

# What do young people think about social distancing during the Corona crisis in Germany?

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## Abstract

In a survey among 250 subjects recruited at a German university and predominantly university students, we elicit opinions about social distancing, i.e. the necessity to keep away from other people to slow down the speed of the ongoing SARS-CoV2 epidemics. The good news is that most students are supportive to it. A minority, however, does not completely agree. We find that how many elderly persons subjects knew personally, was the most significant factor for their attitudes towards social distancing. We also found a significant negative impact of believe in conspiracy theories on these attitudes. These theories have a low, but non-negligible number of proponents, even among university students. Moreover, a certain degree of mistrust to media is widespread (around a third of the subjects).

To improve positive attitudes to social distancing and thus to improve compliance we recommend therefore to emphasize relations of persons to elderly people more and to continue fighting against fake news and conspiracy theories regarding SARS-CoV2.

## 1 Introduction

The current pandemics of the new type of coronavirus, SARS-CoV2, poses a global challenge. As of writing of this paper, in most countries around the world an exponential growth of cases and deaths is witnessed, with the notable exception of China where the disease started initially [1] and where it currently seems to be retained. In many countries, first in China, strict counter measures have been implemented, including closing of schools, universities and non-essential businesses as well as restricting individual mobility. In this way, the spread of the virus is supposed to slow down. Social distancing is key here: only if people don't meet with their friends and relatives, spreading can be reduced. And this can obviously only work if people comply with that.

Young people, and particularly university students, are particularly mobile and social. Their attitudes towards social distancing therefore plays an important role, especially in free and open societies where the ability to enforcement by state authorities is limited and traditionally obedience towards the state is less emphasized than in Confucian countries and in particular less free countries like China.

In order to measure the attitudes of university students in Germany towards social distancing, we conducted an online survey on March, 24 to March, 25 among 250 subjects, announced

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through the email information system of our university. While this sample is not representative, it is as close to a representative student sample as is possible given the needed urgency of this research.

In the following, we describe the main questions of the survey (Section 2), and present the key findings (Section 3). Conclusions and practical advice are given in Section 4.

## 2 Methodology

We recruited 250 subjects via the email information system of our university to participate in a short online survey that offered the chance to win 50€. The survey took 11 minutes to complete (median). It also contained a number of other questions not relevant for this paper. 204 of our subjects were university students, the others mostly state employees, presumably at the university, although forwarding of the invitation to others was possible. Among the students 66% were female, the median age was 23 years.

In the following, we will only analyse results for the university students, where we removed 22 subjects, since they took a very short time (<5 minutes) to answer all questions, i.e. they might not have read the questions seriously, leaving a total sample of 182.

We elicited attitudes towards social distancing using a number of brief hypothetical “scenarios” about university students, taking place shortly before the general restrictions on private meetings in Germany were implemented.<sup>2</sup>

The scenarios were the following:

1. *A student celebrates a birthday party with his friends on the university campus. None of the friends belong to a risk group for coronavirus.*
2. *A student meets his friends to play soccer. None of them have cold symptoms.*
3. *Even though she has a cold, a student visits her grandmother in a nursing home, because her grandmother feels so alone.*
4. *A student refuses to hug her friends as usual when they meet to go jogging, and insists on keeping her distance, even though they tell her that they are not sick.*
5. *A student tells his friend that she finds it irresponsible for him to continue meeting his friends, even if he realizes that it hurts him.*

They were presented in randomized order. The students could judge each of them on a scale from 1 to 4, corresponding to “totally okay”, “not optimal, but understandable”, “rather bad”, “not acceptable”.

To capture their attitudes towards social distancing, the average of the items 4–5 was subtracted from the average of the items 1–3.

To measure the subject’s knowledge on the new coronavirus, a number of statements were given that they should mark as correct or false, namely:

1. *Corona viruses can be spread by infected persons by coughing, sneezing, but also by speaking or breathing into the air.*
2. *Coronaviruses have been around for a long time, most of them cause harmless colds.*
3. *The correct name of the current pathogen is SARS-CoV-2.*
4. *The corona virus is a new form of flu virus.*
5. *Only those who suffer from symptoms can spread the virus further.*
6. *In most cases, the virus only leads to a mild illness.*

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<sup>2</sup> Stories were set on the weekend of March 21 and 22, the rules were implemented on March 23 and 24. The survey was conducted on March 24 and 25.

7. The mortality rate of the infection is about 0.1% for young people, but in the double-digit percentage range for older people.

8. According to expert opinion, the development of a vaccine will take about one year.

Here the statements 1,2,3,6,7 and 8 were correct, but 4 and 5 were wrong.

We computed a total score for each participant as sum of the correct choices.

We also asked a question about exponential growth:

*If 1000 people are infected in a country on 20 March, and 1000 more on 24 March, how many more infections can one expect a month later? (Assuming nothing is done to stop the spread.)*

Here, exponential growth with a doubling of cases every four days (very similar to the rate for SARS-Cov2 in Germany) leads to a correct answer of about 250 000. We considered an answer below 100 000 as underestimation of exponential growth and defined a dummy variable accordingly.

