

## *Original Research Article*

# **The Effects of COVID-19 on Education, with a Focus on “Distance Education”: A Preliminary Study**

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### **Abstract**

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**The purpose of this paper is to briefly outline the characteristics of the COVID-19 pandemic and its course in Greece in the last three semesters (2020-2021). Questions regarding the effects of COVID-19 are posed, with an emphasis on epistemological issues such as the relationships between students and University, students and professors, and students and their fellow students. The paper focuses on the established system of “distance education” and the students’ attitudes towards it, while also examining the psychological effects of the pandemic on students. We conducted a field study in order to fully substantiate the issue. We first read and assessed recent literature, such as the study conducted by the Department of Medicine of the Aristotle University of Thessaloniki (AUTH) in collaboration with the World Psychiatric Association (March 2020 – April 2021) on the effects of the quarantine; the COVID 19 Mental Health International for the General Population (COMET-G) study; the study by the University of California (UC) San Diego School of Medicine, published in the “Journal of Clinical Psychiatry”; the study on the changes brought on by the pandemic in Crete; the AUTH study, conducted by the HERACLES research team, regarding the nightmare scenario of projections for this coronavirus; the daily surveillance reports on COVID-19 by the National Public Health Organization (NPHO) of Greece. We then moved to our own research into the subject by sending out our questionnaires in electronic form.**

**Keywords:** Covid-19, Distance education, Pandemic

## **INTRODUCTION**

A main trait of the Greek educational system is that it is mainly structured into three levels of education (Primary – Secondary – Tertiary). The subjects of our study were tertiary education students, studying in the University of Athens. When creating our questionnaire, we also reviewed the organization and operation of national universities, as established in Law 1268/1982 (Government Gazette 87/A/16-7-82) (Dervisis, St., (1983). Education Organization – Organization of the School and Classroom, Self-published, Thessaloniki, p. 307).

## **METHODOLOGY**

Based on our review of the literature, we conducted a field study using questionnaires, our sample being students at the University of Athens. The purposes of our field study included identifying the gap between student life and the COVID-19 pandemic (Christakis, N., (2002). Based on the students’ academic culture, we wanted to delve into their “non-existent” (as was determined) experience of “distance education”.

## Analysis of variables

During our research, students expressed their concerns regarding the lack of in-person lectures and the classes taking place online instead (newsbreak.gr – 7 October 2021). Due to the pandemic, “distance education” took place for three semesters in order to cover the syllabus. Naturally, the teleconferences involved operational issues. It should be noted that examinations and grading were included in “distance education”.

## Distance education

Other countries that introduced new educational systems, including “distance education”, were more prepared for such; Greece was unprepared and the introduction of “distance education” was sudden, always in conjunction with the strict observance of the health measures / rules imposed in view of the pandemic.

“Distance education” was included in the radical changes that tertiary education in Greece underwent; it was included in the curricula, providing students with alternative, functional learning methods based on said changes (Katsikis, 1999). Between theory and research, educational planning proved to be far from omnipotent, since a large portion of the student body had to adopt these new educational practices without having been trained in their use (Saitis and Saiti, 2011). Introduction to Education Administration, Self-published, Athens, p. 62.) prior to the COVID-19 pandemic.

## Setting the goals of the study

Based on the aforementioned points, the authors of this paper set “distance education in conjunction with the COVID-19 pandemic” as the basis for their study, outlining their effects on university education. Therefore, we tried to identify the student milieu, educational problems, difficulties in teaching, grading, the cooperation between student and professor and between students, and – above all – understanding the methods involved in “distance education”.

We reached to University professors via electronic channels but received no response. Nevertheless, we did find students willing to cooperate and recorded their views, educational concerns, understanding of the educational conditions, and participation in the obligatory educational changes given the circumstances that resulted from the pandemic.

We posed questions in writing regarding their understanding of the new circumstances: the complexity of teaching and learning, professors’ and students’ spirit of cooperation or lack thereof, opportunities to communicate with their fellow students or with the School Administration, etc.

We did not delve into teaching methods and teaching models, as well as the evaluation of professors’ teaching skills in the context of “distance education” and students’ performance rate. We simply performed a surface examination of factors that affected students to a higher or lesser degree within this novel educational context.

