

Understanding Suicide to Prevent Suicide

E. David Klonsky, Mikayla C. Pachkowski, and Arezoo Shahnaz,
University of British Columbia

BY MANY METRICS suicide prevention must improve. Suicide remains a leading cause of death worldwide, and in some countries (e.g., the United States) suicide rates have an upwards trajectory (Klonsky et al., 2016). In contrast, there have been large declines in mortality for other medical and behavioral health problems such as stroke (World Health Organization [WHO], 2018), homicide (United Nations Office on Drugs and Crime [UNODC], 2019), and drunk driving (Insurance Information Institute [III], 2020). An important question is why. Why does suicide prevention lag behind other medical and behavioral health problems?

Accurate Prediction Is a “Red Herring” That Distracts From Understanding and Treatment

Some articles suggest that suicide prevention lags because suicide prediction lags behind. For example, Ribeiro et al. (2016) make the intriguing and thoughtful argument that suicide should be treated as “a complex classification problem,” and Franklin et al.’s (2017) seminal meta-analysis includes the suggestion that identifying “longitudinal predictors” is a first step toward improving suicide prevention and treatment. The logic of these arguments perhaps rests on the assumptions that (a) we otherwise do not know who is at risk, and (b) those identified as at-risk can be given access to effective treatments. Both of the above papers state that suicidology should prioritize “risk algorithms” if the field wishes to make progress. In short, improved prediction through complex prediction algorithms is viewed as a prerequisite for improved knowledge and prevention.

However, for several reasons, I suggest that the quest for highly accurate suicide prediction may be a red herring that distracts the field from its most important work: understanding suicide to improve treatment and prevention. Specifically, (a) in other health fields, advances in prevention and treatment have not relied on advances in prediction; (b) suicide predic-

tion will never be highly accurate; (c) even if an algorithm were to perfectly identify when suicide attempts will occur, we must still have effective ways to intervene that are grounded in a genuine understanding of suicide; and (d) prediction of suicide in the naturalistic world has only minor relevance for evaluating the validity and utility of suicide theories. I elaborate these points below.

First, in other health fields, substantial advances in treatment and prevention occur without advances in prediction. For example, mortality from stroke has decreased dramatically since the year 2000 (WHO, 2018), even though positive predictive values for predicting future strokes are low (e.g., between 6% and 14% in a systematic review; Gupta et al., 2014; between 2% and 8% using a risk-stratification tool plus imaging for follow-up periods between 7 and 90 days, Merwick et al., 2010). Similarly, meaningful reduction in homicide and drunk driving deaths (III, 2020; UNODC, 2019) are attributed not to advances in prediction methodology, but to practical interventions and contextual factors that reduce the likelihood of these behaviors—such as reduction in firearm access for homicides (Azrael & Miller, 2020) and improved laws, policing, and community norms for drunk driving (CDC, 2020).

Consider an example closer to home for readers of *the Behavior Therapist*. Behavioral principles such as reinforcement, punishment, habituation, and extinction have been enormously helpful in treating a variety of psychiatric disorders (Butler et al., 2006). Notably, these treatment advances in no way depended upon using behavioral principles to predict who will next develop a psychiatric disorder or which clients will develop a second disorder. We can understand and treat disorders and maladaptive behaviors without highly accurate prediction tools. In sum, across a variety of prevention and treatment success stories in the medical, behavioral, and public health literature, advances in prediction are absent or peripheral.

Second, even if one believes that highly accurate prediction would improve treatment and prevention, highly accurate prediction of suicide will never be achieved. Some suggest that accurate prediction of suicide could potentially be achieved through complex prediction methods, such as algorithms optimized through machine learning. However, a systematic review and simulations of suicide prediction via machine learning suggest that, even under optimal conditions, the prediction of suicide will remain poor (Belsher et al., 2019). A separate review concludes that machine learning prediction methods for suicide yields very low positive predictive power and sensitivities similar to conventional prediction methods (McHugh & Large, 2020). These skeptical conclusions should not be surprising given a robust literature on failures of machine learning to improve clinical prediction. For example, a meta-analysis of 71 studies found that machine learning provides no benefit over simple regression for predicting a variety of clinical phenomena such as cancer and heart disease (Christodoulou et al., 2019). As a result, optimistic claims about suicide and machine learning may represent “hype” more than substance (Fazel & O’Reilly, 2020).

