

## **The Interpersonal and Psychological Impacts of COVID-19 on Risk for Late-Life Suicide**

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## **Abstract**

Older adults experience increased risk for suicide compared to the general population, and the circumstances surrounding the Coronavirus Disease 2019 (COVID-19) may potentiate this risk. We discuss how current COVID-19 pandemic-related policies are likely to harm older adults disproportionately. COVID-19 pandemic social distancing policies and ethical guidelines for COVID-19 treatment may exacerbate experiences of social isolation, perceived expendability, and exposure to suffering, which are related to the three main components of the Interpersonal Theory of Suicide (i.e., thwarted belongingness, perceived burdensomeness to society, and capability for suicide). The COVID-19 pandemic poses a drain on services and has drawn ethical debates about policies around treating younger adults first. These experiences may lead older adults to have reduced access to needed medical and psychiatric services and may convey damaging messages of expendability. Further, the potential prolonged stress associated with the COVID-19 pandemic may impact neurological, immunological, and health functioning – exacerbating suicide risk. Potential venues to increase treatment options and decrease social isolation are discussed. We acknowledge optimistic effects as well, such as ‘pulling together’ as a society and the many valuable ways older adults may contribute during this crisis.

*Key Words:* COVID-19, Interpersonal Theory of Suicide

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The Coronavirus Disease 2019 (COVID-19) pandemic may substantially increase risk for death by suicide in older adults. Worldwide, older adults have higher rates of suicide than the general population (WHO, 2014) and these risks are especially pronounced in older white males (Snowdon et al., 2017) and individuals with psychiatric disorders, chronic health problems, and/or those who are socially isolated (Van Orden et al., 2020). The COVID-19 pandemic is an unprecedented stressor that has necessitated significant changes to daily life. The potential mechanisms for heightened suicide risk during the COVID-19 pandemic closely mirror the risks for suicide described in the Interpersonal Theory of Suicide, IPTS (Van Orden et al., 2010). In this commentary, we examine how policies and societal changes due to COVID-19 may specifically influence late-life suicide, we propose methods for alleviating these risks, and we consider optimistic outcomes as well.

### **COVID-19 and the Interpersonal Theory of Suicide**

The IPTS provides a framework for understanding why individuals engage in suicidal behavior and who are at risk. The IPTS model posits that the *capability* to engage in suicidal behavior is separate from the *desire* to engage in suicidal behavior. According to this theory, the simultaneous and intractable presence of *thwarted belongingness* and *perceived burdensomeness* produces the desire for suicide (Van Orden et al., 2010), while capability may be influenced by genetics, lived experiences, and habituation in response to repeated exposure to fear-inducing or painful situations. That is, exposure to life threatening, frightening images is thought to lessen fear of these topics and thus increase capability of suicide.

Social distancing policies, potentially leading to social isolation, and COVID-19 ethical treatment guidelines (e.g., to treat the young and not the old (Liu et al., 2020), may directly

contribute to increases in desire for suicide by fostering thwarted belongingness and perceived burdensomeness. The daily news and media coverage during the COVID-19 pandemic has been unique and may more broadly increase capability to suicide due to consistent, frequent, and intense daily exposure to COVID-19 related physical suffering and death.

### ***Thwarted Belongingness***

Thwarted belongingness includes loneliness and absence of reciprocal care (Van Orden et al., 2010). People have an innate need to belong and to feel part of families, social groups, and communities (Hawkey & Capitanio, 2015). As people age they may lose some existing societal supports (e.g., retiring from work, loss of friends to death and illness). Nonetheless, socioemotional selectivity theory suggests that relationship satisfaction and social well-being increase in later-life (Carstensen, 1992). Indeed, one study examining COVID-19 pandemic-related increases in anxiety found that age was *inversely* related to isolation anxiety (Bareket-Bojmel, Shahar, & Margalit, 2020). However, on average, older adults tend to have smaller social networks (Charles & Carstensen, 2010), and disruption of these smaller networks, through social distancing practices, may contribute to increased social isolation. More broadly, because increased age is associated with higher rates of chronic health conditions, older adults may be more conscientiously engaged in social distancing practices, avoiding people, situations, and daily interactions that they might normally enjoy. Van Orden and colleagues (2020) recently stated that the disruption of social networks, due to the COVID-19 pandemic, may lead to greater isolation among older adults with potentially serious consequences to health.

