Fatigue during the COVID-19 pandemic: Evidence of social distancing adherence from a panel study of young adults in Switzerland

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Distancing measures: a social dilemma

- Age specific risk of Corona virus: More severe for the elderly and people with pre-existing illness in contrast to normally mild symptoms for healthy and young people (below 65).
- ⇒ For people at risk: Compliance to the distancing measures lies in individuals' self-interest
- ⇒ For young and healthy people: Compliance to the measures is like the contribution to a public good
- ⇒ Similar application: Vaccination decision

Less strict lockdowns in Switzerland compared to other european countries (such as Italy, Germany or Spain): Staying at home and restricting social contacts was highly recommended, but there was no curfew.







Findings from other studies

Often opportunity or student samples, but some consistent results:

- General high compliance with preventive coronavirus measures
- Women are more compliant than men (e.g. Cai et al. 2021, Franzen and Wöhner 2021, Fuady et al. 2021, Hao et al. 2021, Lee et al. 2021, Nivette et al. 2021)
- **Higher perceived risk** drives preventive behaviors (e.g. Cai et al. 2021, Caplanova et al. 2021, Lee et al. 2021, Welter et al. 2021)
- **Psychological dispositions** affect compliance (e.g. Bailey et al. 2021, O'Connell et al. 2021, Nivette et al. 2021)
- **Trust** in government / health institutions drives compliance with preventive measures (e.g. Atkinson-Clement and Pigalle 2021, Ayalon 2021, Caplanova et al. 2021, Pak et al. 2021, Yapi et al. 2021)

Main findings from own previous study



Results from first lockdown (2020):

- ⇒ Generally high compliance with distancing measures and much support for the Covid-19 safety measures from young educated adults who are mainly not at risk.
- ⇒ Young people who see a good reason for the different Covid-19 safety measures also act more compliant with the distancing measures.
- ⇒ Young adults who think the virus is dangerous for the health of the society, support the different Covid-19 safety measures.



Results of the first lockdown: Franzen A, Wöhner F (2021) Coronavirus risk perception and compliance with social distancing measures in a sample of young adults: Evidence from Switzerland. PLoS ONE 16(2): e0247447.

Research questions

For the second wave during the lockdown in 2021:

- 1. Is there fatigue, due to the prolonged nature of the pandemic?
- 2. What drives compliance? Is the acceptance of the measures still the most important predictor for compliant behavior?
- **3.** Is there a *causal* relationship between acceptance of the measures and social distancing compliance?

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Data

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Random sample of young adults in Switzerland

- Conducted at the University of Bern
- Two waves:
 - 1. 2020 immediately after the first Lookdown ended (end of April and in May)
 - 2. 2021 during end of second lockdown (March and April)
- N1 = 510, N2 = 400
- Face-to-face interviews as well as online-surveys (no mode effects found) in first wave; second wave online only
- Analyses are made for individuals between 18 and 40 years, leading to a final sample size of 364 (all cases used for the following analyses)

Compliance with distancing measure

100 -9-6 - ത 80 - ∞ 20 - ~ Percentage 09 - 00 Mean 20 -10 6 -4 30 -0 20 -0 85.4% 55.8% 4.9 61% 33.8% 6.8 9 - ----0 0 Stayed at home Number of people met (last 7 days) Rarely / never as much as possible made exceptions First lockdown (2020) Second lockdown (2021) ------ 95%-CI

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Support of different Covid-19 measures



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Risk perception of Covid-19



Results from a structural equation model (SEM)

- Date from the second lockdown structural equation model with Satorra-Bentler (S-B) correction
- \$\chi_2^2=184.5\$, df=111, S-B-CFI=0.957, S-B-TLI=0.945, SRMR=0.039, RMSEA=0.044, RMSEA=90%-CI= [0.033,0.055], test of close fit: p=0.816
- Unstandardized coefficients
- Regression of all exogenous variables on both constructs
- Arrows: Statistically significant paths (at least p < 0.05)

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Results from a structural equation model

Social distancing compliance:

- Descriptive norm is most important factor
- Support for measures is sill relevant
- Only indirect effects of other indicators, such as individual and social risk or political trust (via the support of measures)

Causality?

 \rightarrow Is reversed causality an issue here? Could there be some kind of rationalisation so that the behavior influences the attitude (different than hypothesized)? What about unobserved heterogeneity?







Standardized coefficients, only statistically significant paths (at least p < 0.05).

 χ^2 =257, df=156, S-B-CFI=0.956, S-B-TLI=0.942, SRMR=0.042, RMSEA=0.042

Included control variables: individual risk, social risk, household risk, descriptive norm, trust in politics, prosocial, gender, and social desirability.

