



# Journal of Social and Political Sciences

**Gaymard, Sandrine, Engelmann, Wilson, and Tiplica, Teodor. (2019), Choice of Studies at University, Personality and Socio-Economic Status: Comparison Between French Students in a Public Social Sciences and Humanities Faculty and Brazilian Law Students in a Private Faculty. In: *Journal of Social and Political Sciences*, Vol.2, No.1, 193-199.**

ISSN 2615-3718

DOI: 10.31014/aior.1991.02.01.61

The online version of this article can be found at:  
<https://www.asianinstituteofresearch.org/>

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Published by:  
The Asian Institute of Research

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# Choice of Studies at University, Personality and Socio-Economic Status: Comparison Between French Students in a Public Social Sciences and Humanities Faculty and Brazilian Law Students in a Private Faculty

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## Abstract

Several studies have examined the links between personality and choice of studies, particularly from a longitudinal point of view. This original research proposes to study these aspects a posteriori. The Rotter questionnaire (1966) was completed by two groups of students in psychology (N=65) and law (N= 91). The other particularity of the samples concerns the location and the differences in socio-economic backgrounds: privileged for law students in Brazil, modest for students in psychology in France. Most of the hypotheses put forward, particularly those related to the citizenship and political aspects, are verified on the basis of the binomial test.

**Keywords:** Education, Study Choice, Locus Of Control, Socio-Economic Background, Binomial Test

## 1. Introduction

According to Almlund, Duckworth, Heckman and Kautz (2011) personality traits influence greatly educational outcomes. Goldberg , Sweeney, Merenda and Hughes (1998) showed that internal locus of control and high conscientiousness in the big five Inventory are linked to higher academic performance and a greater chance to go to university. In a longitudinal study, Homburg (2017) revealed that personality during adolescent years influences the choice of field of study. If several studies have concerned themselves with the links between

personality and success in studies or personality and choice of studies, fewer deal with the measure of a general personality variable within two different university curricula: public and private. This is what is proposed here with the measure of Locus of Control (LOC) (Rotter, 1966), which was elaborated in the field of the social learning theory (Rotter, 1954; Rotter, Chance & Phares, 1972). According to Rotter's theory, the LOC is a stable personality variable; the personality is not cut off from the environment. The LOC is related to individual perception of controlling the events in one's life or not: "This concept is linked to the notion of reinforcement: when individuals make a connection between themselves and what happens to them we talk of internal control; if they attribute what happens to them, to luck or fate for example, we speak of external control" (Gaymard & Tiplica, in press). Through the multidimensionality of the concept, studies have shown links between internality and health (e.g. Berglund, Lytsy & Westerling, 2014; Gaymard & Tiplica, 2016a, 2016b). Individuals take fewer risks and adopt more preventive behavior when they attribute what happens to them to themselves (internality). From a socio-economic point of view, individuals from a privileged background are identified as more internal (Claes, 1981; Rabinowitz, 1978). Baron and Cobb-Clark (2010) study the link between locus of control, university attendance and high school graduation in a cohort of Australian youths. From their research it can be seen that youths with internal locus of control invest more readily in their education but they find no significant relation between the young person's locus of control and his or her family welfare history. Starting from these different works, the following hypotheses are put forward:

-H1: The Brazilian students from the private law faculty will be more internal than those from the public French one.

-H2: In proposition 6, the Brazilian students will be more external because they are probably aware that their privileged position will give them opportunities.

-H3: General hypothesis: the Brazilian students will be more internal concerning the aspects of citizenship and politics.

H3-1 In proposition 12, the Brazilian students will be more internal than the French students.

H3-2 In proposition 17 the Brazilian students will be more internal than the French students.

H3-3 In proposition 22 the Brazilian students will be more internal than the French students.

H3-4 In proposition 29 the Brazilian students will be more internal than the French students.

H4 : In proposition 23, the French students from the public faculty will be more internal than the Brazilian students. This hypothesis is linked to their training in social psychology.

H5 : In proposition 28, the Brazilian students will be more internal than the French students.