## Identity of the study

It is a quantitative study. The sample consisted of 166 students – 70 male and 96 female. Location / Sample taken from: Athens. Time frame of study: September 2020 – September 2021. The questionnaire included approximately 30 questions. The questionnaires were filled in using the “Google Forms” program and were processed using the “IBM SPSS Statistics 26” program. The students participated voluntarily and were informed that the ethics code would be observed and that any findings would be published exclusively for scientific / research purposes.

## The questionnaires are processed by analyzing specific questions-answers

### Demographics

As the table 1 shows, the Frequency is 96 female and 70 male participants, which is expressed in the respective Percentages of 57.8% female and 42.2% male.

We then asked the participants about their place of residence – whether it is a city, a town, or a village, with the corresponding population size. As the respective table shows, the Frequency is 128 individuals (77%) residing in areas with a population of over 10,000, 21 individuals (12.7%) residing in areas with a population of up to 10,000, and 17 individuals (10.2%) residing in areas with a population of up to 2,000.

The next question concerned the participants’ potential additional status to that of student, that is, whether they performed paid work.

As we can see under “Frequency” and “Percentage” in the table 2, 121 of the participants (72.9%) do not perform any paid work, 4 (2.4%) are self-employed and equally 4 (2.4%) work in the public sector, 7 (4.2%) are freelancers, and 30 (18.1%) work in the private sector.

The next question asked whether the participants’ professors had ever used distance education before the COVID-19 pandemic. In the respective table, “Frequency” and “Percentage” show that 12 individuals (7.2%) answered “Yes” while 154 individuals (92.8%) answered “No”.

We then posed the question whether remote / online lectures were equal to the in-person ones. Under “Frequency” and “Percentage” we see that 151 of the

**Table 1.** Gender of the participants

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	Male	70	42.2	42.2	42.2
	Female	96	57.8	57.8	100.0
	Total	166	100.0	100.0	

**Table 2.** Professional status in addition to the status of “student”

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	Student	121	72.9	72.9	72.9
	Student & Self-employed	4	2.4	2.4	75.3
	Student & Public sector employee	4	2.4	2.4	77.7
	Student & Freelancer	7	4.2	4.2	81.9
	Student & Private sector employee	30	18.1	18.1	100.0
	Total	166	100.0	100.0	

**Table 3.** How much has student life changed during distance education?

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	Considerably	94	56.6	56.6	56.6
	Not at all	2	1.2	1.2	57.8
	A little	12	7.2	7.2	65.1
	A lot	58	34.9	34.9	100.0
	Total	166	100.0	100.0	

participants (91.0%) believe that they were not, while 15 (9.0%) believe that they were.

We then asked whether the students were in support of distance education during the pandemic or against it. The respective table 3 shows that the Frequency (and respective Percentage) is 101 against (60.8%) and 65 for (39.2%).

The question that followed concerned student performance during distance education. Under “Frequency” and “Percentage” in the respective table we have 136 students (81.9%) claiming that performance during distance education was poorer and 30 students (18.1%) claiming that it was better.

We also asked the participants if they felt more productive in their studying for their classes before the pandemic or during the pandemic. The “Frequency” / “Percentage” parts of the respective table show that 128 of the students (77.1%) felt that they were more productive before the pandemic and 38 (22.9%) claim to have been more productive during the pandemic.

The participants were also asked whether they would prefer to work remotely once they had graduated. The Frequency (and respective Percentage) is 140 individuals (84.3%) would not want to work remotely while 26 (15.7%) would prefer to do so.

Another question posed was whether distance education contributed to the improvement of their School / Department. The respective table shows that the Frequency / Percentages of the responses is 125 (75.3%) in disagreement and 41 (24.7%) in agreement.

We then wanted to know whether cooperation between students in distance education was at the same level as in in-person education. In the respective table, “Frequency” and “Percentage” show that 139 of the participants believe that it was not (83.7%) and 27 (16.3%) believe that it was.

