

Internet use for mental health information and support among European university students: The e-MentH project

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Abstract

The aim of the present study was to describe the socio-demographic variables associated with the use of the Internet for mental health information-seeking by European university students, including participants' trust in the Internet, and their use of the Internet in comparison to traditional formal mental health care. A cross-sectional anonymous 25-item survey was conducted with 2466 students in three courses (Computer Science, Law, Nursing) from four European universities (France, Ireland, Italy, Spain). Participants were equally distributed in all four countries; they were mostly females (57.5%), with a mean age of 21.6 years. Overall, female, French and Nursing students were more likely to look for mental health information. The majority (69.7%) of students reported that information about mental health on the Internet was unreliable. Among all participants, Spanish students reported a higher trust in web content. The findings suggest that university students frequently use the Internet for mental health information-seeking but not for mental health support. Furthermore, they do not entirely trust the Internet for mental health-related issues. This should be considered in planning Internet-based programmes for mental health promotion and prevention in university students.

Keywords

Internet, mental health, health literacy, online information, online support, university students, cross-country comparison

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Introduction

Mental and behavioural disorders are the leading cause of disability in those aged 18–24.¹ Furthermore, young people experience difficulties in accessing mainstream mental health services and are not inclined to seek professional help,² preferring alternative ways to acquire knowledge on their psychological conditions.³

The Internet is the most popular information source for many young people around the world. With nearly 90% of European young people aged 16–24 years using the Internet daily, and 48% using the Internet for seeking health-related information, the Internet appears to be a logical platform to provide mental health information and support.⁴

Data about how young people use the Internet for mental health problems already exists for some European countries such as France, where the use of the Internet for mental health purposes is positively

associated with poor mental health but not physical health,⁵ and Ireland where younger people report greater willingness to use the Internet as a source of information on mental health than older people.⁶

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In the United States a similar trend is reported, with young people being more likely to look for mental health information available online than the elderly.⁷ In Australia, young people report that they appreciate online interactions concerning mental health because of their anonymity, accessibility and delivery modality.⁸

However, there is the urgent need to better understand how the use of the Internet for mental health problems impacts on young people's medical consultations, and how much they trust it. It is in fact important to assess whether young web-users are able to discern the source of the information they receive from the net,⁹ and the role the Internet plays in relation to traditional help-seeking for mental health care.

Previous studies have not explored the confidence young people have in online information compared with medical advice, notwithstanding the fact that the Internet is one of the first sources of help-seeking for mental health that young people use.

Furthermore, this study is the first comparing student populations' use of the Internet for mental health from different countries. In general, European studies on this subject are scarce.

The e-MentH project (www.ementhproject.org) was designed to examine, in a European multi-centre academic context, young people's usage of the Internet and their views on using the Internet for mental health information. They study aimed to (a) provide a full description of the use of the Internet for mental health; (b) report participants' trust in the information and support found online; and (c) describe the value students assign to the Internet versus traditional formal mental health care.

Methods

Survey design and questionnaire

We conducted a cross-sectional survey of Internet usage for mental health information and support-seeking in university students. All data were collected through a self-administered questionnaire on paper from May to December 2013.

The questionnaire was designed from previous national surveys and studies related to the use of Internet for mental health information.^{10–12} The questionnaire consisted of 25 items divided into three sets: (1) general information, i.e. demographic details of age, gender, subject of academic study, type of accommodation, place of living, employment and both physical and mental health condition; (2) general usage of the Internet, i.e. the use of the Internet for social networks, for watching videos, for mailing etc.; and (3) use of the Internet for health and mental health issues, e.g. the

frequency of use of the Internet for obtaining information on general health, specific mental health issues (sexuality, eating disorders, depression, addictions, panic attacks) and wellbeing, the use of mental health online support, trust in online information, and the advantages and the disadvantages of using the Internet for mental health information and support. The 25 items include multiple choice questions, Yes/No questions, and Likert scales.

The original version of the questionnaire was written in English. Translations and counter-translations were provided by professional translators and native Italian, French, English and Spanish speakers. Translations followed a procedure of forward translation and qualitative reviews of translated items by experts.¹³ No discrepancies were found between the original translation and its back-translation in each language. All versions are accessible on the project's official website (www.ementhproject.org), and the English version is shown in the Appendix.

