

Vaccine knowledge in students in Paris, France, and surrounding regions

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INTRODUCTION: In France, young adults are legally freed from parental authority at the age of 18 years and are, thus, responsible for their own vaccine record. This young adult population is more frequently exposed to vaccine-preventable infectious diseases.

OBJECTIVE: To determine the factors associated with students' knowledge of the interval between two antitetanus boosters and their report of having up-to-date vaccinations.

METHODS: In April 2009, a survey was conducted involving a random sample of students between 18 and 25 years of age eating lunch at university dining facilities in Paris and its suburbs (Ile de France).

RESULTS: Among the 677 students approached, 583 agreed to participate. Only 207 (36%) of respondents knew the recommended dosing interval between two doses of tetanus vaccine booster (10 years). The majority of students (69%) reported having up-to-date vaccinations. Declaring having up-to-date vaccinations was significantly associated with having a general practitioner (OR 3.03 [95% CI 1.69 to 5.55]). Health care students were significantly more likely to know the decennial interval between two antitetanus boosters (OR 2 [95% CI 1.28 to 3.25]). Most of responding students (n=519 [89%]) believed that vaccines were very useful.

CONCLUSIONS: An overall lack of knowledge of vaccines was observed among this student population. Health care providers, such as GPs and university medical practice staff, who interact with these young individuals have an essential role to promote better vaccination coverage in this population.

Key Words: *General practitioner; Students; Tetanus; Vaccine knowledge; Young adults*

In France, young adults are legally freed from parental authority at the age of 18 years and are, thus, responsible for their own vaccine record. The final booster for diphtheria, tetanus and polio vaccine (dTP) should normally be administered between 16 and 18 years of age, and should be renewed 10 years later as a tetravalent combined vaccine (including the acellular pertussis adsorbed) (1). Within this age bracket (18 to 25 years), booster injections are recommended for measles, mumps, rubella, human papilloma virus (HPV), meningococcal C and hepatitis B virus (HBV). In France, only recommended vaccinations are publicly funded. Vaccines are prescribed by doctors, and administered by doctors or nursing staff.

This young adult population (18 to 25 years of age) is more frequently exposed to vaccine-preventable infectious diseases such as HPV, meningococcal infections and HBV (2-4). Students should be more

Les connaissances des étudiants de Paris, en France, et des régions avoisinantes au sujet des vaccins

INTRODUCTION : En France, les jeunes adultes sont légalement libérés de l'autorité parentale à 18 ans et deviennent donc responsables de leur dossier de vaccination. La population de jeunes adultes est davantage exposée aux maladies infectieuses évitables par la vaccination.

OBJECTIF : Déterminer les facteurs associés aux connaissances des étudiants sur l'intervalle entre les deux doses de rappel du vaccin contre le tétanos et sur leur déclaration d'avoir une couverture vaccinale.

MÉTHODOLOGIE : En avril 2009, un sondage a été mené auprès d'un échantillon aléatoire d'étudiants de 18 à 25 ans qui, le midi, mangent aux cafétérias universitaires de Paris et des banlieues (Île de France).

RÉSULTATS : Sur les 677 étudiants abordés, 583 ont accepté de participer. Seulement 207 des répondants (36 %) connaissaient l'intervalle recommandé entre deux doses de rappel du vaccin contre le tétanos (dix ans). La majorité des étudiants (69 %) déclaraient avoir une couverture vaccinale à jour. Cette déclaration s'associait de manière significative au fait d'avoir un praticien général (RC 3,03 95 % IC 1,69 à 5,55)). Les étudiants du milieu de la santé étaient considérablement plus enclins à connaître l'intervalle de dix ans entre deux doses de rappel du vaccin antitétanique (RC 2 [95 % IC 1,28 à 3,25]). La plupart des étudiants répondants (n=519 [89 %]) croyaient en l'utilité des vaccins.

CONCLUSIONS : Les chercheurs ont constaté une ignorance globale des vaccins au sein de cette population de patients. Les dispensateurs de soins, tels que les praticiens généraux et le personnel médical en milieu universitaire, qui dialoguent avec ces jeunes, ont un rôle essentiel à jouer pour promouvoir une meilleure couverture vaccinale au sein de cette population.

informed about vaccines for their own health, but also because they may soon be making vaccination decisions for their own children. In addition, immunization coverage rates are low in France and other countries (5-10). Furthermore, apart from pediatric and geriatric populations (Appendix 1), there are no data regarding immunization coverage in French students. Information campaigns aiming to improve vaccination coverage in young adults are difficult to conceive without an accurate notion of the knowledge and attitude of this population regarding the different vaccinations. There are very little national and international data in this field. Many authors have published reports on the knowledge and attitude relating to papillomavirus, seasonal or pandemic (H1N1)_v2009 influenza virus (11-18), particularly involving health care students (19). However, there are no studies in the international literature investigating vaccine knowledge among all-course students.