## 2. Method

### 2.1. Population

In this study, 65 students from an Arts and Humanities Faculty in France and 91 law students from a Brazilian Jesuit University were interviewed. The constitution of groups are quite similar. The French group is composed in majority of undergraduate students (only 9% are at the level of Master) between 19 and 24 years old and 35% men; the Brazilian group is composed of undergraduate students between 20 and 25 years old and 40% men. What is different is the socio-economic level. Students in the French Faculty in majority come from modest background. 11% in Arts and Humanities work their way through higher education compared with 4% in engineering for example (Observatoire National de la vie étudiante [National Observatory of student life], 2014).

In the French university the registration fees are 170€ + 90€ per year (Contribution vie étudiante et de campus (CVEC) (student life and campus contribution). In Brazil students are from a more privileged socio-economic background. Per month, each student pays, on average, something around US \$ 550 (US dollars). In the French university, the greater part of the students interviewed (78%) are in the first or second year of psychology and their professional project are still considering. For the law students, the personal project is about 80% intending to practice the profession of lawyer; the remainder is divided between taking competitive exams to enter into public legal careers, such as judge, public defender, public prosecutor, police delegate.

### *2.2. The Rotter Scale (1966).*

The Rotter Scale, a famous scale called ‘Rotter I/E scale’ is a measure of beliefs in control distinguishing internal people from external people. It is composed of 29 items of forced choice (including six filler items); each item proposes an internal and an external response (see examples box 1). The items in this scale concern general beliefs in various fields: politics, social affairs, power, academic success... This questionnaire of general orientation comes within a unidimensional conception of the LOC.

Box 1: example of items in Rotter’s questionnaire (1966)

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- 5.a.The idea that teachers are unfair to students is nonsense (internal)
  - 5.b. Most students don't realize the extent to which their grades are influenced by accidental happenings (external)
  
  - 15.a. In my case getting what I want has nothing to do with luck (internal)
  - 15.b. Many times we might just as well decide what to do by flipping a coin (external)
- 

### *2.3. Analysis strategies*

In order to validate the various hypotheses enounced in the introductory part of this paper, we used the binomial test (Clopper & Pearson, 1934; Howell, 2007) which is a useful test very often employed when one wants to compare two proportions in order to see if there are some significant differences between them. Binomial tests are available in most software used for statistical purposes. In our case, we used the R software in order to make the computations. The significance of the observed difference between the two proportions is reflected in the p-value of the test. Thus the p-value is a tool for deciding whether to reject the null hypothesis. For typical analysis, the null hypothesis is rejected when  $p < .05$  and not rejected when  $p > .05$ . For more details on the p-value, the reader could consult Wetzels et al. (2011).

### **3. Results**

-H1: The Brazilian students from the private law faculty will be more internal than those from the public French one.

The score of Brazilians is 938 which represents a percentage of 45.53% of the maximum score that could be attained. Effectively, the maximum possible score of Brazilians could have been 2060 if they had chosen systematically all the answers of internal character. So we compared this percentage to 50% to see if it is significantly different and thus to decide about the internal character of the Brazilians students. The one-tailed binomial test gives a p-value of  $2.736 \times 10^{-5}$ , which confirms that Brazilian students are rather internal.

The score of the French students is 742. The maximum possible score of the French could have been 1495. Thus, the internal score of French students when expressed in percentage becomes 49.63%. The one-tailed binomial

test gives a p-value of 0.398, indicating that this proportion could not be considered significantly different from 50%. Thus, we cannot consider that the French students are more internal.

-H2: In proposition 6 (Box 2), the Brazilian students will be more external (answer a) because they are probably aware that their privileged position will give them necessarily opportunities.

#### Box 2: Item 6 of Rotter's questionnaire (1966)

6a. Without the right breaks one cannot be an effective leader

6b. Capable people who fail to become leaders have not taken advantage of their opportunities.