Third, for the moment let us assume the aforementioned argument is wrong, and that machine learning will soon enable perfect prediction of suicidal behavior. Suppose this method reveals the identity of 100 individuals who, within the next month, will attempt suicide and possibly die. What now? Current psychiatric practice for acutely suicidal patients is hospitalization—do we lock these individuals in a padded room for the next month? Obviously not. Beyond practical and ethical considerations of hospitalizing everyone predicted to attempt suicide, hospitalization itself can cause more harm than good (Ward-Ciesielski & Rizvi, 2020). The answer is that we must successfully intervene—we must learn to effectively and humanely lower risk for acutely suicidal individuals, and help them build a life worth living. This brings us back to where we started: We must understand suicide to prevent suicide. Even unrealistically perfect prediction would be only a small step toward improved prevention, because we must still understand the phenomena to effectively intervene.

Finally, some suggest that poor real-world prediction implies an inadequate understanding of suicide; thus, even if we accept that such prediction is not impor-

tant for prevention, perhaps it is important for determining the validity and utility of our suicide theories and models. For example, Nock et al. (2018) discounts “overly simple” theoretical models of suicide on the basis that the risk factors they emphasize poorly predict suicidal behavior in the naturalistic world. Ribeiro et al. (2019) makes a similar argument to refute “simple conceptualizations” of suicide. However, I would like to gently push back, and suggest that these claims misrepresent the nature of the scientific enterprise and the relationship between theory and prediction.

The scientific enterprise is largely based on the premise that parsimonious theories can help explain complex phenomena (for elaboration in the context of suicide theory; see Klonsky, 2020). To assume *prima facie* that simple theories are inappropriate for understanding complex phenomena is to discard hundreds of years of scientific progress to the contrary (see Edge, 2012, for a long list of scientific “deep, elegant, or beautiful explanation[s]”). More to the point, the predictions most relevant for evaluating scientific theories are those made under highly controlled conditions, not naturalistic ones.

Behavioral principles of learning offer a wonderful example. They are relatively simple, yet help us understand behaviors across extremely diverse contexts. One reason we accept their validity is that psychologists can use these principles under controlled conditions to predict (and even determine) behavioral outcomes, such as when nonhuman and human animals will learn to fear and avoid a stimulus (Delgado et al., 2006). However, can these same behavioral principles be used to predict, in the naturalistic world, who will develop a phobia over the next week, month, or year? Certainly not with high accuracy. Behavioral principles accurately describe the conditions under which fear and anxiety develop, persist, and decrease. Yet, the naturalistic world remains too complex and dynamic to predict when and for whom these conditions will next occur.

There are similar examples throughout science. For example, basic laws of motion are highly valid, yet scientists can only make probabilistic judgments about the movements of debris through space (see Klonsky, 2020, for elaboration as applied to suicide). Similarly, as I type this sentence, there is a napkin next to a coffee cup on my desk; physicists would struggle mightily to tell you where this napkin will be in 2 weeks (still on my desk? in a compost bin? in an alleyway blowing in the wind?), even

though the forces that will act on the napkin are ordinary and well understood. Likewise, behavioral principles are valid and have high clinical utility, despite limited utility for real-world prediction.

In summary, complex prediction methods are unlikely to be important for improving either suicide prevention or knowledge. Instead, we must use the basic tools of science to continue to cultivate our knowledge of suicide and suicide risk, and use this knowledge to improve prevention and treatment.

Review of Articles in the Special Issue

The articles in this special issue are a breath of fresh air. Rather than focus on novel technologies or algorithms, they focus on understanding and treatment. They identify evidence-based mechanisms of change likely to reduce suicide risk and describe practical interventions for targeting these mechanisms. Below I summarize these articles with attention to the mechanisms they emphasize.

Sears et al. (2020; this issue) describe the integration of two effective approaches to suicide prevention: Dialectical Behavior Therapy (DBT) and lethal means safety counseling. DBT has long been recognized as a key advance in the treatment of individuals at risk for suicide (DeCou et al., 2019), and succeeds in part by improving emotion regulation, distress tolerance, and interpersonal skills (Linehan et al., 2006). Evidence also supports lethal means restriction/safety as an important tool for suicide prevention (Jin et al., 2016). Thus, the integration of these two approaches represents an extremely promising approach to the clinical treatment of suicide risk. The focus on firearms, as opposed to lethal means more generally, makes particular sense in the American context where firearms are readily available and the leading cause of suicide death. Sears et al. provide detailed and thoughtful guidance about how to integrate firearm lethal means safety counselling into DBT. A DBT practitioner reading this article today can use this information in practice tomorrow.