We also elicited general worries about the corona virus situation, on a five-point Likert scale. Finally, we let subjects estimate the number of deaths that will occur in Germany until end of 2020 due to COVID-19 and the duration the current measures will have to be in place (in weeks).

### 3 Main results

#### Social distancing

The general attitudes of most subjects regarding social distancing are clearly supportive: in the three hypothetical scenarios, 80.3%, 49.4% and 83.7% found the described behavior of people who violate social distancing “not acceptable”, while in the other two scenarios about students who insisted on social distancing, 91.0% and 69.1% found this behavior “totally okay“. There was, however, a small minority who disagreed entirely, in particular 8.9% thought that the soccer game was “total okay” or “not optimal, but understandable” and 4.0% thought it was “rather bad” or “not acceptable” to complain to a friend about him not conforming to social distancing (see Fig.1).

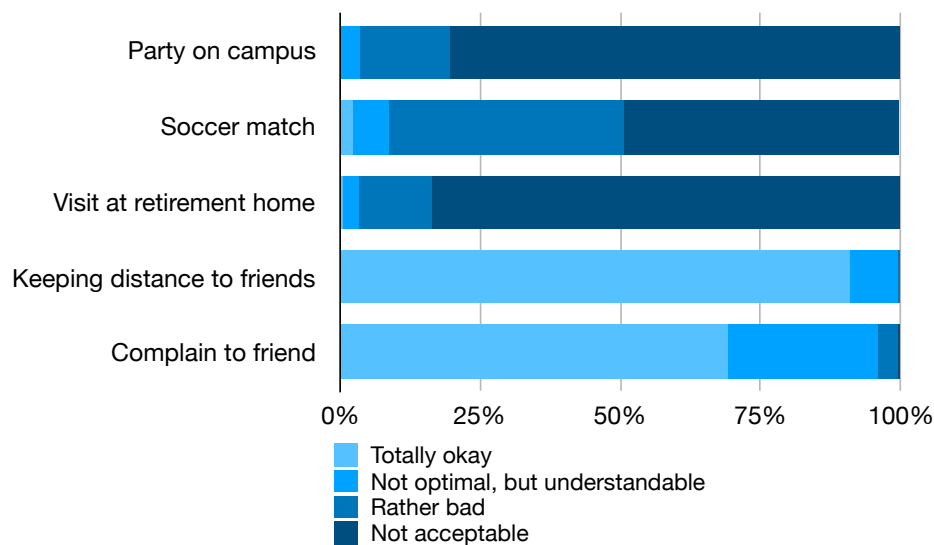


Fig.1: Evaluation of the four hypothetical scenarios as judged by the students. See main text for details.

### Knowledge

Regarding the knowledge questions on the virus, the distribution of correct answers is given in Fig.2. Overall, the knowledge was good, but not excellent. Positive was that *all* subjects knew that the virus can also be transmitted by a person without symptoms. Quite a few subjects (41.4%) did not know that there are other, harmless coronaviruses, and that the virus has the name SARS-CoV2 (37.0%). While these knowledge gaps are not pivotal for slowing down the spread of the disease, the fact that 16.6% did not know that the virus can be spread “by coughing, sneezing, but also by speaking or breathing into the air”, is in this respect more worrisome.

Regarding the effects of exponential growth, the results are more negative: 39% strongly underestimated the number of cases in the example. Many subjects failed to see the effect of exponential growth. One out of eight students (12.9%) gave even values of 8000 (a number that even a linear growth could predict) or lower. Only comparatively few subjects strongly overestimated the number.

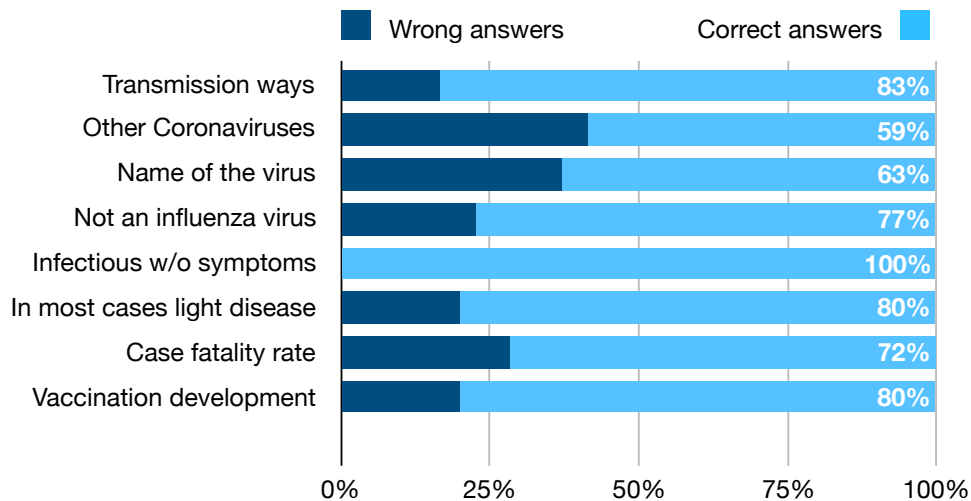


Fig.2: Knowledge of students regarding some facts on COVID-19. See text for details.