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Our primary objective was to determine the socioeconomic factors associated with students' knowledge of the timing between two antitetanus boosters and with the statement of 'having up-to-date vaccinations' in general. Our secondary objective was to assess students' knowledge of rubella, HBV and papillomavirus vaccines.

METHODS

In April 2009, a survey was conducted among a random sample of students between 18 and 25 years of age at university dining facilities in Paris and its suburbs (Ile de France). This region was composed of eight departments and inhabited by 10,952,011 people (18.2% of the French population) including 599,281 students (26.2% of French students) (20).

Data were collected using an anonymous questionnaire (Appendix 2) distributed by a trained researcher. Questionnaires consisted of 36 questions related to the social characteristics of the population (age, sex, university department and parental profession), knowledge and behaviour toward vaccination. Vaccination status was, thus, self-reported. Questionnaires were validated before use. Among the 52 university dining facilities of Ile de France, 20 were randomly chosen. Random sampling was computer generated. In each dining facility, at lunch time, a researcher distributed the questionnaire to every 10th student in the queue. Inclusion criteria were: age (18 to 25 years); status as a student; and a good understanding of the questions (evaluated by the researcher after the first five questions). In the absence of eligibility, the following 10th student was chosen. After having explained the terms and conditions of the study, students were considered to have consented to inclusion if they agreed to answer the questionnaire.

The two relevant variables analyzed were: statement of having 'up-to-date vaccines' and knowing the time interval between two boosters of tetanus vaccines. Four groups of variables were created: socioeconomic characteristics of the student; medical follow-up; attitude toward vaccines; and knowledge of vaccines. Logistical regression models were used to identify the items statistically associated with the two relevant variables. For each of the two relevant variables, the variables of the four groups were first tested using univariate analyses. Significant variables (with a threshold of $P=0.1$) were entered in a multivariate model. The final model was obtained at the end of a downward step-by-step selection ($P\leq 0.05$). Statistical analyses were performed using SAS version 9.2 software (SAS Institute Inc, USA).

The present non-nominative, observational study did not require the approval of an ethics committee, according to French regulations.

RESULTS

Demographics and medical follow-up (Table 1)

Among the 677 students who were approached, 583 agreed to participate (86% response rate); 319 were female (male:female ratio 0.83) and the mean (\pm SD) age was 21.6 ± 1.8 years. Students belonged to the following university departments: natural sciences (26%); health (19%); and humanities and arts (17%). A total of 528 (91%) students stated they were registered with a general practitioner (GP) and 514 (88%) stated they consulted their GP at least once in the past 12 months.

Attitude and knowledge of students regarding vaccinations (Table 2)

Regarding the two relevant variables, 207 (36%) students knew the tetanus booster interval and 404 (69%) reported having "up-to-date vaccines". Most students questioned (89%) believed that vaccines were very useful. Only 11% of the students were reluctant to be vaccinated. Fear of injections/needles and of side effects were the main reasons cited (35% and 30%, respectively). A total of 448 students (77%) reported "not taking the initiative to be vaccinated". This initiative was taken mostly by the GP for 251 students (43%) and by parents for 172 students (30%). Finally, 210 (36%) discussed vaccination during medical consultation.

The compulsory vaccinations in France (diphtheria, tetanus and polio) were unknown to 330 (57%) students, while 207 (36%) knew the time interval recommended between two doses of tetanus vaccine booster.

Three hundred fifty-eight (61%) students were unaware of the risks prevented by rubella vaccine, and 341 (58%) and 269 (46%) did not know the risks related to HBV and HPV infections, respectively.

Variables associated with the correct knowledge of the decennial tetanus booster (Table 3)

Being a health care student, knowing the compulsory vaccines and reporting having up-to-date vaccinations were significantly associated with knowing the correct antitetanus vaccine decennial interval.

Variables associated with compliance with vaccine schedule (Table 4)

Reporting up-to-date vaccinations was significantly associated with the following: having a GP; having declared vaccination is useful; having consulted a GP during the previous 12 months; and having identified diphtheria as a mandatory vaccine.

