, the Italian translation was compared to the original one to ensure conceptual equivalence and improve understand-ability.

As showed in figure 1, this is a multicenter, cross sectional study involving ten hospitals widespread in the Italian territory. The participants were all native-Italian speaking mainly family members of patients coming to the neurology clinic, medical students, staff of each hospital, etc. Exclusion criteria were people younger than 18 years, people with previous or current medical history including neurological (especially epilepsy) or psychiatric illness. All participants were given detailed oral and written informed consent to participate in the study. All subjects enrolled had self-administered and completed IDEA test. In this study the psychological experiences in part

A of the IDEA items (i.e; DV, derealisation, paranormal quality, remembering dreams, travel frequency, daydreams) were analysed mainly because all participants responded to these questions. According to IDEA if subjects checked “ Don’t know” was regarded as “never” and they did not continue to part B. Respect the original IDEA we also added information about handedness analysed by the Annett Hand Preference test [10] to evaluate the potential lateralized effects on the development of DV experience. We collected also information about the rate of age of education.

#### *Statistical analysis*

Data are summarised as mean and standard deviation or as percent frequency, as appropriate. The Cronbach’s  $\alpha$  value used as a criterion of adequate internal consistency reliability was 0.70 or higher. Data analysis was performed by SPSS for Windows (version 22.0, IBM, Chicago, Illinois, USA). The relationships between age and the IDEA items were investigated by Spearman rank correlation coefficients ( $\rho$ ) and P values. To assess the weight of Déjà vu among the various mental phenomena a factorial analysis (Varimax rotation) was used with principal component solution. Initial un-rotated factors were obtained by principal component methods and those with an eigenvalue >1 underwent Varimax rotation.

#### **Results**

In total, 542 native (232 men and 310 women; age  $40 \pm 20$  years) Italian-speaking healthy controls were collected and examined by trained neurologists using the I-IDEA test. The internal consistency reliability of the questionnaire was rather satisfactory because the Cronbach’s  $\alpha$  value was 0.7. The full list of questions and the corresponding items of the I-IDEA test are detailed in Table 1. On basis of Annett Hand Preference Questionnaire 95% of our population were right handers, 4,5% left-handers and 0.5% mixed.

#### *Frequency of Déjà Vu and related Experiences*

According to the 1<sup>st</sup> question of the I-IDEA test, 73% of subjects stated that they experienced a “recognition” (the fact of knowing someone or something already) during their life and among these as much as 7.7% revealed that the frequency of this phenomenon ranged from few times a month to at least weekly. At the 2<sup>nd</sup> and 3<sup>rd</sup> questions, a substantial proportion of subjects answered that, from few times a year to at least weekly, they feel that it seems as everything around is not real (17.9%) or that they had never experienced something before when in fact they had experienced it before (13.5%). At the 4<sup>th</sup> question, 28% of individuals revealed that they really experienced something that had occurred before in a dream (with a frequency ranging from sometime to very frequently) and such an answer was accompanied by the statement that, while something was happening to them, they feel that it was not happening to their self but to someone else in a substantial proportion of subjects with a frequency ranging from sometime to more frequently (11.6%). Remarkably, (question 6<sup>th</sup>) 3.9% of subjects stated that they consider their self as persons with paranormal qualities. The answers to the remaining questions (from 7<sup>th</sup> to the 9<sup>th</sup>) are given in table.

In the second part of table 2 are reported further answers of subjects who provided “Yes” to the first question of the questionnaire [i.e. subjects who experienced a recognition with a frequency ranging from very infrequently to more frequently ( $n=396$  individuals)]. The most frequent answer to the 1<sup>st</sup> question (I-IDEA test – part 2) was that they experienced a recognition “in a certain situation” (73.9%) followed by “in a certain place” (70.4%), “at a certain event” (65.6%), “when meeting someone” (57.5%), while “engaging a certain activity” or “when telling someone about something” (53.9%) and less frequently “while listening to a conversation, music, or a statement” (45.8%), while “having a certain thought” (41.3%), “while reading something” (30.4%), or “in some other way” (3.8%). Of note, 12.2% of interviewed exactly remember where and when they had a recognition and this answer was in keeping with the next one (see 3<sup>rd</sup> question) in which as much as 19.5% of subjects stated that they remember the recognition be occurred 1 to 5 years ago. The large majority of subjects (66.1%) answered that the duration of recognition was few seconds whereas as much as 19.5% stated that the duration of the same phenomenon was from one to a couple of minutes (see