We also asked if distance education has the same qualitative characteristics as in-person education. The “Frequency” / “Percentage” parts of the respective table show that 153 individuals (92.2%) claim that it does

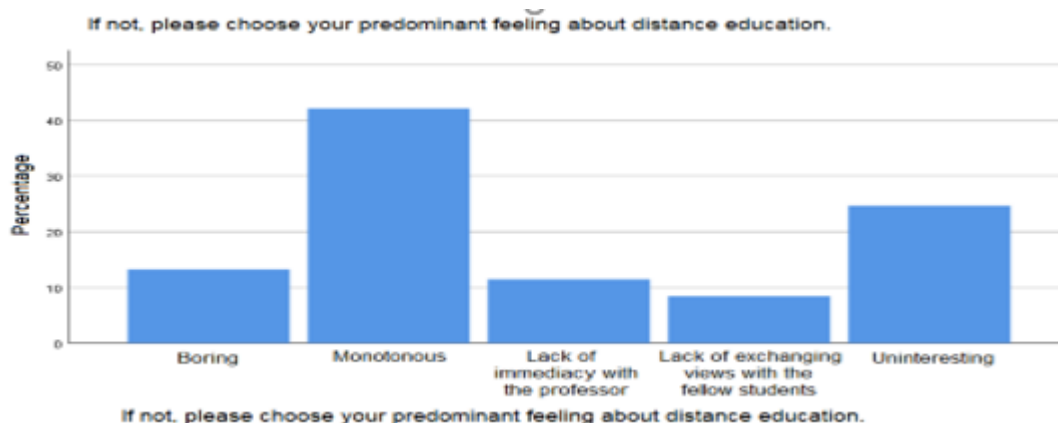


Figure 1.

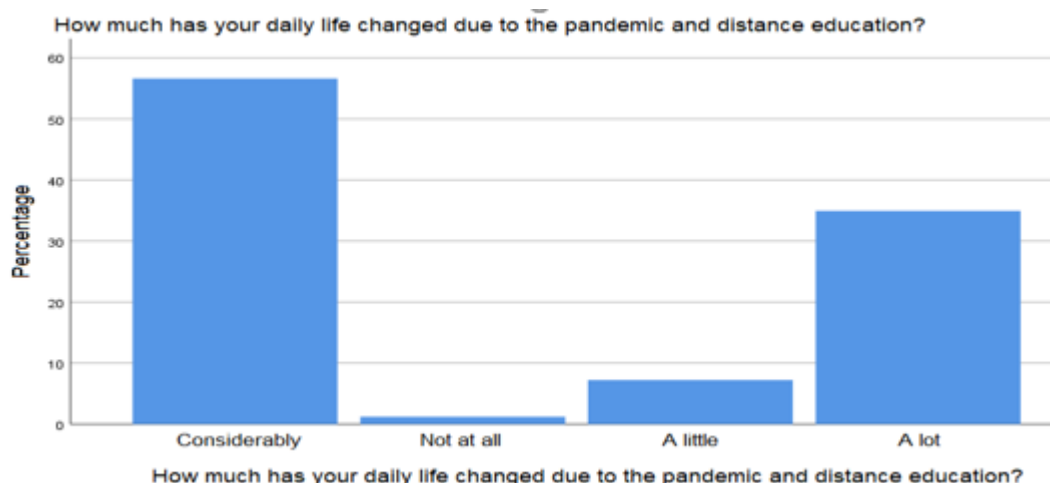


Figure 2.

not and 13 (7.8%) claim that it does.

The responses to the question of whether they performed better in their studies when not sharing a physical space with their professors and fellow students were – as seen in the “Frequency” and “Percentage” parts of the respective table – “No” for 135 students (81.3%) and “Yes” for 31 students (18.7%).

Those who answered “No” were then asked to select one of the given options concerning what they mostly felt during distance education. As the chart below shows, the Frequency (and respective Percentage) is 22 individuals (13.3%) choosing “Boring”, 70 (42.2%) choosing “Monotonous”, 19 (11.4%) choosing “Lack of immediacy with the professor”, 14 (8.4%) choosing “Lack of exchanging views with the fellow students”, and 41 (24.7%) choosing “Uninteresting”. Figure 1

The next question concerned the students’ return to in-person education and whether they believed that they would require some adjustment time. Under “Frequency” and “Percentage” in the respective table we have 214

participants (74.7%) answering “Yes” and 42 participants (25.3%) answering “No”.