43.08% of French students and 65.93% of Brazilian students answered by "a" in sentence 6. The proportion of French students is significantly lower than the proportion of Brazilian students according to the one-tailed binomial test (p-value = 0.003741) [ $\pi_{FR} < \pi_{BR}$ ], thus this hypothesis is validated.

-H3: General hypothesis: the Brazilian students will be more internal concerning the aspects of citizenship and politics.

H3-1 In proposition 12 (Box 3), the Brazilian students will be more internal (answer a) than the French students.

#### Box 3: Item 12 of Rotter's questionnaire (1966)

12a. The average citizen can have an influence on government decisions

12b. This world is run by the few people in power, and there is not much the little guy can do about it.

30.77% of French students and 56.18% of Brazilian students answered by "a" in sentence 12. The proportion of French students is significantly lower than the proportion of Brazilian students according to the one-tailed binomial test (p-value = 0.001519) [ $\pi_{FR} < \pi_{BR}$ ], thus this hypothesis is validated.

H3-2 In proposition 17 (Box 4) the Brazilian students will be more internal (answer b) than the French students.

#### Box 4: Item 17 of Rotter's questionnaire (1966)

17a. As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.

17b. By taking an active part in political and social affairs the people can control world events.

27.69% of French students and 51.14% of Brazilian students answered by "b" in sentence 17. The proportion of French students is significantly lower than the proportion of Brazilian students according to the one-tailed binomial test (p-value = 0.003012) [ $\pi_{FR} < \pi_{BR}$ ], thus this hypothesis is validated.

H3-3 In proposition 22 (Box 5) the Brazilian students will be more internal (answer a) than the French students.

#### Box 5: Item 22 of Rotter's questionnaire (1966)

22a. With enough effort we can wipe out political corruption

22b. It is difficult for people to have much control over the things politicians do in office

24.62% of French students and 48.86% of Brazilian students answered by "a" in sentence 22. The proportion of French students is significantly lower than the proportion of Brazilian students according to the one-tailed binomial test (p-value = 0.002001) [ $\pi_{FR} < \pi_{BR}$ ], thus this hypothesis is validated.

H3-4 In proposition 29 (Box 6) the Brazilian students will be more internal (answer b) than the French students.

#### Box 6: Item 29 of Rotter's questionnaire (1966)

29a. Most of the time I can't understand why politicians behave the way they do

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**29b.** In the long run the people are responsible for bad government on a national as well as on a local level

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40% of French students and 69.66% of Brazilian students answered by “b” in sentence 29. The proportion of French students is significantly lower than the proportion of Brazilian students according to the one-tailed binomial test ( $p\text{-value} = 0.000225$ ),  $[\pi_{\text{FR}} < \pi_{\text{BR}}]$  thus this hypothesis is validated.

H4: In proposition 23 (Box 7), the French students from the public faculty will be more internal (answer b) than the Brazilian students. This hypothesis is linked to their training in social psychology.

**Box 7: Item 23 of Rotter's questionnaire (1966)**

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23a. Sometimes I can't understand how teachers arrive at the grades they give

23b. There is a direct connection between how hard I study and the grades I get

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58.46% of French students and 88.89% of Brazilian students answered by “b” in sentence 23. The proportion of French students is significantly lower than the proportion of Brazilian students according to the one-tailed binomial test ( $p\text{-value} = 0.0000137$ ), thus this hypothesis is not validated

H5 : In proposition 28 (Box 8), the Brazilian students will be more internal (answer a) than the French students.

**Box 8: Item 28 of Rotter's questionnaire (1966)**

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28a. What happens to me is my own doing

28b. Sometimes I feel that I don't have enough control over the direction my life is taking

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64.62% of French students and 73.34% of Brazilian students answered by “a” in sentence 28. The proportion of French students isn't significantly lower than the proportion of Brazilian students according to the one-tailed binomial test ( $p\text{-value} = 0.1615$ ), thus this hypothesis is not validated.