Social connectedness is important to physical and mental health across the lifespan (Hawkey, 2015; Holt-Lunstad, 2018). Olaya and colleagues (2017) reported that among adults over the age of 50, social isolation is associated with an increased risk for multiple chronic

diseases. The absence of positive social relationships and loneliness among older adults are significant risk factors for broad-based morbidity, mortality (Cacioppo & Cacioppo, 2014), and suicide (Fässberg et al., 2012). Further, Shrira and colleagues (2020) found that *subjective* age may strengthen the association between loneliness and psychiatric symptoms during the COVID-19 pandemic (Shrira, Hoffman, Bodner, & Palgi, 2020). Thus, it is important to consider how social isolation related to social distancing policies (Armitage & Nellums, 2020) may impact late-life health, psychological functioning, and, in turn, exacerbate existing risks for suicide.

### ***Perceived Burdensomeness***

Perceived burdensomeness, a component of IPTS, is the belief that one is a burden on others or society. Some older adults are at a higher risk to experience perceived burdensomeness due to higher rates of chronic health conditions (Gavrilov & Gavrilova, 2018). For example, Cukrowicz and colleagues (2011) found, in two samples of older adults ( $M = 74.1(7.5)$  years,  $M = 70.9(7.6)$  years), that poor health was associated with perceived burdensomeness and suicide ideation. Indeed, the *causes* of suicide in China during the severe acute respiratory syndrome (SARS) epidemic, among individuals 65 years and older, were found to be related to concerns of becoming infected and then becoming a burden to their families (Yip, Cheung, Chau, & Law, 2010). Moreover, a meta-analysis, conducted by Chu and colleagues (2017) revealed that the relationship between perceived burdensomeness and suicidality was especially robust; however, importantly, the association was not moderated by age. During the COVID-19 pandemic, it has been well publicized that the severity of COVID-19 often depends on chronic health conditions (Zhou et al., 2020) with mortality rates increasing with each year of age (OR: 1.1, 95% CI: 1.03 – 1.17,  $p=0.0043$ )(Zhou et al., 2020). Thus, for older adults with pre-existing conditions, fear of

contracting COVID-19, that would likely require a higher level of care, potentially increases concerns of being a burden.

During the COVID-19 crisis, there are many ways in which older adults are being sent the message that their health needs are a burden to society. Several articles have been published discussing the ethical decisions “to treat or not to treat” specifically in relation to older age and COVID-19 (Frakt, 2020; Romeo, 2020). In Italy, intensive care specialists are already denying life-saving care to the ‘sickest’ patients who are most often the oldest patients (Emanuel et al., 2020; Remuzzi & Remuzzi, 2020). Indeed, older age has been proposed to be one of the main criteria used to potentially deny services. The imbalance between the need for treatment and limited resources across many countries presents health workers with a dilemma as to how resources should be allocated fairly. The growing medical consensus is not only to save more lives, but to save more *years of life*. Stated explicitly, in prominent medical journals (Emanuel et al., 2020), these ethical guidelines translate to prioritizing saving younger patients; since many medical facilities are overburdened, older age is an explicitly stated ethical guideline for denying COVID-19 treatment. While one may debate these ethical considerations, there is a serious possibility that the main message being conveyed to older adults involves their expendability. Indeed, amidst these COVID-19 pandemic-related policies and discussions, it is not surprising that some older adults would develop perceptions of themselves as burdens to others and society.

### ***Capability for Suicide***

The IPTS views exposure to pain, injury, and death, as an important driver of the capability to die by suicide. Frequent and intense exposure to such bodily related themes lessens the fear of those very topics – thus increasing capability. Indeed, the topics of physical suffering and COVID-19 related death are in the news daily; media coverage has been relentless.

Worldwide there are millions of COVID-19 infections; approximately 7% of these have died, with death rates increasing by age group (see (WHO, 2020). Considering typical social networks, it is likely that many people personally know someone who has contracted COVID-19; others are still exposed to people suffering from COVID-19 (e.g., via news outlets) as themes of morbidity and mortality have surged. Though it should be noted that empirical research showing an association between such media exposure and increased capability is lacking.

Certain subpopulations have elevated suicide rates due to exposure over time to long-existing, high levels of capability (e.g., via current or past occupational exposure); health care professionals and first responders may be at particular risk (Stanley, Hom, & Joiner, 2016). Indeed, 20% of current first responders are over the age of 55 (Schafer, Sutter, & Gibbons, 2015). Thus, the COVID-19 pandemic may increase population levels of capability due to dramatically increased exposure to suffering and death.

### **Psychiatric Disorders**

IPTS describes the causal mechanism underlying suicidal behavior (i.e., the conjunction of intractable thwarted belongingness, intractable perceived burdensomeness, and capability for suicide). Within the IPTS framework there are additional factors shown to substantially contribute to risk for lethal suicidal behavior, and these operate distally on suicide-related outcomes via the final common pathway constituted by the three theory variables (Van Orden et al., 2010). Most prominently there is robust support for psychiatric disorders and health problems increasing risk for late-life suicide (Sachs-Ericsson, Rushing, Stanley, & Sheffler, 2016).