We then asked the participants how much student life had changed during distance education. As we can see under “Frequency” and “Percentage” in the table, 94 (56.6%) claimed that it had changed “Considerably”, 2 (1.2%) “Not at all”, 12 (7.2%) “A little”, and 58 (34.9%) “A lot”. Table 3, Figure 2

As regards to the question about how they felt during the quarantine, the chart below shows that the Frequency / Percentages of the responses are “Uncertainty” for 39 of the participants (23.5%), “Irritation” for 12 of the participants (7.2%), “Guilt” for 4 of the participants (2.4%), “Sadness” for 8 of the participants (4.8%), “Anger” for 4 of the participants (2.4%), “Depression” for 11 of the participants (6.6%), “Shame” for 2 of the participants (1.2%), “Idleness” for 56 of the participants (33.7%), “Stagnation” for 16 of the participants (9.6%), and “Fear” for 14 of the participants (8.4%).

The second to last question asks whether they believe

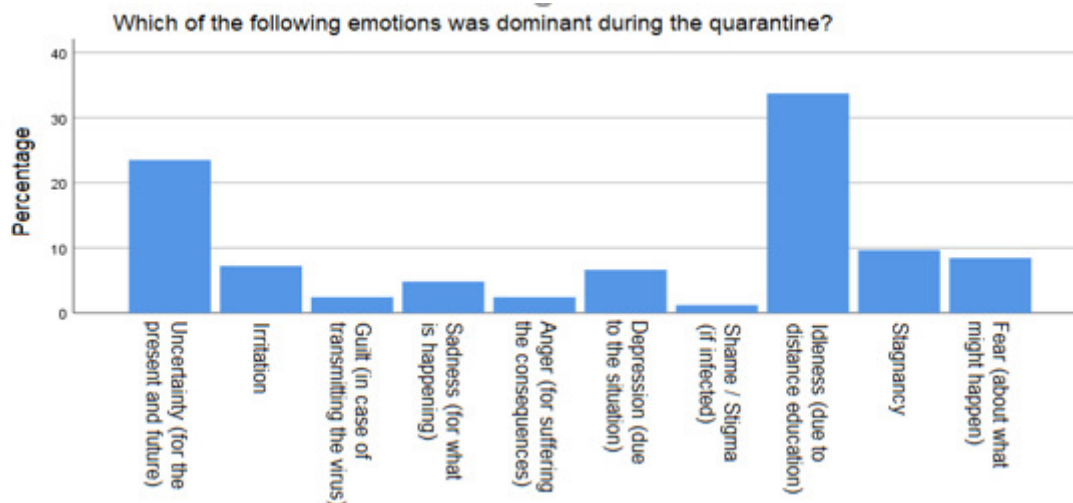


Figure 3.

**Table 4.** Do you believe that relationships between students will change after the pandemic?

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	It is unlikely	25	15.1	15.1	15.1
	It is likely	85	51.2	51.2	66.3
	It is certain	56	33.7	33.7	100.0
	Total	166	100.0	100.0	

**Table 5.** Do you currently experience any fear / anxiety for coming into contact with other people at the University tomorrow?

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	Considerably	43	25.9	25.9	25.9
	Not at all	19	11.4	11.4	37.3
	A little	35	21.1	21.1	58.4
	A lot	52	31.3	31.3	89.8
	I observe the measures so I feel safe	17	10.2	10.2	100.0
	Total	166	100.0	100.0	

that relationships between will change after the pandemic. In the table below, "Frequency" and "Percentage" show that 25 individuals (15.1%) consider it "Unlikely", 85 (51.2%) consider it "Likely", and 56 (33.7%) consider it "Certain". Figure 3

Finally, the participants were asked whether they experience fear and anxiety now that they have returned to in-person classes and thus direct contact with other students. As the table below shows, the Frequency (and respective Percentage) of the responses is "Considerably" for 43 individuals (25.9%), "Not at all" for 19 (11.4%), "A little" for 35 (21.1%), "A lot" for 52 (31.3%), and "I observe the measures so I feel safe"

for 17 individuals (10.2%). Table 5

### Three questions correlate based on the "Gender" demographics

We have correlated three questions to Gender:

(1) The question regarding the difference between distance education and in-person education – the Cross tabulation gives us 62 male students and 79 female students (total: 141 students) disagreeing with the statement that there is no difference, and 8 male and 7 female students (total: 15 students) agreeing. The Chi-

**Table 6.** Chi-Square Tests

	Value	Df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.843 <sup>a</sup>	1	.359		
Continuity Correction <sup>b</sup>	.415	1	.520		
Likelihood Ratio	.831	1	.362		
Fisher's Exact Test				.417	.258
N of Valid Cases	166				
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.33.					
b. Computed only for a 2x2 table					

Since  $p = 0.359$  is lower than Value = 0.843, the coefficient is statistically significant, which means that there is a relationship between them and the null hypothesis is rejected, therefore the two qualitative variables are correlated.