Setting and sample

Four universities participated in the research: the Université Paris Nord XIII and the attached Institut de Formation en Soins Infirmiers (IFSI) of the Centre Hospitalier Robert Ballanger (CHIRB) (Paris, France); the University College Cork (Cork, Ireland); the University of Verona (Verona, Italy); and the University of Cádiz (Cádiz, Spain). These four universities were homogeneous with respect to size (almost the same number of students in the academic year 2011–2012: 23,000 for the Université Paris Nord XII, 18,860 for the University College Cork, 22,372 for the University of Verona, 17,280 for the University of Cádiz) and their geographical location (either small cities or suburban areas). These similarities were expected to facilitate comparisons among the four universities. To be included in the project respondents had to be university students of one of the following courses: Computer Science, Law or Nursing. The questionnaire was anonymous and handed out in class. Students did not receive any payment for the compilation of the questionnaire and were free not to take part in the study by refusing to answer the questionnaire. However, the final refusal rate was 0%. The e-MentH project was approved by the relevant ethics committees in each participating university.

Statistical analysis

The distribution of the sample with respect to demographic variables, academic situation, living condition, occupational, physical and mental status, was

calculated. All variables were analysed at country level, and Pearson's chi-square test was conducted to evaluate differences across countries. The chi-square test was conducted using 18, 22, 26 and 31 years as thresholds for a total of five age groups (under 18, 18–21, 22–25, 26–30, above 30). A test on equality of distributions was performed on the continuous variable, by using the Kruskal–Wallis test.

As possible predictors of whether students ever looked for information on general and mental health problems respectively (i.e. outcome variable for the logistic regression), gender, country, mental and physical health status, area of study, living condition (with parents or family, alone or “other”), year of course (1 year, 2 years, 3 years or more), the five age groups mentioned above, and job (full- or part-time, no job) were included in the analysis. Likelihood ratio test was used to study the association between variables related to the use of the Internet for general and mental health issues and the other individual variables. Variables found to be significantly associated with each variable of interest were used as covariates for logistic regressions. A backward stepwise procedure (with p -value of 0.05 used to determine variable removal) was used to identify possible predictors of students' behaviour and satisfaction with respect to information and support found on the web about health issues.

Not all participants answered every question but they were all included in the sample because they had answered at least to 50% of the items. Missing rates are reported in the tables for each studied variable.

All data were entered anonymously and analysed using STATA version 13 for Windows.

Results

The sample: participant profile

A total of 2500 questionnaires were distributed; 2466 valid responses were returned (98.6% total response rate, with similar response rates for each single country). Table 1 reports in detail the characteristics of the respondents per country.

The majority of participants were female (57.5%) with a mean age of 21.6 years. Most of the students were living with parents/family (74.0%), in a middle size town (44.9%) and were in their first year of study (46.0%).

As for their physical health status, the majority of the total sample reported their health as “good/very good” (82.9%). In relation to their psychological and emotional state, the majority reported their health as “good/very good” (78.9%). In comparison with physical health, a two-fold percentage of students reported

bad or very bad psychological and emotional state (2.1% versus 4.0%, $p < 0.001$). Answers by countries were significantly different as well ($p < 0.001$): 21.9% of students in Italy judged their mental health status as “very good”, in comparison with 34.3% in France, 37.4% in Ireland and 45.9% in Spain.

Findings also indicated that 5.6% of students had seen a psychologist, psychiatrist or counsellor in the last 12 months.

General usage of the Internet

Table 2 shows that most of the sample reported using the Internet several times a day (87.6%), owning a computer (98.5%) and accessing the Internet from home (95.5%). Differences between countries were highly significant (p -value < 0.001 in all cases), with French students using the Internet less than the other three groups (77.8%).

The use of the Internet: from general to mental health

Most students (88.6%) reported looking for online information and support about general health, ranging from 85.1% in Ireland to 91.0% in Spain. Only half of the total sample (49.8%) stated they looked for mental health information and support on the Internet, with relevant differences across countries: 58.7% in France; 51.0% in Spain; 45.4% in Italy; and 43.9% in Ireland.

Most students used the Internet to search for information on health issues for themselves (62.5%), but they also looked for information for family or friends (45.1%) or just out of curiosity (36.5%).