Community-dwelling older adults with chronic mental health problems may be disproportionately impacted by the COVID-19 pandemic (Kim & Su, 2020). Most, if not all, older adults who die by suicide had a psychiatric disorder. Conwell and colleagues (Conwell,



Van Orden, & Caine, 2011) found that across multiple studies 71% to 97% of individuals who died by suicide, aged 65 years and older, had a psychiatric illness at the time of death. There is a substantial likelihood that those undiagnosed had an underlying, unrecognized psychiatric disorder (Joiner, Buchman-Schmitt, & Chu, 2017). The worldwide outbreak of COVID-19 raises concerns of widespread panic and anxiety (Kim & Su, 2020). Recent U.S. Census Bureau data show a substantial increase in symptoms of anxiety and depression since the COVID-19 pandemic started (Fowers & Wan, 2020).

Among older adults with pre-existing psychiatric disorders, the added difficulties and distress associated with the COVID-19 pandemic, and decreased access to services may contribute to late-life suicide. Stress is known to increase symptom severity for individuals with pre-existing psychiatric disorders (Bangasser & Valentino, 2014). Nonetheless, access to psychiatric care during this pandemic has already been reduced (Dorn, Cooney, & Sabin, 2020). Several countries have found themselves ill-equipped to coordinate national policies to provide psychological services to those most affected (Duan & Zhu, 2020). Well-known health disparities are exacerbated by the pandemic (Dorn et al., 2020). Combined, reduced access for needed psychiatric health care, coupled with ITPS variables, may increase late-life suicide.

### **Health Functioning and Stress**

There is an increased risk for suicide among older adults with physical illnesses, functional impairment, and cognitive impairment (Conwell et al., 2011). There is a strong association between the cumulative number of illnesses and risk of suicide (Juurlink et al., 2004); older adults with poor health are physically more vulnerable to succumb to a suicide attempt (Draper, 2014). The situation surrounding COVID-19 (e.g., stress, health care access, social

distancing) is likely to similarly exacerbate pre-existing health conditions, as well as health disparities among older adults (Dorn et al., 2020), which may contribute to late-life suicide.

Stress has negative consequences for neurological, immunological, and health functioning (Heim & Nemeroff, 2002; Kelly-Irving et al., 2013). These consequences are most salient for older adults exposed to stressful events earlier in life (Lupien, McEwen, Gunnar, & Heim, 2009; Sachs-Ericsson et al., 2016). There is evidence for an accelerated age-related decline in aging trauma survivors (Yehuda, Golier, Tischler, Stavitsky, & Harvey, 2005). The brain regions that undergo the most rapid decline as a result of aging are the most highly vulnerable to the effects of stress hormones (Lupien et al., 2009). Further, stress-related glucocorticoids in older adults have a heightened toxic effect on memory and hippocampal volume (Lupien et al., 2009). Together, these processes may lead some older individuals to cope less efficiently with COVID-19 pandemic stressors and may increase emotional dysregulation, leading to an increased risk for late-life suicide.

### **Implications and Recommendations**

Access to health and psychiatric treatment has been disrupted as many medical professionals are focused on the emerging pandemic crisis. The poorest and sickest individuals are the most likely to be without access to healthcare (Dorn et al., 2020). Clearly, addressing underlying psychiatric and health comorbidities to reduce distressing symptoms is critical in reducing suicidal risk. During this pandemic, we must effectively provide needed health and psychiatric care to older adults.

COVID-19 pandemic social distancing policies (Hellewell et al., 2020) and treatment ethical guidelines (Emanuel et al., 2020) have unique implications for older adults. These policies may lead to increased social isolation and the perception of being a burden to society;

moreover, the intense media coverage of COVID-19 related deaths among older adults, may increase capacity for suicide – heightening risk factors for late-life suicide. Geriatric care in public health emergencies represents a serious international concern. The impact of current policies needs to be quickly identified and strategies to reduce potential negative consequences need to be addressed. We must educate policy makers and the media in ways to discuss the COVID-19 crisis in a manner that does not overtly target older adults, and communicates the value of all life, young and old.

Access to COVID-19 health care information is critical (Ji, Ma, Peppelenbosch, & Pan, 2020). Communication directed to older adults that provides strategies with actionable information for self-protection, including identification of symptoms, and clear guidance for treatment seeking are necessary (Heymann & Shindo, 2020). For example, one large community study in China (Wang et al., 2020) found that specific up-to-date and accurate health information (e.g., treatment, local outbreak situation) and particular precautionary measures (e.g., hand hygiene, wearing a mask) were associated with a lower psychological impact of the outbreak.

