

# Predicting Suicide

## Rendicontazione

### Informazioni relative al progetto

#### PS

ID dell'accordo di sovvenzione: 794913

[Sito web del progetto](#)

#### DOI

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Progetto chiuso

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## Periodic Reporting for period 2 - PS (Predicting Suicide)

Periodo di rendicontazione: 2020-07-30 al 2021-07-29

### Sintesi del contesto e degli obiettivi generali del progetto

Suicide is a leading cause of death worldwide. According to the World Health Organization, approximately 800,000 people die by suicide each year, and estimates of 20 times this number make suicide attempts. Prejudice/stereotyping can also be extremely damaging to large groups of individuals. Importantly, these behaviors have a profound societal cost and can severely impact

families and communities. However, to change these behaviors, it is crucial that we precisely know the mental associations (internal psychological factors) and environmental factors (external) that can exacerbate or ameliorate these behaviors. One of the primary goals of this fellowship was to determine whether a weakened association between “Me” and “Life”, a stronger association between “Me” and “Death”, or both these associations are crucial for differentiating suicide attempters from non-attempters.

We showed that a weakened association between “Me = Life” is more strongly predictive of having a history of suicidal attempts than is a stronger association between “Me = Death/Suicide.” However, among those who previously attempted suicide, a strengthened association between “Me = Death” is more strongly predictive of the recency (and frequency) of a suicide attempt. These results suggest that decomposing traditional IAT D-scores can offer new insights into the mental associations that may underlie clinical phenomena and may help to improve the prediction, and ultimately the prevention, of these clinical outcomes. We are now applying this new technique to an in-patient clinical sample ( $N > 2,000$ ) and to an adolescent sample gathered at ER wards ( $N > 6,000$ ) to determine whether it can prospectively predict completed suicide/attempts.

Racial tensions in the U.S. have recently increased, and understanding both individual and environmental factors that relate to negative intergroup relations are important for implementing systemic societal changes. Consistent with the parasite-stress hypothesis, we show that both White individuals ( $N > 770,000$ ) and Black individuals ( $N > 150,000$ ) living in U.S. states in which disease rates are higher display increased implicit (automatic) and explicit (conscious) racial prejudice. These findings remained robust even after accounting for a whole host of individual and environmental factors. Furthermore, white individuals with high germ aversion tendencies were especially prejudiced when reminded of viruses/diseases/infections. These findings could also account for the rise in discrimination, targeting minority groups in the U.S. (e.g. Asian or Black Americans) since the COVID-19 outbreak. This research may also generalize to other countries where intergroup tensions are apparent.

Conclusions of the action: Recent analysis showed that suicidal thoughts are highest in December, preceding the peak of suicidal behavior in late spring and early summer. Suicidal thoughts are highest during the early hours, peaking around 4 am. These findings have implications for clinicians in their risk assessment of potential suicide attempts for patients at risk and policy-makers regarding the allocation of protective services. I am now following up on this study to test the impact that COVID-19 had on suicidal thoughts. Preliminary results suggest that COVID-19 did not have any discernable impact on explicit and implicit suicidal cognitions.


## Lavoro eseguito dall'inizio del progetto fino alla fine del periodo coperto dalla relazione e principali risultati finora ottenuti



Final Report: A large portion of time was spent learning how to code online reaction time experiments. I have learned how to use R, cloud computing, and time-series analysis including multinomial modeling techniques, such as Quad modeling. I have since developed multiple scripts to clean and

analyze implicit measure data. These skills allowed me to build many fruitful collaborations and clean the 2019 & 2020 Race IAT task for Project Implicit, so it could be posted on OSF for public use.

This fellowship has resulted in five first-author journal articles published in internationally recognized (tier 1) journals, and another three co-authored author journal articles. I have three other co-authored manuscripts currently under review at high impact journals (e.g. Emotion and Social Science & Medicine). I expect another impactful first-author publication related to the impact of COVID-19 on suicide that will be accredited to this EU fellowship

Apart from traditional journal publications, I have also been quite successful at disseminating my Marie Curie research. I chaired and was the sole organizer of a symposium at the largest and most competitive psychology conference in 2019 (Association for Psychological Science). The title of the symposium was: "Advances in Implicit Cognition: New Measures, Model Investigations, and Statistical Techniques". Speakers included a colleague at Harvard University (Tessa Charlesworth), Franziska Meissner (University of Jena), and Adriaan Spruyt (Ghent University), founder of <https://implicitmeasures.com/> .

I have also presented talks on my research at a number of conferences and impactful labs (e.g. SPSP, Bethany Teachman's PACT Lab). My research has also been picked up by various international media outlets (e.g. NPR, Harvard Gazette, Pacific Standard, Psychology Today, CORDIS ). I was also invited to present my research at Harvard Medical School, which included discussion on the Marie Curie fellowship and how scholars can acquire it. Moreover, I am a PIH executive board member, and I am also the liaison officer between PIH and PI, so I have some influence regarding the direction of the world's largest online psychological laboratory. Lastly, in March 2020, I was appointed to the role of the Director of the PI International sites, so this position has hugely expanded my collaborative reach.

I was delighted to successfully secure a Japan Society for the Promotion of Science Fellowship to continue this line of research with Michiko Ueda (Waseda University) and Yuri Miyamoto (Hitotsubashi University). We will address cross-cultural variation in loneliness and its impact on suicide both at the individual and regional levels of analysis. I have also secured a Social Psychology Assistant Professor position at the University of Nottingham. Here, I will lead more projects within the Self-Harm Research Group at Nottingham to tackle the terrible effects that suicide has on our communities.

## Progressi oltre lo stato dell'arte e potenziale impatto previsto (incluso l'impatto socioeconomico e le implicazioni sociali più ampie del progetto fino ad ora)

I have covered many of these points above. Additionally, I have shown that the Simple Implicit Procedure offers a new and flexible method of capturing automatic (implicit) biases, which has many practical uses for researchers and practitioners.

To change and improve society, we must first understand the primary factors that are leading to negative outcomes. The new methodological techniques I developed are crucial to enhancing our understanding of biases towards separate attitudes objects (e.g. Me-Life versus Me-Death). Moreover, by using big data, I have been successful at demonstrating the crucial “environmental” (i.e. infectious disease, seasonality effects) and individual level (i.e. germ aversion) factors that can partly account for racial tensions and improve our understanding of why suicides peak in spring. All these findings have the strong potential to assist with reducing suicide rates and prejudice in society. In conclusion, my Marie Curie Global Fellowship was instrumental in advancing knowledge in both clinical and social psychological domains.



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