### Conspiracy theories

A surprisingly large proportion of the subjects suspects that “the media” might intentionally retain information regarding the coronavirus: 36.5% agree to this at least partially (Fig. 3). A small, but measurable number of students (14.6%) even agrees at least partially that everything is just a plot by pharmaceutical companies and “other interested groups”. This result is certainly worrisome.

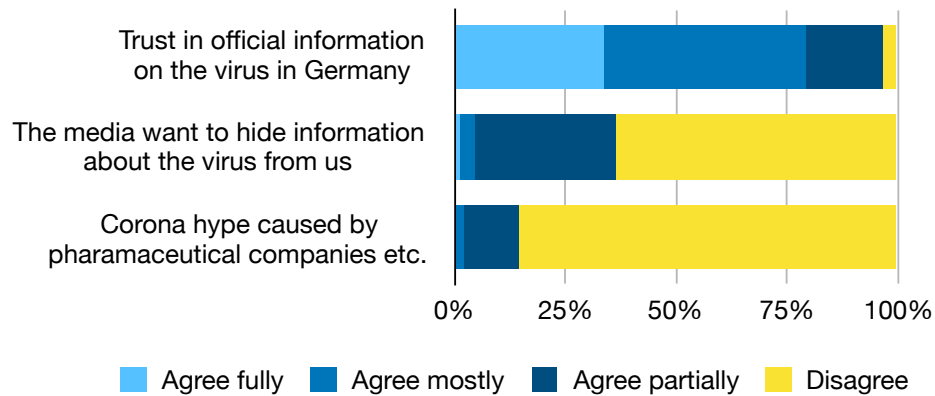


Fig.3: Trust in official information is fairly high, but there is some receptiveness for conspiracy theories.

### Estimates of future fatalities and length

Subjects estimated the total number of deaths in Germany that will occur in 2020 due to COVID-19 as 3000 (median). The estimates, however, varied wildly: from 100 to 2.4 million! The estimated duration of the current restrictions was six weeks (median). Comparing both numbers to expert estimates that expect up to 70% of the German population to get infected over the course of the next 1-2 years [3] and given a case-fatality rate that has been estimated between 1.36% and 3.17% [4] suggests that the average student is rather optimistic in their estimates. We admit, however, that current estimates depend on many unforeseeable factors, e.g., the influence of seasonality on the virus, the availability of a vaccination, the age of the affected population and the potentially overestimation of the case-fatality rate due to undetected non-serious cases.

### Reasons for attitudes towards social distancing

What influences attitudes towards social distancing? To this end, we conducted a regression analysis with several factors (the variables discussed previously) as dependent variable. After removing insignificant factors, we found that the following variables explain significantly the attitudes towards social distancing:

- the number of elderly people a subject personally knows,
- how much a subject believes in conspiracy theories.

Other factors did not play a significant role, neither personal worries, nor own estimations about deaths or duration, and knowledge played only a marginally significant role.

### Why young people worry

Subjects worry about the coronavirus crisis: on a scale from 1 (very little) to 5 (very strongly), the average answer was 3.41 ( $\pm 0.08$ ), in other words, average students worry somewhere between medium and strongly.

A regression analysis showed that significant factors connected to these worries were:

- estimated duration,
- the number of elderly people a subject personally knows,
- how much a subject believes in conspiracy theories.

Moreover, women tend to state higher degrees of worries. Conspiracy theories actually reduced the worries, it seems because subjects that believed in them found the whole crisis to be overexaggerated and therefore not much of a concern.

Interestingly, knowing a case personally, did not change the amount of worries significantly, neither did knowledge on the virus.

#### 4 Conclusions and practical advice

In this article we have presented results from a current survey on attitudes of German university students regarding social distancing in the context of the ongoing coronavirus crisis. We have seen that the majority strongly supports social distancing measures, but there is a non-negligible number that sees things less clear cut, and some believe in outright conspiracy theories about COVID-19. This, together with some gaps in their knowledge on SARS-CoV2 and on the expected effects of exponential growth on the further course of the epidemics is definitely problematic and needs attention.

Factors that make students have a more positive attitude about social distancing are in particular the number of elderly people they know (as they are known to be at highest risk). Belief in conspiracy theories, however, causes the opposite. This suggests two ways to increase compliance with social distancing:

- actively combating conspiracy theories,
- letting young people connect better to the worries of people at risk, particularly the elderly.

Another practical consequence from our study is that we should not worry about confronting people who violate social distancing: even among young people like university students most support such confronting behaviour.

#### References

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