4<sup>th</sup> question). The recognition usually related to some part of an experience or situation in 57% of answers (see 5<sup>th</sup> question) but 71.6% of subjects stated that they did not habitually experience the recognition in a certain time of day (see 5<sup>th</sup> question). At the 7<sup>th</sup> question, as much as 16.5% of subjects stated that while having a recognition they feel that they could predict what was going to happen in the next few minutes, with a frequency ranging from sometimes to more frequently. At the 8<sup>th</sup> question, the majority of subjects (68.8%) who experienced recognition stated that they don't have the feeling that it was not happening to them but to someone and 22.5% of subjects (see question 9<sup>th</sup>) stated that they have the feeling that the recognition usually pertains to an exact repetition of the past. To the question 10<sup>th</sup>, a substantial proportion of subjects (40.5%) stated that the recognition was accompanied by the feeling as if everything around was not real and as much as 57% of subjects stated that (see question 11<sup>th</sup>) the recognition is a surprising and amazing experience. Of note, 10.9% of interviewed stated that reincarnation and paranormal qualities (see question 12<sup>th</sup>) are the most acceptable explanations of the recognition which, in the majority of circumstances (49.9%) occurred while relaxed (see question 13<sup>th</sup>) or during a concentrated activity (42%- see question 14<sup>th</sup>).

#### *Relationships between age and IDEA items*

As shown in Table 2, in our study age was strongly and inversely related to Déjà vu so that the Déjà vu decreases as age increases. Age was also inversely related to remembering dreams, travel frequency, precognitive dreams, and daydreams items. Age tended to be also related to Jamais vu but it was largely unrelated to derealisation, depersonalization, and paranormal activity (Table 2). A face to face comparison of the effect of age on each IDEA item between ours ( $r$  ranging from -0.380 to 0.005) and Adachi's study ( $r$  ranging from -0.318 to 0.066) showed that the Déjà vu-age link was of similar strength between the two studies. In both reports, age was also related to precognitive and remembering dreams.

#### *Relationships among IDEA items*

Interrelationships among IDEA items are given in Table 3. As reported in Table 3, precognitive dreams resulted to be the most important correlate of Déjà vu ( $\rho=0.296$ ,  $P<0.001$ ) followed by derealization ( $\rho=0.248$ ,  $P<0.0001$ ) and daydreams ( $\rho=0.24$ ,  $P<0.001$ ). The remaining inter-correlations among the various IDEA items ranged from 0.005 (Derealization versus Remembering dreams) to 0.344 (Derealization versus Depersonalization) ( $P$  values ranging from  $<0.001$  to 0.915). The strength of interrelationships among the IDEA items in our study were all of similar degree of those observed in the Adachi's study.

#### *Factorial analysis of IDEA items*

According to the previous paper by Adachi et al. [6], the 9 items of the IDEA test were reduced by factorial analysis to three experience profiles: dissociated-related items, dream-memory-related items, and mental activity-related items (Table 4). Derealization ( $\rho=0.660$ ,  $P<0.001$ ) was the most important item associated to Factor 1 (Dissociation-related item) followed by Daydreams ( $\rho=0.652$ ,  $P<0.001$ ), Depersonalization ( $\rho=0.617$ ,  $P<0.001$ ), and Jamais vu ( $\rho=0.563$ ,  $P<0.001$ ). Factor 2 (Dream/memory-related item) resulted to be closely related to Déjà vu ( $\rho=0.833$ ,  $P<0.001$ ) and Precognitive dreams ( $\rho=0.727$ ,  $P<0.001$ ) and only slightly associated to Remembering dreams ( $\rho=0.207$ ,  $P<0.001$ ). Factor 3 (Mental activity-related item) was linked to Travel frequency ( $\rho=0.778$ ,  $P<0.001$ ) and Paranormal quality ( $\rho=0.591$ ,  $P<0.001$ ). The interrelationships between variables considered in the factorial analysis in our study were generally of smaller degree as compared to those found by Adachi [6].

## **Discussion**

The I-IDEA is the second officially approved non-English translation. In fact in 2001 Adachi et al. [6], published the Japanese version of IDEA for which validity and reliability were equivalent to those of the English version. The purpose of the present work was to give physicians a valid and

easy accessible instrument to screen DV in an out-patient ambulatory of neurology despite collecting DV experience as entirely subjective.