Among all students, 42.9% declared they had looked for general information on mental health problems in the year before participating in the study. The topics which were most searched by students were “stress” (29.7%), “depression” (24.1%) and “anxiety” (22.8%).

When asked whether they had used online support for a mental health-related difficulty in the previous 12 months, it was found that 97.8% of the total sample had never used online therapy; 95.6% had never accessed a specific chat room; and 91.8% had never used a forum or a discussion board for mental health-related issues and questions.

How university students search for mental health information online

When looking for mental health information on the Internet, of the total sample, 44.1% of students entered key words into a search engine, portal or ISP very often

Table 1. Socio-demographic characteristics, academic variables and physical and psychological state of the total sample ($N=2466$) and of the sample in each country.*

	France ($N=617$)	Ireland ($N=607$)	Italy ($N=608$)	Spain ($N=634$)	Chi- square p -value	Total ($N=2466$)
Gender						
Male	196 (31.9)	227 (38.7)	281 (47.1)	327 (52.0)	60.07 < 0.001	1031 (42.5)
Female	418 (68.1)	360 (61.3)	315 (52.9)	302 (48.0)		1395 (57.5)
Age						
Under 18	26 (4.3)	10 (1.7)	0	0	110.25 < 0.001	36 (1.5)
18–21	421 (69.0)	435 (73.5)	370 (62.5)	405 (64.5)		1631 (67.3)
22–25	106 (17.4)	77 (13.0)	159 (26.9)	173 (27.5)		515 (21.3)
26–30	21 (3.4)	37 (6.2)	30 (5.1)	18 (2.9)		106 (4.4)
Above 30	36 (5.9)	33 (5.6)	33 (5.6)	32 (5.1)		134 (5.5)
Area of study						
Computer Science	211 (34.2)	200 (32.9)	201 (33.1)	213 (33.6)		825 (33.5)
Law	205 (33.2)	204 (33.6)	202 (33.2)	203 (32.0)		814 (33.0)
Nursing	201 (32.6)	203 (33.4)	205 (33.7)	218 (34.4)		827 (33.5)
Year of course						
1	464 (75.2)	259 (42.7)	51 (8.4)	360 (56.8)	715.82 < 0.001	1134 (46.0)
2	40 (6.5)	126 (20.8)	349 (57.4)	112 (17.7)		627 (25.4)
3 or more	113 (18.3)	222 (36.6)	208 (34.2)	162 (25.6)		705 (28.6)
Living situation						
With parents/family	506 (82.1)	292 (48.3)	502 (82.8)	520 (82.0)	380.59 < 0.001	1820 (74.0)
Alone	49 (8.0)	15 (2.5)	22 (3.6)	13 (2.1)		99 (4.0)
Other	61 (9.9)	298 (49.3)	82 (13.5)	101 (15.9)		542 (22.0)
Size of place of living						
City, big town	184 (30.1)	408 (67.3)	16 (2.6)	83 (13.1)	996.50 < 0.001	691 (28.1)
Middle-sized town	344 (56.2)	92 (15.2)	246 (40.7)	422 (66.6)		1104 (44.9)
Small town, village	84 (13.7)	106 (17.5)	343 (56.7)	129 (20.3)		662 (26.9)
Occupational status						

(continued)

Table 1. Continued.

	France (N= 617)	Ireland (N= 607)	Italy (N= 608)	Spain (N= 634)	Chi- square p-value	Total (N= 2466)
Not working	486 (79.3)	315 (52.0)	431 (71.0)	566 (89.4)	236.53 < 0.001	1798 (73.1)
Working	127 (20.7)	291 (48.0)	176 (29.0)	67 (10.6)		661 (26.9)
Physical health						
Very good	225 (36.5)	251 (41.4)	170 (28.0)	243 (38.4)	80.97 < 0.001	889 (36.1)
Good	274 (44.5)	244 (40.3)	297 (48.9)	338 (53.4)		1153 (46.8)
Quite good	106 (17.2)	95 (15.7)	127 (20.9)	40 (6.3)		368 (14.9)
Bad	9 (1.5)	15 (2.5)	10 (1.6)	10 (1.6)		44 (1.8)
Very bad	2 (0.3)	1 (0.2)	3 (0.5)	2 (0.3)		8 (0.3)
Psychological state						
Very good	211 (34.3)	224 (37.4)	132 (21.9)	290 (45.9)	142.68 < 0.001	857 (35.0)
Good	258 (42.0)	250 (41.7)	277 (45.9)	289 (45.7)		1074 (43.9)
Quite good	113 (18.4)	104 (17.4)	160 (26.5)	42 (6.6)		419 (17.1)
Bad	24 (3.9)	17 (2.8)	26 (4.3)	7 (1.1)		74 (3.0)
Very bad	9 (1.5)	4 (0.7)	8 (1.3)	4 (0.6)		25 (1.0)
Medical advice						
Have seen a general health professional	542 (87.8)	492 (81.9)	493 (81.4)	564 (89.0)	<0.001	2091 (85.1)
Have seen a mental health professional	27 (4.4)	48 (8.0)	31 (5.1)	32 (5.0)	0.032	138 (5.6)