 \Rightarrow No effect of past behavior on current attitudes \rightarrow no reversed causality

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Two-way fixed effects panel regression

Variables	Coefficient
Support of COVID-19 measures	0.34*** (0.059)
Household risk Transition to household with person at risk [§]	0.35 (0.183)
Leaving of household with person at risk $^{\$}$	0.07 (0.186)
Second Wave§	-0.01 (0.073)
Constant	-0.01 (0.046)
Within R ²	0.143
n	364
nxT	728

Additive indices for support of measures and compliance with social distancing

• $\widehat{=}$ first difference model $Y_{it} - Y_{it-1} = \beta_0 + \beta_1 (X_{1it} - X_{1it-1}) + \beta_2 (X_{2it} - X_{2it-1}) + \beta_3 T + (\varepsilon_1 - \varepsilon_2)$

- Standardized regression coefs. (standard errors in brackets)
- * = p < 0.0, ** = p < 0.01, *** = p < 0.001
- § = dichotomous variable (not standardized)
- → Causal Interpretation: Increase of one standard deviation in attitudes increases compliance by 0.34 standard deviations.

Summary and limitations

- ⇒ Substantial reduction in the support for Covid-19 measures and the social distancing compliance \rightarrow More freeriding
- ⇒ Social distancing compliance is mainly driven by the descriptive norm and the acceptance of the Covid-19 measures
- ⇒ Tests using data from both waves suggest a causal interpretation of the support of COVID-19 measures on social distancing compliance

Limitations

- Sample of young and educated individuals → no possibility to investigate effects of different socio-demographic characteristics (e.g. age or education)
- Limited to one region in Switzerland
- Instead of self-reported compliance GPS-data could be promising







Thank you very much for your attention.

I am looking forward to hearing your comments and answering your questions!

References

Atkinson-Clement C, Pigalle E. What can we learn from Covid-19 pandemic's impact on human behaviour? The case of France's lockdown. Humanit Soc Sci Commun. 2021; 8(1): 1-12. https://doi.org/10.1057/s41599-021-00749-2

Ayalon L. Trust and Compliance with COVID-19 Preventive Behaviors during the Pandemic. Int J Environ Res Public Health. 2021; 18(5): 2643. https://doi.org/10.3390/ijerph18052643

Bailey B, Whelen ML, Strunk DR. Adhering to COVID-19 health guidelines: Examining demographic and psychological predictors of adherence. Appl Psychol Health Well-Being. 2021; 00: 1-18. https://doi.org/10.1111/aphw.12284

Cai G, Lin Y, Lu Y, He F, Morita K, Yamamoto T, et al. Behavioural responses and anxiety symptoms during the coronavirus disease 2019 (COVID-19) pandemic in Japan: A large scale crosssectional study. J Psychiatr Res. 2021; 136: 296-305. https://doi.org/10.1016/j.jpsychires.2021.02.008

Caplanova A, Sivak R, Szakadatova E. Institutional Trust and Compliance with Measures to Fight COVID-19 Int Adv Econ Res. 2021: 27(1): 47-60. https://doi.org/10.1007/s11294-021-09818-3

Fuady A, Khoe LC, Azzahra TB, Lestari HM, Sutanto RL, Yo EC, et al. Good Knowledge but Poor Practice Toward COVID-19 Among Indonesian Youth. Asia-Pac J Public Health. 2021: 1-4. https://doi.org/10.1177%2F10105395211015048

Hao F, Shao W, Huang W. Understanding the influence of contextual factors and individual social capital on American public mask wearing in response to COVID–19. Health Place. 2021; 68: 102537-102537. https://doi.org/10.1016/j.healthplace. 2021.102537

Lee J, Allen J, Lim H, Choi G. Determinants of Behavioral Changes Since COVID-19 among Middle School Students. Healthcare. 2021; 9(1): 75. https://doi.org/10.3390/healthcare9010075





References

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Nivette A, Ribeaud D, Murray A, Steinhoff A, Bechtiger L, Hepp U, et al. Non-compliance with COVID-19-related public health measures among young adults in Switzerland: Insights from a longitudinal cohort study. Soc Sci Med. 2021; 268: 113370. https://doi.org/10.1016/j.socscimed.2020.113370

O'Connell K, Berluti K, Rhoads SA, Marsh AA. Reduced social distancing early in the COVID-19 pandemic is associated with antisocial behaviors in an online United States sample. PloS One. 2021; 16(1): e0244974. https://doi.org/10.1371/journal.pone.0244974

Pak A, McBryde E, Adegboye OA. Does High Public Trust Amplify Compliance with Stringent COVID-19 Government Health Guidelines? A Multi-country Analysis Using Data from 102,627 Individuals. Risk Manag Healthc Policy. 2021; 14: 293–302. https://doi.org/10.2147/RMHP.S278774

Welter VDE, Welter NGE, Großschedl J. Experience and Health-Related Behavior in Times of the Corona Crisis in Germany: An Exploratory Psychological Survey Considering the Identification of Compliance-Enhancing Strategies. Int J Environ Res Public Health. 2021; 18(3): 933. https://doi.org/10.3390/ijerph18030933

Yapi RB, Houngbedji CA, N'Guessan DKG, Dindé AO, Sanhoun AR, Amin A, et al. Knowledge, Attitudes, and Practices (KAP) Regarding the COVID-19 Outbreak in Côte d'Ivoire: Understanding the Non-Compliance of Populations with Non-Pharmaceutical Interventions. Int J Environ Res Public Health. 2021; 18(9): 4757. https://doi.org/10.3390/ijerph18094757