#### **4. Discussion**

Through the "Locus of control" it is possible to express how much a person expects to be able to control the events involving him or her. Individuals with an internal Locus of Control make a link between the positive or negative reinforcements and themselves; those with an external locus of control attribute what happens to them to external factors such as fate, chance etc. Studies on the health locus of control (MHLC) demonstrate that individuals with external locus of control are much less committed to preventive health behavior (Norman, Bennett, Smith & Murphy, 1998). MHLC is considered to be a pertinent construct to study different health behavior among college students (Steptoe & Wardle, 2001). For example Chak and Leung (2004) showed that in a sample of young adults including college students the chance subscale was related to increased use of e-mail and the internal subscale to increased search for data on internet. Works in school contexts have found similar results regarding academic success or dropping out, identifying pupils with an external LOC as being at risk. Gaymard and Tiplica (2017) using Rotter's scale showed the links between personality and conditionality among young male and female drivers students; externality appears to be linked to more conditional behavior. Finally the socioeconomic factor effect identified in several studies leads to believe that groups with access to socioeconomic resources (more privileged backgrounds) would be more internal (Burriel & Riviera, 1980; Rabinowitz, 1978). This study is based on the unidimensional measure of the locus of control (Rotter, 1966); this scale dealing with general themes (politics, power, studies...) seems to be adapted to the publics in this study. The results show that students from privileged socio-economic background (private faculty) are effectively more internal than the French students from a more modest background.

Moreover, considering their law training, the hypothesis according to which Brazilians students would be more internal in the propositions concerning citizenship and politics is equally validated. Training in law prepares for political, social and economic citizenship. Legal education prepares the student to work in various legal careers, such as the activities of judge, prosecutor, public defender, diplomat, among others. The legal professional tends to have an internal conception because he (or she) becomes responsible in the way of structuring the solution to bring to a case that he studies. Therefore, the notion of responsibility is very important because of the impact on the professional activity, the necessary connection with ethical issues, of the issues to be solved with support of a normative framework national or international. The law professional must resolve with a professional responsibility individual problems and those problems that have repercussions in society as a whole, such as issues involving consumer law, environment, issues involving the practice of crimes, ethical issues (Engelmann, Gaymard, & Von Hohendorff, 2018) among many other possibilities in a contemporary society more and more complex. The French students are in psychology; at the bachelor level this teaches the theories and methodologies in the different sub-disciplines of psychology. Unlike the law students, these students are not trained in political or economic aspects. However, the French students in social psychology are trained in psychosocial mechanisms such as those of causal attribution (internal/external) (Heider, 1944) and the norm of internality (Jellison & Green, 1981). According to us this could have been contribute to orienting the responses in certain cases toward internality and in particular in the field linked to studies (for instance proposition 23); but on this proposal Brazilian students also appear more internal.

It is also possible that more targeted career plans and more internships among law students accentuates the internal orientation. The tuition fees and the drastic selection at the entrance in the Brazilian university is adapted to students whose plan is clear whereas the French students are still hesitant about their orientation (especially in the first and second years), as the selection comes only at the end of the third year in psychology (for the Master). In the undergraduate level, law students perform various simulated activities on abstract civil law issues - family law, contracts, inheritance - Criminal law and criminal procedure law - Labor law and procedure - Administrative law and procedure - Law Business. They also carry out so-called internship or real life activities, where they serve the population with low economic potential, are guided by teachers, perform all the steps that go from the part that targets the "Center of Legal Practice", evaluate the case and must take the following decision: can the concrete problem be solved by negotiation or mediation, or is it the filing of a complaint? The students perform all the steps, accompanying the case before the judiciary, participating in the hearing, providing proof of the right or defense of the party who requested this free legal aid service offered by the University. In the undergraduate level, psychology students have few hours of compulsory internships (or none at all in certain universities); it is at the Master level that internships are important. Moreover in the undergraduate level, it is only an observation internship.

Thus it appears that all these factors contribute to explain that the feeling of responsibility is more accentuated for the law students and that they are less external than the students in psychology and this, in spite of the formation of the latter.

As a result of this study it would be interesting to evaluate the health behaviors of Brazilian students and compare with French students (Gaymard & Tiplica, 2016a).

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