With this study, we also depicted the demographic and psychological features of DV in an Italian population. The I-IDEA test presented here reaches the criterion to be defined as an Official translation of IDEA and our wish is to propose this test freely accessible for clinical purposes mainly to give users the opportunity to quickly identify DV experience according to a common shared definition and to avoid potential misdiagnosis.

Indeed, the results of the study clearly show that the I-IDEA has got excellent internal consistency and reproducibility, comparable to the original scale.

The vast majority (73%) of our healthy population had DV experience as previous reported by several studies in healthy subjects with a frequency of DV experience ranging from 31% to 96% [6-7,11-12]. We have been unable to depict races differences because the entire group recruited was of white people.

Considering that DV phenomenon is also very often present in patients with mesial temporal lobe epilepsy, this paper will be a practicable instrument to investigate DV phenomenon in patients with epilepsy and to clarify whether DV is different between healthy subjects and individuals with epilepsy. For this reason, this paper is propaedeutic to new future studies in this research field. Obviously, there are some limitations that must be considered, firstly potential cognitive or neuropsychological issues cannot fully be excluded because people recruited were not screened with appropriate behavioural assessment however each individual was prior interviewed by a trained neurologist (e.g consultant or professor of neurology) with particular experience in epilepsy; secondly our findings need to be confirmed in other studies.

Moreover, the I-IDEA is a user-friendly, reliable instrument able to measure qualitative and quantitative DV phenomenon and it could be used particularly in epilepsy or psychiatric centres to objectively screen DV.

Of note, in close parallelism with the results of Adachi et al. [6], age was strongly and inversely related to Déjà vu. Similarly, the interrelationships among IDEA items we found in our study resulted to be very similar to those emerged in the Adachi's study [6] indicating that the Italian translation of the IDEA test has a satisfactory internal and external consistency.

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**Table 1.** Percentage of answers of each I-IDEA question.

I-IDEA TEST 1 <sup>st</sup> part (N=542 CONTROLS)		(%)
1 Have you ever had the feeling of having experienced a sensation or situation before in exactly the same way when in fact you are experiencing it for the first time?	<input type="radio"/> Never	25,3
	<input type="radio"/> Yes, very infrequently (less than once per year)	22,5
	<input type="radio"/> Yes, sometimes (a few times per year)	42,8
	<input type="radio"/> Yes, often (a few times a month)	6,8
	<input type="radio"/> Yes, more frequently (at least weekly)	0,9
	<input type="radio"/> Don't know	1,7
2 Have you ever had the feeling that it seems as if everything around is not real, as if it is not really happening?	<input type="radio"/> Never	60,0
	<input type="radio"/> Very infrequently (less than once per year)	19,4
	<input type="radio"/> Sometimes (a few times a year)	15,7
	<input type="radio"/> Often (a few times a month)	1,8
	<input type="radio"/> More frequently (at least weekly)	0,4
	<input type="radio"/> Don't know	2,8
3 Note: <i>This question is about the opposite of the feeling of 'recognition'!</i> Have you ever had the feeling that you had never experienced something before, when in fact you had experienced it before? For example: You see something or someone you know very well, but you feel as if you have never seen it or him before!	<input type="radio"/> Never	69,4
	<input type="radio"/> Very infrequently (less than once per year)	12
	<input type="radio"/> Sometimes (a few times a year)	11,8
	<input type="radio"/> Often (a few times a month)	1,3
	<input type="radio"/> More frequently (at least weekly)	0,4
	<input type="radio"/> Don't know	5,2
4 Has it ever happened to you that you experienced something that had occurred before in a dream?	<input type="radio"/> Never	34,3