DISCUSSION

Only 207 (36%) respondents among a random sample of students in Ile de France knew the correct decennial interval between two tetanus booster doses. Health care students were more likely to know this. Otherwise, the majority (69%) of students believed that their vaccinations were up to date. The lack of knowledge regarding the decennial interval between two tetanus booster doses observed among our young population may be a cause of poor vaccine coverage in the future. Having seen a GP and having talked about vaccination with him or her was significantly associated with the knowledge of immunization status. Few students (11%) reported a reluctance to be vaccinated and most respondents (89%) believed that vaccines were very useful. The principal reported deterrents to vaccination were the fear of injections and of side effects. In addition, students remained passive in the decision to vaccinate, with most (73%) leaving it to their GP or parents. Our results also highlighted a poor knowledge among students about the risks of vaccine-preventable diseases, which are concordant with results of a German study involving medical students (19). For example, regarding HBV, only 26 (10%) students correctly identified cirrhosis and hepatocellular carcinoma as future complications of the infection in our study. Lack of knowledge about HBV-related risks has already been reported in teenagers, students and young adults (2,4,21,22). In a student population, Lohoues Kouacou et al (23) found that the understanding of liver disease was one of the factors highly associated with HBV vaccine coverage. In addition, several studies reported a lack of knowledge among students and young adults regarding the risk for genital HPV infection (12-14,24-27). Our samples corroborated these results.

Moreover, we found few reluctant students, similar to the results of Beytout et al (28). Therefore, in this student population with regular medical follow-up, vaccinations should be easily conducted. Health care providers, such as GPs and university medical practice staff, who interact with these young individuals had an essential role. They promoted preventive actions, such as vaccination, during consultations. Our work demonstrated the key role of GPs, who took the initiative in vaccinating more than two of five students. Similarly, Dempsey et al (29) found that the dTTP vaccine coverage rate was correlated to the time investment in vaccination made by GPs. This role would be pertinent given the 2010 measles outbreak among young adults in France (30). This epidemic was responsible for 23,000 cases including six fatalities, 19 neurological complications and >700 cases of pneumonia. Apart from children <4 years of age, those who were affected the most were those between 20 and 25 years of age, with an incidence of 2.5 per 100,000 population.

However, our study had some limitations. It was restricted to students who used university dining facilities in Paris and its suburbs (Ile de France). The distribution of questionnaires by researchers could have led to answer suggestibility. The replies were declarative, which

TABLE 1
Sociodemographic characteristics and medical follow-up of the participants (n=583)

Sociodemographic characteristics	
Female sex	319 (55)
Age, years, mean	21.6
University department	
Humanities and arts	101 (17)
Health	112 (19)
Law	117 (21)
Natural sciences	149 (26)
Sports	30 (5)
Technical	74 (13)
Year post-high school diploma	
1	189 (32)
2	100 (17)
3	127 (22)
4	94 (16)
≥5	73 (13)
Students with French nationality	527 (92)
Grant holders	434 (74)
Paternal profession	
Farmer	6 (1)
Craft worker, shopkeeper, and head of firm	70 (12)
Manager and high intellectual professions*	252 (43)
Intermediate professions†	47 (8)
Employee‡	71 (12)
Worker§	38 (7)
Retired, unemployed	99 (17)
Maternal profession	
Farmer	3 (0.5)
Craft worker, shopkeeper and head of firm	36 (6)
Manager and high intellectual professions*	167 (29)
Intermediate professions†	88 (15)
Employee‡	127 (22)
Worker§	14 (2.5)
Retired, unemployed	148 (25)
Medical follow up	
Students having a general practitioner (GP)	528 (91)
Students having a health record	548 (94)
Students who consulted a GP in the past 12 months	514 (88)

Data presented as n (%) unless otherwise indicated. *Administration, business or public service head manager, university professor, engineer, medical doctor, lawyer, journalist, artist, officer; †School teacher, nurse, clergyman, technician, foreman, administration, noncommissioned officer, business or public service intermediate supervisor; ‡Policeman, soldier, administration employee, secretary, clerk; §Driver, transporter, agricultural worker, unqualified craft worker or industrial worker

appeared to be the main limitation, in particular with regard to the students' real practices and vaccination status.

On the other hand, the work was performed using two levels of randomization, and researchers were all medical students trained to distribute questionnaires, allowing them to achieve a high response rate. The survey was also an original project previously unreported in the international literature.