*Absolute numbers are reported with percentages in brackets. For the area of study, the chi-square test has not been performed since the split into three equal groups was already decided in the study design. Variables had $\leq 0.7\%$ missing data.

and, at least once, 62.2% paid attention to the date of the information; 63.0% directly visited one health website or portal they already knew; and 73.0% paid attention to the person and/or institution providing the information. Differences across countries were highly significant ($p < 0.001$ in all cases). In particular, the percentage of students using search engines and directly visiting websites often varied respectively, from 30.1% and 3.5% in Spain to 51.9% and 8.3% in France.

Trust in the Internet for mental health information and support

When asked about advantages and disadvantages of using the Internet for mental health information and

support, the total sample thought the three main advantages of the Internet were: being easily accessible 24 hours a day (62.8%); being anonymous, private and confidential (48.2%); and containing a vast amount of valuable information (36.7%). The disadvantages were that Internet: contains unreliable information (69.7%); is untrustworthy in comparison to medical advice (45.5%); and it is unclear who produced the information (38.5%). Students answered differently according to their country of origin, as shown in Table 3.

The overall sample thought that mental health information on the Internet is either “quite so” (48.9%) or “not quite so” (43.0%) credible. Differences across countries were remarkable, with Spanish students being more likely to believe that mental health

Table 2. The general usage of the Internet by university students.*

	France	Ireland	Italy	Spain	p-value	Total
Frequency of use						
Several times a day	77.8%	91.6%	88.3%	92.7%	<0.001	87.6%
Once a day	13.0%	6.4%	6.6%	4.3%		7.6%
Several times a week	8.1%	1.5%	4.0%	2.7%		4.1%
Once a week	0.5%	0.3%	0.5%	0.3%		0.4%
Less than once a week	0.6%	0.2%	0.7%	0%		0.4%
Owning computer, smartphone or tablet	96.9%	98.2%	99.0%	100%	<0.001	98.5%
Place of Internet access						
Home	95.5%	96.4%	92.4%	97.6%	<0.001	95.5%
University	57.9%	89.4%	80.1%	91.6%	<0.001	79.8%
Work	10.2%	21.2%	15.8%	4.9%	<0.001	12.9%
Friends/family	60.3%	50.1%	42.5%	46.6%	<0.001	49.9%
Public places	33.2%	52.6%	46.3%	46.1%	<0.001	44.5%
Smartphone	61.3%	60.0%	52.4%	56.7%	0.008	57.6%

*Variables had $\leq 0.8\%$ missing data.

information on the Internet is “absolutely not” credible (11.9% versus the total sample’s percentage of 5.5%).

The majority of the total sample (70.1%) did not know what certified health websites were, especially in Spain (83.4%) and Italy (71.6%), with lower percentages in France (62.9%) and Ireland (61.7%). Nursing students were more likely to know of their existence (39.1%) in comparison with Law students (25.0%) and Computer Science students (25.2%).

The use of the Internet versus medical advice

Of the total sample, 47.8% reported sometimes or often looking for online mental health information instead of going to a doctor; 44.3% before going to a doctor; 49.6% after going to a doctor; and 44.8% independently from any medical consultation. Only students from Ireland diverged from the total sample, with almost a quarter of them consulting the Internet quite often before going to the doctor (23.7%) and rarely after a medical consultation (23.1%).