	<input type="radio"/> Very infrequently (less than once per year)	33,2
	<input type="radio"/> Sometimes (a few times a year)	22,1
	<input type="radio"/> Often (a few times a month)	5,7
	<input type="radio"/> More frequently (at least weekly)	0,2
	<input type="radio"/> Don't know	4,4
5 Have you ever had the feeling while something was happening to you that it was not happening to yourself, but to someone else, as if you were looking at yourself?	<input type="radio"/> Never	67,5
	<input type="radio"/> Very infrequently (less than once per year)	18,8
	<input type="radio"/> Sometimes (a few times a year)	10,1
	<input type="radio"/> Often (a few times a month)	1,3
	<input type="radio"/> More frequently (at least weekly)	0,2
	<input type="radio"/> Don't know	2
6 Do you consider yourself a person with paranormal qualities? ( <i>'Paranormal qualities' includes clairvoyance, telepathic or psychic abilities and so forth,</i> )	<input type="radio"/> No	81,9
	<input type="radio"/> No, but I am not sure	6,6
	<input type="radio"/> Yes, but I am not sure	5,9
	<input type="radio"/> Yes	3,9
	<input type="radio"/> Don't know	1,7
7 How often can you remember a dream so well that you can tell someone about it?	<input type="radio"/> Never	6,5
	<input type="radio"/> Very infrequently (less than once per year)	16,4
	<input type="radio"/> Sometimes (a few times a year)	33,6
	<input type="radio"/> Often (a few times a month)	23,8
	<input type="radio"/> More frequently (at least weekly)	17,9

	<input type="radio"/> Don't know	1,8
8 How many times a year do you travel a distance of about a hundred kilometres or more from your home locality?	<input type="radio"/> Never	4,8
	<input type="radio"/> Very infrequently (less than once per year)	15,3
	<input type="radio"/> Sometimes (a few times a year)	35,4
	<input type="radio"/> Often (a few times a month)	22,9
	<input type="radio"/> More frequently (at least weekly)	20,8
	<input type="radio"/> Don't know	0
9 Has it ever happened to you that you were daydreaming?	<input type="radio"/> Never	45,9
	<input type="radio"/> Very infrequently (less than once per year)	17,5
	<input type="radio"/> Sometimes (a few times a year)	19,2
	<input type="radio"/> Often (a few times a month)	8,9
	<input type="radio"/> More frequently (at least weekly)	5
	<input type="radio"/> Don't know	3,3

Table 1

I-IDEA TEST 2 <sup>nd</sup> part (these data refer only to individuals who answered "Yes" to the first question, i.e. in 396 individuals)		
<p>1 A person can have a feeling of 'recognition' in many different ways, It can have to do with a specific place, a situation, an activity, an event, meeting someone, a conversation, a thought, reading a book or a newspaper,,,</p> <p>Have you ever had this feeling of 'recognition' in one or more of the following ways?</p> <p>(Note: You can answer 'Yes' to more than one topic of this question, Please answer all the topics, including the ones you answer 'No' to, If you are <i>not sure</i> whether something is applicable to you, answer "No,")</p>	<p>a, In a certain <b>place</b></p> <p>b, In a certain <b>situation</b></p> <p>c, Engaging in a certain <b>activity</b></p> <p>d, At a certain <b>event</b></p> <p>e, When <b>meeting</b> someone</p> <p>f, While <b>telling</b> someone about something</p> <p>g, While <b>listening</b> to a conversation, music, or a statement</p> <p>h, While having a certain <b>thought</b></p> <p>i, While <b>reading</b> something</p> <p>j, In some <b>other way</b> than in question a - i,</p>	<p>70,4</p> <p>73,9</p> <p>53,9</p> <p>65,6</p> <p>57,5</p> <p>53,9</p> <p>45,8</p> <p>41,3</p> <p>30,4</p> <p>3,8</p>
<p>2 While you have this feeling of 'recognition', can you remember exactly where and when you had the same experience or feeling before?</p>	<p><input type="radio"/> No</p> <p><input type="radio"/> I vaguely remember</p> <p><input type="radio"/> Yes, I can remember exactly</p> <p><input type="radio"/> Don't know</p>	<p>41,5</p> <p>40,8</p> <p>12,2</p> <p>5,6</p>
<p>3 When did this feeling of 'recognition' occur for the last time?</p>	<p><input type="radio"/> More than 5 years ago</p> <p><input type="radio"/> 1 to 5 years ago</p> <p><input type="radio"/> 6 months to 1 year ago</p> <p><input type="radio"/> 2 to 6 months ago</p> <p><input type="radio"/> 1 to 2 months ago</p> <p><input type="radio"/> Last month</p>	<p>9,6</p> <p>19,5</p> <p>26,6</p> <p>11,4</p> <p>9,6</p> <p>9,6</p>