Our study could be enlarged to form a national survey to better assess vaccination knowledge of young adults. Finally, although the knowledge level of vaccine status indirectly reflected the immunization coverage of this population, it is necessary to compare our results with those of seroprevalence surveys involving adult populations.

TABLE 2
Attitude and knowledge of students regarding vaccines (n=583)

Attitude toward vaccination	n (%)
GP taking initiative for vaccination	251 (43)
Parents taking initiative for vaccination	172 (30)
Students requesting a vaccination when consulting GP	135 (23)
University general practice physician suggesting vaccination	25 (4)
Students talking about vaccination during consultation	210 (36)
Students believing vaccines to be very useful	519 (89)
Students unafraid of vaccination	405 (69)
Students reluctant to be vaccinated	66 (11)
Due to fear of injections/needles	23 (35)
Due to fear of side effects	20 (30)
Due to fear of developing the disease	7 (11)
Due to a rare disease	3 (4)
Due to preference of natural medicine	2 (3)
Does not know	11 (17)
Knowledge regarding vaccines	
Students knowing compulsory vaccines in France	253 (43)
Students knowing the tetanus booster interval*	207 (36)
Answers regarding the risks prevented by rubella vaccine	225 (39)
Teratogenicity	174 (77)
Sterility	24 (11)
Rubella	18 (8)
Other	9 (4)
Answers regarding the risks prevented by HBV vaccine	242 (42)
Hepatitis B	143 (60)
Sexually transmitted infections	43 (18)
Hepatocellular carcinoma	18 (7)
Hepatic cirrhosis	8 (3)
Other	30 (12)
Answers regarding the risks prevented by HPV vaccine	314 (54)
Cervical cancer	226 (72)
Uterine cancer	59 (19)
Unspecified cancer	10 (3)
Other	19 (6)
Students declaring a mass and individual vaccine protection	524 (92)
Students reporting up to date vaccinations*	404 (69)
Vaccine status lack of knowledge is due to lack of interest	118 (66)
Vaccine status lack of knowledge is due to lack of time	21 (12)
Vaccine status lack of knowledge is due to forgetfulness	17 (9)

*The two relevant variables. GP General practitioner; HBV Hepatitis B virus; HPV Human papilloma virus

CONCLUSION

We observed a lack of knowledge about the tetanus booster interval and the risks of vaccine-preventable diseases. We also found that declaring an up-to-date vaccination status was significantly associated with having a GP. Thus, it should be impressed on GPs to educate patients effectively on the importance of vaccination, especially students. These results also showed the importance of informing students on vaccine-preventable diseases to improve their knowledge and, therefore, vaccine uptake, which should continue through to adulthood. In addition, mass-media information campaigns using the Internet, television, radio, newspapers, movie theaters, street and public transportation poster signs would also play an essential role. Finally, educational lectures on vaccination and vaccine-preventable diseases in schools from kindergarten to grade 12 should be considered.

DISCLOSURES: The authors have no conflicts of interest to declare.

TABLE 3
Variables associated with the correct knowledge of the decennial tetanus booster in the 583 participants

Variable	Decennial tetanus booster			
	P*	OR	95% CI	P†
Sociodemographic characteristics				
Studying health care	<0.001	2	1.28–3.25	0.002
French nationality	0.061			
Male sex	0.148			
Having at least one unemployed parent	0.151			
>3 years post-high school diploma	0.066			
Economical difficulties for vaccination	0.217			
Having a grant	0.033	0.4	0.14–0.65	0.026
Medical follow-up				
Students having a general practitioner	0.49			
Students who consulted a general practitioner in the past 12 months	0.172			
Attitude toward vaccination				
Believing vaccination is useful	0.174			
Being reluctant to get vaccinated	<0.001	0.4	0.21–0.78	0.007
Knowledge regarding vaccines				
Reporting up-to-date vaccinations	0.003	1.6	1.11–2.44	0.013
Knowing compulsory vaccines	<0.001	1.7	1.15–2.33	0.006
Identifying diphtheria vaccine as a compulsory vaccine	0.073			
Identifying pertussis vaccine as a compulsory vaccine	0.003	2.1	1.29–3.33	0.003
Identifying varicella vaccine as a compulsory vaccine	0.034	0.38	0.18–0.77	0.008

*Univariate analysis; †Multivariate analysis

TABLE 4
Factors associated with reporting “having up-to-date vaccinations” in the 583 participants