Predictors of information searching and trust

Table 4 reports the association between Internet usage for mental health information-seeking and

socio-demographic variables. Females, young people from Spain, and Nursing students were more likely to use the Internet for mental health information-seeking than Computer Science students, while studying in Ireland decreased the probability of doing so. The university course effects were confirmed, while the country effect became non-significant.

Studying Nursing was identified as a predictor of looking for mental health information, together with being French, while being either from Italy or Ireland was associated with a lower probability of declaring to search online for mental health issues. Moreover, people who reported either good or very good mental health status were less likely to state they looked for mental health information online. As for trust in mental health information found online, the only significant variable identified by the stepwise regression procedure was the country, with a higher trust from Spanish students, and the lowest in France. Looking at the online support tools, good mental health status was significantly associated with a lower use of all the three tools examined after controlling for covariates, while being male increased both the use of online therapy and chat rooms. On the contrary, the use of chat rooms decreased with college seniority. Finally, the country effect (controlling for other regressors) differed

Table 3. The advantages and the disadvantages of using the Internet for mental health across the four European Universities of the e-MentH project.*

	France	Ireland	Italy	Spain	Chi-square	p-value	Total
Advantages							
Anonymous, private and confidential	226 (37.2)	414 (70.4)	246 (41.5)	269 (44.5)	159.86	< 0.001	1155 (48.2)
Vast amount of valuable information	163 (26.8)	226 (38.4)	177 (29.8)	314 (51.8)	97.90	< 0.001	880 (36.7)
Easily accessible 24 h a day	403 (66.3)	325 (55.3)	358 (60.4)	418 (68.9)	28.46	< 0.001	1504 (62.8)
Easy to find and ask for information	228 (37.5)	130 (22.1)	202 (34.1)	231 (38.2)	44.74	< 0.001	791 (33.0)
Fast and time saving	218 (35.9)	110 (18.7)	192 (32.4)	214 (35.3)	54.24	< 0.001	734 (30.6)
Cheap	62 (10.2)	118 (20.1)	83 (14.0)	111 (18.3)	26.93	< 0.001	374 (15.6)
Convenient	200 (32.9)	152 (25.9)	177 (29.8)	27 (4.5)	168.19	< 0.001	556 (23.2)
Easy to communicate with other people in the same situation	110 (18.1)	56 (9.5)	78 (13.2)	117 (19.3)	28.77	< 0.001	361 (15.1)
A good place to start and to find out where to go for further assistance	90 (14.8)	148 (25.2)	66 (11.1)	105 (17.4)	44.25	< 0.001	409 (17.1)
Less embarrassing than talking to a professional	80 (13.2)	106 (18.0)	66 (11.1)	81 (13.4)	12.58	0.006	333 (13.9)
Less embarrassing than talking to a friend or family member	63 (10.4)	108 (18.4)	45 (7.6)	44 (7.3)	48.90	< 0.001	260 (10.9)
Knowing who produced the information	21 (3.5)	12 (2.0)	15 (2.5)	25 (4.1)	5.30	0.151	73 (3.0)
Opportunity to find real experiences of people	221 (36.3)	66 (11.2)	163 (27.5)	138 (22.8)	105.86	< 0.001	588 (24.6)
Disadvantages							
Too anonymous	41 (6.9)	43 (7.4)	46 (7.8)	57 (9.4)	2.89	0.408	187 (7.9)
Unreliable information	377 (63.5)	448 (77.2)	378 (64.4)	449 (73.6)	38.75	< 0.001	1652 (69.7)
Not easy to find information	46 (7.7)	49 (8.4)	58 (9.9)	52 (8.6)	1.75	0.626	205 (8.6)
Inconvenient and complicated tool	9 (1.5)	15 (2.6)	16 (2.7)	37 (6.1)	22.56	< 0.001	77 (3.3)
Not knowing who produced the information	154 (25.9)	288 (49.7)	191 (32.4)	279 (45.9)	93.37	< 0.001	912 (38.5)
Impersonal information not fitting your own experience	95 (16.0)	179 (30.9)	119 (20.3)	160 (26.3)	42.35	< 0.001	553 (23.4)
Alarming information	173 (29.1)	231 (39.8)	229 (38.9)	178 (29.2)	27.53	< 0.001	811 (34.2)
Distrust the information in comparison with medical advice	305 (51.3)	221 (38.1)	275 (46.8)	278 (45.6)	21.42	< 0.001	1079 (45.5)
Difficult to access an internet connection	23 (3.9)	11 (1.9)	28 (4.8)	19 (3.1)	7.84	0.049	81 (3.4)
It complicates the relationship with one's doctor	43 (7.2)	24 (4.1)	63 (10.7)	82 (13.5)	36.15	< 0.001	212 (8.9)
No filters in forums or chat rooms	356 (59.9)	79 (13.6)	139 (23.7)	103 (16.9)	397.28	< 0.001	677 (28.6)
It is less trustworthy than talking with family and/or friends	72 (12.1)	151 (26.0)	97 (16.5)	130 (21.4)	41.50	< 0.001	450 (19.0)
Risk of being traceable	100 (16.8)	40 (6.9)	61 (10.3)	40 (6.6)	44.32	< 0.001	241 (10.2)