	<input type="radio"/> Don't know	13,7
4 How long does this feeling of ' <i>recognition</i> ' usually last?	<input type="radio"/> One second or less	8,9
	<input type="radio"/> A few seconds	66,1
	<input type="radio"/> One minute or a couple of minutes	19,5
	<input type="radio"/> Half an hour to one hour	0,8
	<input type="radio"/> A few hours	0,3
	<input type="radio"/> More than a few hours	0,3
	<input type="radio"/> Don't know	4,3
5 Is the feeling of ' <i>recognition</i> ' usually related to some part of an experience or situation, or to the whole thing?	<input type="radio"/> Total	11,9
	<input type="radio"/> Some part of it	57,0
	<input type="radio"/> It depends	15,9
	<input type="radio"/> Don't know	15,2
6 Do you usually have this feeling of ' <i>recognition</i> ' at a certain time of day?	<input type="radio"/> No	71,6
	<input type="radio"/> In the morning shortly after awakening	2,5
	<input type="radio"/> In the Daytime	7,8
	<input type="radio"/> When it gets dark	2,0
	<input type="radio"/> In the evening (with the lights on)	0,5
	<input type="radio"/> Just before or after going to bed	1,3
	<input type="radio"/> Don't know	14,2
7 While having this feeling of ' <i>recognition</i> ', did you ever have the idea you could predict what was going to happen in the next few minutes?	<input type="radio"/> Never	58,5
	<input type="radio"/> Very infrequently (less than once per year)	16,7

	<input type="radio"/> Sometimes (a few times a year)	11,9
	<input type="radio"/> Often (a few times a month)	3,3
	<input type="radio"/> More frequently (at least weekly)	1,3
	<input type="radio"/> Don't know	8,4
8 While having this feeling of ' <i>recognition</i> ', did you ever have the feeling it was not happening to you but to someone else, as if you were looking at yourself?	<input type="radio"/> No	68,8
	<input type="radio"/> Vague feeling it was not happening to me	9,1
	<input type="radio"/> Clear feeling it was not happening to me	0,5
	<input type="radio"/> Vague feeling I was looking at myself	9,9
	<input type="radio"/> Clear feeling I was looking at myself	3,6
	<input type="radio"/> Don't know	8,1
9 Does this feeling of ' <i>recognition</i> ' usually pertain to an exact repetition of the past or to approximately the same thing?	<input type="radio"/> Exactly the same	12,4
	<input type="radio"/> Almost exactly the same	22,5
	<input type="radio"/> The same	6,8
	<input type="radio"/> Approximately the same	30,1
	<input type="radio"/> Vaguely the same	13,2
	<input type="radio"/> Don't know	14,9
10 While having this feeling of ' <i>recognition</i> ' have you also ever felt that it looked as if everything around you was not real, as if it was not really happening?	<input type="radio"/> Never	50,9
	<input type="radio"/> Yes, a little unreal	26,1
	<input type="radio"/> Yes, vaguely unreal	10,1
	<input type="radio"/> Yes, unreal	3,5
	<input type="radio"/> Yes, totally unreal	0,8
	<input type="radio"/> Don't know	8,6

11 In general, how does this feeling of 'recognition' affect you?	a, It leaves me indifferent	45,1
	b, It frightens me	13,2
	c, It is reassuring	13,7
	d, It is nice and pleasant	29,9
	e, It is uncomfortable or oppressive	9,4
	f, It is surprising, amazing	57,0
	g, It interrupts whatever I am doing	25,1
	h, Other effect:	2,3
12 What do you feel is the explanation of this feeling of 'recognition' ?	a, Anxiety or tension	21,5
	b, Poor memory	21,3
	c, Unconscious memories	65,3
	d, Reincarnation	5,8
	e, Concentration problems	22,5
	f, Paranormal qualities	5,1
	g, Desire to escape from reality	19,5
	h, Other explanation:	5,3
13 How do you usually feel before you have this feeling of 'recognition' ?	a, Mentally fatigued	13,9
	b, Gloomy or depressed	9,9
	c, Nervous or under stress	13,2
	d, Physically fatigued	12,9
	e, Cheerful and happy	16,5
	f, Confused or absent-minded	14,2
	g, Relaxed	49,9
	h, Angry	4,8
	i, Frightened	5,8
	j, Drowsy	10,4

	k, Physically ill	2,0
14 Have you ever had this feeling of 'recognition' in one of the following conditions?	a, Headache	7,1
	b, 'Black out'	9,6
	c, Epileptic seizure	0,3
	d, Concentrated activity	42,0
	e, Drinking alcohol	6,3