Variable	Reporting having up-to-date vaccinations			
	P*	OR	95% CI	P†
Sociodemographic characteristics				
Studying health care	0.005	1.7	0.11–3.25	0.019
French nationality	0.015	2.2	0.94–3.44	0.076
Male sex	0.201	0.7	0.46–0.96	0.029
Having at least one unemployed parent	0.011	0.7	0.42–0.98	0.01
>3 years post-high school diploma	0.011	0.8	0.65–1.02	0.015
Having a grant	0.467			
Medical follow up				
Students having a general practitioner	<0.001	3	1.69–5.55	<0.001
Students who consulted a general practitioner in the past 12 months	<0.001	1.9	1.04–3.57	0.004
Attitude toward vaccination				
Believing vaccination is useful	0.003	2.2	1.29–3.84	0.003
Being reluctant to get vaccinated	0.088			
Knowledge regarding vaccines				
Knowing compulsory vaccines	0.651			
Identifying diphtheria vaccine as a compulsory vaccine	0.098	1.6	1.06–2.50	0.027
Identifying pertussis vaccine as a compulsory vaccine	0.051			
Identifying varicella vaccine as a compulsory vaccine	0.948			

*Univariate analysis; †Multivariate analysis

APPENDIX 1

There are some data regarding children and the elderly but they do not correspond to our population.

In the French pediatric population:

- Diphtheria, pertussis and tetanus vaccination: At two years of age, 98.7% had already completed the first three-shot series and 91.3% had received the booster dose (fourth shot) in 2011.
- Pertussis vaccination: At two years of age, 98.4% had already the first three-shot series and 90.5% had received the booster dose (fourth shot) in 2011.

- Hepatitis B virus vaccination: At two years of age, 74.2% already completed the three-shot series in 2011.
- Measles-mumps-rubella : At two years of age, 67.3% completed the two-shot series in 2011

In the geriatric population: dTP coverage is 44% after 65 years of age. There are no data concerning national vaccination coverage in French students. This is why we conducted our survey.

APPENDIX 2

IDENTIFICATION		
Date of interview	____/____/____	____
Researcher #	____ Student #	____ Dining facility #
Sex of the student:	M <input type="checkbox"/> F <input type="checkbox"/>	
<i>We are conducting, in association with medical schools, an anonymous survey regarding knowledge of 18 to 25-year old students about vaccination.</i>		
<i>Would you like to fill a short questionnaire about vaccination ?</i>		
Yes	<input type="checkbox"/>	No <input type="checkbox"/>
IF REFUSAL:		
May I however ask :		
A. Your year of birth:	____	____
B. Explain the reason of your refusal:	_____	____
PROFILE :		
1. Year of birth :	____ Must be between 1984 and 1991 IF not => the questionnaire stops here.	____
2. In which university department are you studying:		____
3. Year of study:		____
4. Post code of your residence:	____	____
5. Do you have a vaccination record?	Yes <input type="checkbox"/> No <input type="checkbox"/> Do not know <input type="checkbox"/>	____
6. Do you have a general practitioner ?	Yes <input type="checkbox"/> No <input type="checkbox"/> Do not know <input type="checkbox"/>	____
KNOWLEDGE :		
7. Are any vaccinations required between the ages of 18 and 25 years old ?	Yes <input type="checkbox"/> No <input type="checkbox"/> Do not know <input type="checkbox"/>	____
8. Do you think you are well vaccinated?	Yes <input type="checkbox"/> No <input type="checkbox"/> Do not know <input type="checkbox"/>	____
9. IF NO or DO NOT KNOW : Why ?		
A. Lack of information.....	Yes <input type="checkbox"/> No <input type="checkbox"/>	____
B. Fear of injection.....	Yes <input type="checkbox"/> No <input type="checkbox"/>	____
C. Fear of disease.....	Yes <input type="checkbox"/> No <input type="checkbox"/>	____
D. Disease is too rare.....	Yes <input type="checkbox"/> No <input type="checkbox"/>	____
E. You prefer natural methods.....	Yes <input type="checkbox"/> No <input type="checkbox"/>	____
F. Fear of sides effects.....	Yes <input type="checkbox"/> No <input type="checkbox"/>	____
10. Are you able to list the vaccinations recommended for your age in France ?	_____	____
11. Among these vaccines (cf annex 1), could you tell me those concerning young adults of your age ?		
12. In your point of view, do you think it is mandatory or recommended to be protected from certain diseases in France?		
Mandatory <input type="checkbox"/> Recommended <input type="checkbox"/> Do not know <input type="checkbox"/>		____
13. Do you know the mandatory vaccinations in France?	Yes <input type="checkbox"/> No <input type="checkbox"/> Do not know <input type="checkbox"/>	____
If yes, which ones ?		
14. In your opinion what is the tetanus booster interval ?	Number of years: _____ Do not know <input type="checkbox"/>	____
15. In your opinion, vaccination protects:		
A. You only.....	<input type="checkbox"/>	____
B. The community.....	<input type="checkbox"/>	____
C. You and the community.....	<input type="checkbox"/>	____
D. Do not know.....	<input type="checkbox"/>	____
16. In your opinion, from which risk are we protecting young women by vaccinating them against rubella,?	Open answer..... <input type="checkbox"/> Do not know <input type="checkbox"/>	____
17. In your opinion, from which risk are we protecting young women by vaccinating them against papillomavirus?	Open answer..... <input type="checkbox"/> Do not know <input type="checkbox"/>	____
18. In your opinion, from which risk are we protecting children and adults by vaccinating them against hepatitis B virus?	Open answer..... <input type="checkbox"/> Do not know <input type="checkbox"/>	____