*Students were asked to choose the three main advantages and the three main disadvantages from two lists of 13 items each. Variables had $\leq 4.0\%$ missing data.

Table 4. Association between Internet usage for mental health information seeking and socio-demographics variables*

	General health info	Mental health info	Trust	Online	Chat	Forum
Odds ratio (Confidence Interval)						
Gender (RC = Male)						
Female	1.524** (1.131–2.055)	—	—	0.545* (0.311–0.957)	0.624* (0.414–0.941)	—
Country (RC = France)						
Ireland	0.713 (0.504–1.009)	0.532** (0.419–0.673)	1.843** (1.444–2.351)	—	0.324** (0.145–0.728)	0.459** (0.309–0.680)
Italy	1.120 (0.772–1.625)	0.523** (0.413–0.663)	1.893** (1.487–2.410)	—	1.381 (0.728–2.619)	0.214** (0.132–0.346)
Spain	1.370 (0.934–2.010)	0.783* (0.620–0.988)	8.201** (6.313–10.653)	—	1.106 (0.637–1.919)	0.563** (0.384–0.825)
Study (RC = Computer Science)						
Law	1.079 (0.796–1.463)	1.106 (0.905–1.353)	—	—	—	—
Nursing	3.637** (2.375–5.568)	2.869** (2.338–3.521)	—	—	—	—
Mental health (RC = at least good)						
Quite good	—	1.994** (1.586–2.506)	—	1.544 (0.775–3.080)	1.804* (1.101–2.956)	2.060** (1.434–2.957)
At best bad	—	2.536** (1.640–3.922)	—	3.485** (1.422–8.539)	3.652** (1.867–7.144)	3.545** (2.042–6.151)
Year of course (RC = 1)						
2	—	—	—	—	0.812 (0.459–1.435)	—
3 or more	—	—	—	—	0.457* (0.247–0.843)	—

*significant at the 0.05 level

**significant at the 0.01 level

from tool to tool, with no significant effect on online therapy and a lowering effect of coming from Ireland on the use of chat rooms. Being French was a positive predictor while being Italian a negative predictor of forum use.

Discussion

In this study we analysed Internet use for mental health information and support-seeking among students from

four European universities. Results suggest that university students are frequent users of the Internet, with almost all of them using it several times a day, and owning a personal computer.

Our student profile is in line with results obtained in a previous study about the characteristics of students in Europe, such as the fact that the majority of students in European higher education are female and younger than 25 years.¹⁴ Consistency with previous surveys

reinforces the representativeness of our study. Our findings also confirm the results and trends reported in the previous study using the same questionnaire.¹¹

The majority of students reported that they looked for online information and support about general health, but only half of them reported having looked for mental health. However, for topics which can be associated with mental health, students reported a high consultation for information in this area, with the most searched mental health topics being stress, depression and anxiety, which is consistent with the literature.¹⁵ This may suggest that when directly asked about the use of the Internet for mental health issues, young people are reluctant to admit their curiosity about this domain, reflecting a certain stigmatization of mental health.

Reporting bad or very bad mental health was a predictor of online information-seeking for mental health problems, looking at online support tools, and using chat rooms and forums. Indeed, suffering from psychological stress was confirmed to be a predictor of searching for information on the Internet.⁴ However, in this study those reporting bad or very bad physical and psychological health were less numerous than in previous studies.^{16,17} It is likely that young people with severe mental and/or physical problems tend not to go to university. This hypothesis should be tested, as at present data on the health and wellbeing of students are scarce.