**Table 7.** Chi-Square Tests

	Value	Df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.071 <sup>a</sup>	1	.790		
Continuity Correction <sup>b</sup>	.004	1	.951		
Likelihood Ratio	.071	1	.790		
Fisher's Exact Test				.841	.478
N of Valid Cases	166				
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 12.65.					
b. Computed only for a 2x2 table					

Since  $p = 0.790$  is higher than Value = 0.07, the coefficient is not statistically significant, which means that there is no relationship between them and thus the null hypothesis cannot be rejected, so the two qualitative variables are not correlated.

**Table 8.** Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.092 <sup>a</sup>	1	.762		
Continuity Correction <sup>b</sup>	.000	1	.992		
Likelihood Ratio	.091	1	.763		
Fisher's Exact Test				.777	.490
N of Valid Cases	166				
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.48.					
b. Computed only for a 2x2 table					

Since  $p = 0.762$  is higher than Value = 0.092, the coefficient is not statistically significant, which means that there is no relationship between them and thus the null hypothesis cannot be rejected, so the two qualitative variables are not correlated.

square test is presented below in table 6.

The question regarding student performance during distance education – the Cross tabulation gives us 52 male students and 78 female students (total: 130 students) disagreeing with the statement that they performed better, and 12 male and 18 female students (total: 30 students) agreeing. The Chi-square test is

presented below in table 7.

The question regarding the qualitative characteristics of distance education as compared to in-person education – the Cross tabulation gives us 64 male students and 89 female students (total: 153 students) disagreeing with the statement that the two types of education have the same qualitative characteristics, and

6 male and 7 female students (total: 13 students) agreeing. The Chi-square test is presented below in table 8.

### General assessments based on the findings

We initially examined the students' attitudes and tendencies individually and then cumulatively, which led us to the following conclusions. It should be noted that sample representativeness was ensured, as each student-participant had the same potential to be selected as a unit from the total sample.

We first asked them about their place of residence, the population of said place, and their professional status in order to avoid homogeneous answers during data analysis.

Since the subject of the study was "distance education", the first datum measured was any potential experience with "distance education" prior to the COVID-19 pandemic. The overwhelming percentage of participants who had had no previous experience with "distance education" – 92.8% – pointed to their general view of the situation. Indeed, when later asked whether remote lectures were equal to in-person lectures, 91.0% of the participants disagreed.

Considering the novel experience for the students of "staying at home" due to the lock-down, the question we posed was whether they were in favor of "distance education" during the pandemic (since it could not be done otherwise), with 60.8% of the participants again disagreeing. In the same vein, 81.9% disagreed with "distance education" allowing the students to perform better, while 77.1% stated that they were more productive in studying for their classes before the pandemic rather than during "distance education".

Another significant finding was the participants' views on whether they would prefer to work remotely after they graduated, which was that 84.3% would prefer not to do so.

The responses to every question so far show that in-person education is significantly favored over "distance education", a trend continued with the question on whether "distance education" contributed to the improvement of their School / Department, to which 75.3% answered negatively.

On whether "distance education" would allow students to cooperate with each other to the same extent as with in-person education, 83.7% answered negatively, so we then asked whether "distance education" has the same qualitative characteristics as in-person education, with 92.2% of the participants disagreeing with this statement.

Students' responses on whether they perform better when sharing a space with their professors and fellow students are also significant, with 81.3% stating that they perform better when sharing a space, which supports the previous findings as well.