**Table 2.** Correlation between age and the IDEA Items

	<b>Age</b>	
	Spearman's Coefficient (rho) and P value	
	Adachi's study [6]	Present study
Deja vu	<b>-0.380 (&lt;0.001)</b>	<b>-0.318 (&lt;0.001)</b>
Derealization	<b>-0.165 (0.001)</b>	-0.049 (0.252)
Jamais vu	0.005(0.919)	-0.084 (0.051)
Precognitive dreams	<b>-0.244 (&lt;0.001)</b>	<b>-0.106 (0.014)</b>
Depersonalization	-0.087 (0.088)	-0.040 (0.355)
Paranormal activity	-0.005 (0.915)	0.066 (0.124)
Remembering dreams	<b>-0.173 (0.001)</b>	<b>-0.241 (&lt;0.001)</b>
Travel frequency	-0.043 (0.399)	<b>-0.173 (&lt;0.001)</b>
Daydreams	-0.009 (0.858)	<b>-0.100 (0.020)</b>

Statistically significant associations are in bold.

**Table 3.** Relation between the IDEA Items.

	Deja vu	Derealization	Jamais vu	Precognitive dreams	Depersonalization	Paranormal activity	Remembering dreams	Travel frequency
<b>Derealization</b> <i>rho</i> <i>p</i>	0.248 (0.301) <0.001							
<b>Jamais vu</b> <i>rho</i> <i>p</i>	0.169 (0.128) <0.001	0.216 (0.330) <0.001						
<b>Precognitive dreams</b> <i>rho</i> <i>p</i>	0.296 (0.376) <0.001	0.288 (0.276) <0.001	0.164 (0.102) <0.001					
<b>Depersonalization</b> <i>rho</i> <i>p</i>	0.188 (0.128) <0.001	0.344 (0.436) <0.001	0.208 (0.329) <0.001	0.211 (0.204) <0.001				
<b>Paranormal activity</b> <i>rho</i> <i>p</i>	0.107 (0.087) 0.012	0.193 (0.132) <0.001	0.10 (0.095) 0.020	0.143 (0.158) 0.001	0.141 (0.195) 0.001			
<b>Remembering dreams</b> <i>rho</i> <i>p</i>	0.183 (0.246) <0.001	0.005 (0.134) 0.915	-0.026 (0.090) 0.544	0.182 (0.239) <0.001	0.031 (0.179) 0.478	0.137 (0.170) 0.001		
<b>Travel frequency</b> <i>rho</i> <i>p</i>	0.109 (0.095) 0.011	0.002 (0.115) 0.969	0.026 (0.109) 0.553	0.018 (0.012) 0.671	-0.008 (0.125) 0.860	0.016 (0.096) 0.717	0.158 (0.068) <0.001	
<b>Daydreams</b> <i>rho</i> <i>p</i>	0.24 (0.152) <0.001	0.243 (0.202) <0.001	0.201 (0.209) <0.001	0.189 (0.200) <0.001	0.235 (0.144) <0.001	0.195 (0.131) <0.001	0.077 (0.092) 0.074	0.087 (0.06) 0.043

Data are Spearman rank correlation ( $\rho$ ) and P values. In parenthesis, the  $\rho$  coefficient between each couple of items as reported in the Adachi's study [6] is also given.

**Table 4.** Factor analysis of the IDEA Items.

	Factor 1	Factor 2	Factor 3
<b>Dissociation-related</b>			
Derealization	rho=0,660 (0.749) P<0.001		
Jamais vu	rho=0,563 (0.749) P<0.001		
Depersonalization	rho=0,617 (0.677) P<0.001		
Daydreams	rho=0,652 (0.534) P<0.001		
<b>Dream/memory-related</b>			
Precognitive dreams		rho=0,727 (0.740) P<0.001	
Deja vu		rho=0,833 (0.714) P<0.001	
Remembering dreams		rho=0,207 (0.673) P<0.001	
<b>Mental activity-related</b>			
Travel frequency			rho=0,778 (0.772) P<0.001
Paranormal quality			rho=0,591 (0.616) P<0.001

Data are Spearman rank correlation (rho) and P values. In parenthesis, the rho coefficient between each couple of items as reported in the Adachi's study [6] is also given.