Our data shows higher percentages of Internet use for mental health information-seeking in comparison with those reported by young adults (15–30 years) in France in 2010.⁵ It is likely that the use of the Internet has greatly increased over the past few years, especially in higher education settings. Our percentages are higher for both health and mental health, although we have found significant differences between countries. These differences may be explained by the different cultural-specific perceptions of health¹⁸ in each country, but also by the different organization of the national health and prevention systems (especially for mental health), and by the differences in quantity and quality of Internet websites addressing these themes in students' mother tongue. We have actually found differences between countries, with Irish students having more opportunities to access valid mental health information online given the high amount of official mental health websites available in English.¹⁹

Approximately half of the participants trusted the information they found on the Internet, even if almost 70% of them thought that one of the disadvantages of using the Internet for mental health information-seeking was that the information was unreliable. This is consistent with the evidence concerning French young people,⁵ and for students from Ireland.¹¹ Our

results are also in line with others studies showing that the use of the Internet does not represent a substitute to medical advice.²⁰ Students from all courses, and not exclusively Nursing students, seem to be aware of the primacy of medical advice on the Internet, whereas Nursing students were more likely to know what certified health websites were. The likelihood of searching for information on general health was associated with being female and studying Nursing. This is consistent with evidence that women are more interested than men about general health, including mental health.²¹ The more frequent searching by Nursing students could be explained by the fact that some of these searches are conducted for their studies. However, it could also be due to a higher general interest in health themes.

The main limitation of this study is that, due to its cross-sectional design, we are unable to distinguish the causality patterns occurring between health status and socio-demographic factors and Internet seeking. Another limitation is the fact that students completed the questionnaire during class with other students; this could result in response bias. For example, some students may have not told entirely the truth for fear of their responses being read by their colleagues or professor. Finally, this study was conducted with university students and thus may not be representative of all young people's views (for example, university students are more at ease with information technology that they are supposed to use for their studies). Results must be interpreted with caution. Future research could examine the association between personality traits and students' Internet usage for mental health.

In conclusion, the Internet appears to be a useful tool for university students to search for information about mental health problems. Health agencies should ensure the improvement of online information quality and the creation of mental health-related websites and programmes dedicated to young people. Indeed, universities are expected to educate students about acquiring mental health information online and critically appraising it, and provide tools for them to navigate to the highest-quality information. The findings of our study might then be considered in planning Internet-based programmes for mental health promotion and prevention in university students.

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Digital Health



Survey of Internet Usage for Mental Health Information Seeking

*General Information*1. Age: 2. Gender: Male Female

3. What is your area of study?

a	Arts, Letters, Social Studies	<input type="checkbox"/>
b	Science, Engineering, IT	<input type="checkbox"/>
c	Business, Law	<input type="checkbox"/>
d	Medicine, Health	<input type="checkbox"/>

4. Where are you currently living?

a	Living with parents/family	<input type="checkbox"/>
b	Living in rented accommodation with other people (not members of your family)	<input type="checkbox"/>
c	Living alone	<input type="checkbox"/>
d	Living in college accommodation	<input type="checkbox"/>
e	Other	<input type="checkbox"/>

5. Where is your accommodation located?

a	City, big town	
b	Middle-sized town	
c	Small town, village, in the country	

6. Are you currently in paid employment? (tick one box only)

a	Not working	
b	Working part time (1-30 hours per week)	
c	Working full time (more than 30 hours per week)	

7. What is your state of physical health? (tick one box only)

a	Very good	
b	Good	
c	Quite good	
d	Bad	
e	Very bad	

8. What is your psychological and emotional state? (tick one box only)

a	Very good	
b	Good	
c	Quite good	
d	Bad	
e	Very bad	

9. In the last 12 months have you seen one of the following health professionals?

		Yes	No
a	General Practitioner		
b	Gynaecologist		
c	Psychologist /Psychiatrist or Counsellor		
d	Another Medical Specialist		
e	School Nurse		
f	Another health professional		

General Usage of Internet

10. How often do you use the Internet? **(tick one box only)**

a	Several times a day	
b	Once a day	
c	Several times a week	
d	Once a week	
e	Less than once a week	