We should point out here that we only performed a surface examination of issues relating to students' emotional worlds. Therefore, those who answered that they performed better when sharing a space in the previous question were then asked to select the predominant feeling caused by "distance education", with more than half (cumulatively) – that is, 55.4% – choosing "Boring" and "Monotonous", followed by "Lack of immediacy with the professor" and "Uninteresting", which shows that the sample is generally against "distance education". We speculate that the reasons for this are both the lack of previous experience with this style of education and the overall situation in which they had to study and live. So it comes as no surprise that 84.9% of the participants (cumulatively) consider it "Likely" and "Certain" that relationships between students will change once the pandemic is over.

The following questions regarding the new circumstances under which they will return to in-person education at University and the need for adjustment to them showed that students experience significant mental weariness, as 74.7% replied that they would require time to adjust, and 91.5% (cumulatively) replied that they believed that student life would change "Considerably" and "A lot" due to the pandemic.

When asked about their dominant emotions during the quarantine, 57.2% (cumulatively) said "Idleness" and "Uncertainty", while the other emotions described were "Stagnation", "Fear", "Irritation", and even "Depression", showing that the quarantine was a negative experience that had an adverse effect on communication and cooperation. We corroborated this observation by consulting with pharmacists who confirmed that a large percentage of people of all ages, including University students, were taking antidepressants.

Finally, the participants were asked whether they experienced fear and anxiety for the next day, with over half (57.2% cumulatively) answering "Considerably" and "A lot", with "Not at all" only slightly surpassing "I observe the measures so I feel safe", which came last, although it should be everyone's motto.

### Suggestions

Our primary view is that this study was conducted at a difficult moment; what the students were experiencing was novel and potentially risky, and we asked them to discuss "remote lectures, remote examinations, and remote grading" when such a novel situation might have been hard to comprehend.

According to our findings, it would be ill-advised to substitute in-person education with distance education without neither students nor professors having had any relevant experience with the latter. Perhaps it should simply remain as an option and be up to the student whether they want to use it once the pandemic is over.

A potentially positive conclusion is that the state may be thus prompted to institutionally examine “distance education” so that it may be gradually implemented through various programs, to the extent that each subject permits.

Finally, we suggest that “distance education” options be planned and implemented and made available to students who opt for them.

### Online Publications

<https://kozani.pdm.gov.gr/wp-content/uploads/2020/04/eody-covid-19-leoforeia.pdf>  
[https://school.med.uoa.gr/el/anakoinoseis\\_kai\\_ekdiloseis/detail/News/anakoinoseis\\_areraieioy/](https://school.med.uoa.gr/el/anakoinoseis_kai_ekdiloseis/detail/News/anakoinoseis_areraieioy/)  
<https://olanea.gr/ereyna-i-monaxia-einai-megalyteri-stoys-25arides-kai-mikroteri-stoys-60arides/>  
<https://www.voria.gr/index.php/article/erevna-i-perissoteri-ellines-theloun-na-sinechisti-i-tilergasia-ke-meta-tin-pandimia>  
<https://www.voria.gr/index.php/article/erevna-apth-i-pandimia-evlapse-sovara-tin-psichiki-igia-ton-fititon>  
<https://societe.gr>  
<https://www.youtube.com/watch?v=SVe0GITF1Bs>STUDY: THE PANDEMIC TO BLAME FOR INCREASED ALCOHOL AND OTHER SUBSTANCES CONSUMPTION IN SWEDEN

[https://www.youtube.com › watch?v=7xltPftUjRASHOCKING](https://www.youtube.com/watch?v=7xltPftUjRASHOCKING) Study On Greece. Increased Number Of Suicides Due To The Crisis

### Literature

Carl Christian Behrens (x.x.). *Market Survey*. Papazisis Publications, Athens  
 Christos Fragkos (2004). *Market research methodology and data analysis using the SPSS for Windows statistical package*. INTERBOOKS Publications, Athens  
 Claude Javeau (2000). *Research via questionnaire*. Typothito Publications, Athens  
 Evangelos Christou (1999). *Market research*. INTERBOOKS Publications, Athens  
 Jack Hamilton (x.x.). *What is market research?* ESOMAR-ΣΕΔΕΑ, Athens  
 Jennifer Mason (2003). *Conducting qualitative research*. Ellinika Grammata Publications, Athens  
 Panagiotis Kyriazopoulos & Kioulafas Kyriakos (1994). *Market research Synchroni Ekdotiki* ΣΥΓΧΡΟΝΗ ΕΚΔΟΤΙΚΗ