ATTITUDES		
19. Do you think your vaccinations are "up to date"?	Yes <input type="checkbox"/> No <input type="checkbox"/> Do not know <input type="checkbox"/>	____
20. Do you think you have been vaccinated since the age of 16-18 years?	Yes <input type="checkbox"/> No <input type="checkbox"/> Do not know <input type="checkbox"/>	____
21. Have you consulted a GP during the last twelve months?	Yes <input type="checkbox"/> No <input type="checkbox"/> Do not know <input type="checkbox"/>	____
22. During this consultation did you talk about vaccinations?	Yes <input type="checkbox"/> No <input type="checkbox"/> Do not know <input type="checkbox"/>	____
23. Who takes responsibility for your vaccinations?		
A. You.....	<input type="checkbox"/>	____
B. Your parents.....	<input type="checkbox"/>	____
C. Your partner.....	<input type="checkbox"/>	____
D. Your GP.....	<input type="checkbox"/>	____
24. Do you know there are free vaccination centers for routine vaccines (apart from the travel clinics)?	Yes <input type="checkbox"/> No <input type="checkbox"/> Do not know <input type="checkbox"/>	____
OBSTACLES		
25. Have you, in the past, given up vaccination for financial reasons?	Yes <input type="checkbox"/> No <input type="checkbox"/> Do not know <input type="checkbox"/>	____
26. Do you think vaccinations are:		
A. Very useful.....	<input type="checkbox"/>	____
B. A little useful.....	<input type="checkbox"/>	____
C. Not useful at all.....	<input type="checkbox"/>	____
D. Do not know.....	<input type="checkbox"/>	____
27. Are you afraid of vaccinations?		
A. Never.....	<input type="checkbox"/>	____
B. Seldom.....	<input type="checkbox"/>	____
C. Sometimes.....	<input type="checkbox"/>	____
D. Always.....	<input type="checkbox"/>	____
E. Do not know.....	<input type="checkbox"/>	____
PROFILE COMPLEMENTS		
27. May I ask you questions about your private life ?	Yes <input type="checkbox"/> No <input type="checkbox"/>	____
29. Are you currently employed?	Yes <input type="checkbox"/> No <input type="checkbox"/>	____
30. Are you a scholarship holder?	Yes <input type="checkbox"/> No <input type="checkbox"/>	____
31. Do you have a complementary health insurance?	Yes <input type="checkbox"/> No <input type="checkbox"/> Do not know <input type="checkbox"/>	____
32. Do you live with a partner?	Yes <input type="checkbox"/> No <input type="checkbox"/>	____
33. Do you have any children?	Yes <input type="checkbox"/> No <input type="checkbox"/>	____
34. What is your nationality?		
A. French.....		____
B. Other:		
Year of arrival in France :		
35. Do you live with your parents?	Yes <input type="checkbox"/> No <input type="checkbox"/>	____
36. What is the profession of your parents?		
	Father	Mother
Farmer		
Craft worker, shopkeeper and head of firm		
Manager and high intellectual professions		
Intermediate professions		
Employee		
Worker		
Retired		
Unemployed		
Thank you for your participation		

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