11. Do you personally own a computer, a smartphone or a tablet to access the Internet?

Yes No

12. Where do you access the Internet? **(tick all that apply)**

a	At home	
b	At college	
c	At work	
d	At friends/family's house	
e	In a public place (internet café, library etc.)	
f	Wherever I can get internet access on my smartphone	

13. For what purpose do you use the Internet? **(tick all that apply)**

		Several times a day	Once a day	Several times a week	Once a week	Once a month	Less often	Never
a	Sending emails							
b	Finding information for college							
c	Getting news updates							
d	Getting information on movies, music or TV							
e	Looking for health information							
f	Downloading music							
g	Playing games							
h	Shopping							
I	Participating in chat rooms							
L	Participating in discussion or message boards (forums)							
m	Social networks (Facebook, Twitter etc.)							
n	Watching videos (YouTube, Vimeo etc.)							

Use of Internet for Health and Mental Health

14. Have you ever looked for general health information on the Internet?

Yes No

15. Have you ever looked for mental health information on the Internet?

Yes No

16. In the last 12 months have you used the Internet to look for information and advice about health issues concerning... **(tick all that apply)**

a	Yourself	
b	A member of your family or entourage	
c	None in particular	

17. In the last 12 months how often have you looked for the following types of information?

		Once a week or more	Once or few times a month	Several times a year	Once or few times a year	Never
a	Wellbeing (sport, nutrition, relaxation...)					
b	General Health (illnesses, allergies, treatments)					
c	Sexual Health (sexuality and contraception)					
d	Eating disorders (anorexia, bulimia, weight gain...)					
e	Depression, panic, anxiety					
f	Addictions (alcohol, smoking, cannabis...)					

18. In the last 12 months have you looked for information or advice on the internet about the following ?

		YES	NO
a	General information on mental health		
b	Depression		
c	Bipolar disorder		
d	Anxiety problems		
e	Obsessive compulsive disorder		
f	Panic attacks		
g	Eating disorders		
h	Suicide and self-harm		
i	Schizophrenia		
l	Stress (also post-traumatic)		
m	Dementia		
n	Personality Disorders		
o	Addictions		
p	Post-natal depression		

19. What are for you the 3 main advantages for using the Internet for mental health information seeking and support? (tick 3 boxes)

a	Anonymous, private and confidential	
b	Vast amount of valuable information available	
c	Easily accessible 24h a day	
d	Easy to find and ask for information	
e	Fast and time saving	
f	Cheap	
g	Convenient	
h	Easy to communicate with other people in the same situation	
i	A good place to start and to find out where to go for further assistance	
l	Less embarrassing than talking to a professional	
m	Less embarrassing than talking to a friend or family member	
n	Knowing who produced the information	
o	Opportunity to find real experiences of people	

20. What are for you the 3 main disadvantages for using the Internet for mental health information seeking and support? (tick 3 boxes)

a	Too anonymous	
b	Unreliable information	
c	Not easy to find information	
d	Inconvenient and complicated tool	
e	Not knowing who produced the information	
f	Impersonal information not fitting your own experience	
g	Alarming information	
h	Distrust the information in comparison with medical advice	
i	Difficult to access an internet connection	
l	It complicates the relationship with one's doctor	
m	No filters in forums or chat rooms	
n	It is less trustworthy than talking with family and/or friends	
o	Risk of being traceable	

21. In the last 12 months have you ever used the following for support on the internet for a mental health related difficulty?

		Yes	No
a	Online therapy		
b	Chat rooms		
c	Forums/discussion boards		

22. When looking for mental health information on the internet, how do you proceed? **(tick all that apply)**

		Very often	Quite often	Rarely	Never	Don't know
a	You enter key words into a search engine, portal or ISP such as Google or Yahoo					
b	You directly visit one health website or portal you already know					
c	You pay attention to the date of the information					
d	You pay attention to the person and/or institution providing the information					

23. When you review information for mental health on the internet, do you do so... **(tick one box for each item)**

		Very often	Quite often	Rarely	Never	Don't know
a	...instead of going to a doctor					
b	...before going to a doctor					
c	...after a medical consultation					
d	...independently from any medical consultation					

24. Do you think in general that mental health information in the Internet is credible? **(tick one box only)**

a	Absolutely yes	
b	Quite so	
c	Not quite so	
d	Absolutely not	

25. Do you know what certified health websites are?

Yes No