### ***Reducing Social Isolation and Perceived Burdensomeness***

Psychosocial support mechanisms for older adults need to be rapidly identified and expanded. Public health strategies need to be implemented to mitigate isolation of older adults. Smart technologies may be quite useful in increasing social connectedness (Newman & Zainal, 2020). Thus, during the COVID-19 pandemic, even urging families to have frequent phone contact with older family members may be an important public health strategy. Family members and friends can play an important role in improving the quality of life for older adults – not only by including them in activities, but importantly encouraging the idea that both young and old deserve available resources (Norton & Fauth, 2016). Of course, not all older adults may have

close family or friends to lean on during these times; therefore, community outreach services may be especially important.

An active development of community resources providing social support and other services to older adults, during this crisis, needs to be made readily available. For example, Van Orden and colleagues (2020) outline strategies for helping patients develop a “connections plan” to remain engaged in important relationships and behaviors within the COVID-19 pandemic social distancing guidelines. Local agencies serving the aging population can be instrumental in determining how to best develop resources and serve their community. Enhancing social connections as well as a sense of community could potentially decrease suicide risk (Fässberg et al., 2012).

There is a strong body of literature highlighting the important role volunteering plays in improving the quality of life of older adults (Carr, Fried, & Rowe, 2015). Notably, older adult volunteers are often integral to the functioning of community organizations; however, due to COVID-19 pandemic social distancing, most are currently unable to volunteer in person. Community and agency efforts could shift these volunteers to engage in phone and email campaigns to reach out to other older adults who may be isolated. Cornwell and colleagues (Cornwell et al., 2020) recently found that peer companionship, as delivered by community-based social services, can contribute to the mental health and well-being of older adults by improving social connectedness.

Given the many important roles older adults play in society, we need to harness and emphasize the abilities of older adults to volunteer in meaningful ways in their community during the COVID-19 crisis. Volunteering can serve to mitigate social isolation as well as

feelings of burdensomeness - for both the volunteer as well as the people they serve. Indeed, coming together at a time of crisis is known to have beneficial effects.

### *Potential Optimistic Considerations*

As noted throughout this commentary, we believe there are significant reasons for concern regarding late-life suicide under pandemic conditions; nevertheless, more beneficial outcomes are possible. Whereas the widespread media coverage of current events may increase anxiety and fear regarding health and mortality; this coverage, in turn, has the potential to make life seem more precious, death more fearsome, and thus suicide less likely. Durkheim (1897) offered a sociological perspective on suicide, including the observation that changes in social dynamics impact suicide rates. In the wake of crisis and disaster, people may rally together, thus enhancing levels of belonging. ‘Pulling together’ has been posited to be a contributor to reduced rates of suicide following national crises (Joiner, Hollar, & Van Orden, 2006), including the assassination of President Kennedy, the Challenger disaster, and the terrorist attacks of September 11, 2001 (Biller, 1977; Claassen et al., 2018; Joiner et al., 2006). Though it should also be noted, crises that cause geographic displacement or social distancing (e.g., natural disasters, pandemics) may be associated with ‘pulling apart’ effects in communities and, in turn, contribute to increases in mental health problems and suicide (Yip, et al, 2010).

Increased access to services through telemedicine may be another benefit resulting from the pandemic. Telemedicine can provide rapid access to health and psychiatric services without exposing the health care workers or the patient to additional risks for infections (Hollander & Carr, 2020; Zhou et al., 2020). Many older individuals, as well as providers, may not have previously utilized these services, but are now engaging in telemedicine in ways that may push innovation and build lasting improvements in access to care. To attenuate suicide risk during the

pandemic, communities may launch initiatives to provide training on the use of video platforms (Reger, Stanley, & Joiner, 2020). Thus, the pandemic may serve to increase momentum to disseminate video conferencing technology, which may more broadly increase social connection and access to care.

Finally, the COVID-19 pandemic offers opportunities for significant service to others, certainly for health care workers and first responders, but for others too. A sense of contributing is in a sense the opposite of a state of perceived burdensomeness, and thus may also offset suicide risk across the lifespan.

## **Conclusions**

The COVID-19 pandemic likely exacerbates existing risks for late-life suicide. We focused on the IPTS and summarized how its main constructs (i.e., thwarted belongingness, perceived burdensomeness, and capability) may influence late-life suicide during the COVID-19 pandemic. We review implications for public health policies, community organizations, and family members to attenuate the risk factors for late-life suicide.

Importantly, during this crisis we must find innovative methods to address social isolation and loneliness among older adults, while adhering to social distancing guidelines. Community outreach and the involvement of family members is crucial to reducing social isolation. We need to promote messages that we deeply care and value our older generation; we must promote and acknowledge the valuable ways older adults positively contribute to society.

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