Zullo et al. (2020; this issue) describe two complementary treatment approaches for youth who present with self-injurious thoughts and behaviors (SITBs). The two treatments are complementary in that one focuses on intervention in acute settings such as an emergency department, and the second is a DBT-informed, 12-week outpatient treatment that may represent a natural next-step in treatment following acute

intervention. There is an interesting parallel between Zullo et al. and Sears et al. in that both (a) ensure client safety and (b) utilize DBT principles to reduce suicide risk. The first treatment described by Zullo et al., referred to as SAFETY-Acute (SAFETY-A; also known as the Family Intervention for Suicide Prevention), aims to ensure youth safety in the context of an emergency and link the youth to appropriate follow-up care. The second treatment, referred to as SAFE Alternatives for Teens and Youths (SAFE), is informed by DBT and takes a cognitive-behavioral approach aimed at increasing safety and reducing suicide attempts. Notably, the treatment involves two therapists, one for the youth and one for the parent/family, with everyone coming together at the end of each session. Zullo et al. provide a rich description of these treatments, including their principles and implementation, as well as accumulating data that support their promise. Treatment of suicide risk in youth presents unique challenges compared to adults. SAFETY-A and SAFETY represents a potentially powerful one-two punch in the effort to reduce youth suicide.

Chapman and Hood (2020; this issue) address the unique considerations that come into play when a DBT clinic must provide telehealth (rather than in-person care) for clients at risk for suicide. In light of the COVID-19 pandemic, telehealth is playing an unusually large role in mental health care. While some may shy away from treating clients with high suicide risk via telehealth, providing quality care for such clients is critical, and telehealth is often the only feasible platform for doing so. Therefore, Chapman and Hood provide a valuable service in describing their experience offering telehealth to clients at a DBT clinic, and sharing research-informed advice for managing suicide risk for telehealth clients. Perhaps their most important take-home message is this: “management of suicide risk via telehealth is feasible, safe, and likely effective.” Any clinician providing telehealth care, or considering whether to provide telehealth care to clients at risk for suicide, would benefit from the thoughtful discussion and suggestions that Chapman and Hood provide.

May (2020; this issue) and Khalifian et al. (2020; this issue) each apply principles of couples and family therapy to the treatment of suicide risk. May describes a relatively novel approach to the clinical treatment of suicide risk: Couples Crisis Response Planning (CCRP). CCRP involves clients’ romantic partners in their

safety planning and clinical intervention for suicide risk. CCRP seeks to “capitalize on partners’ unique knowledge of their loved ones’ suicide warning signs, close proximity to their partners, and ability to directly support clinical interventions designed to increase safety.” Though many treatments for suicide risk appear helpful, there is room for improvement. It is therefore important to consider approaches like CCRP that are novel yet grounded in evidence-based knowledge about suicide and suicide risk. May suggests that CCRP has the potential to reduce suicide risk by increasing knowledge of both client and partner, facilitating communication between client and partner, and increasing support for the partner/caregiver. In support of this perspective, May notes that involving one’s partner in treatment has been useful for other clinically significant behaviors (such as alcohol use, gambling, and smoking cessation), and that involving families appears beneficial for the treatment of teens at risk for suicide. As May notes, a clinical trial on CCRP is underway. We will have to wait patiently for the results of this important clinical trial.

Similar to May, Khalifian et al. (2020; this issue) describe a couples-based approach to the treatment of suicide risk that is grounded in evidence-based knowledge and currently undergoing empirical evaluation: the Treatment for Relationships and Safety Together (TR&ST). TR&ST is motivated by the large body of knowledge and theory on the role of connectedness in reducing desire for suicide and creating a life worth living. TR&ST is a marriage between two existing treatments: Brief Cognitive Behavioral Therapy for Suicide Prevention (BCBT; Bryan & Rudd, 2018) and Cognitive Behavioral Couple Therapy skills (Epstein & Baucom, 2002). In this manner, TR&ST addresses mechanisms of change emphasized in BCBT, such as emotion regulation, cognitive reappraisal, and problem solving, while also emphasizing romantic relationship dynamics as a potential source of problems driving suicidal desire and, therefore, an important focus for intervention. The four stages of TR&ST are crisis management and emotion regulation, self-awareness and communication skills, cognitive skills, and relapse prevention and building a life worth living. It is encouraging to see the development and piloting of approaches such as TR&ST that involve one’s partner and therefore have advantages over individual treatment. As with May, we will

have to be patient as we await the results of the ongoing clinical trial.

Yarrington et al. (2020; this issue) carefully consider the link between social anxiety and suicidal thoughts and behaviors (STBs). A challenge in suicide research is that virtually every variable associated with distress—depression, anxiety, personality disorder, substance misuse, eating disorder, psychosis, and so on—will exhibit a positive zero-order correlation with STBs. It is therefore important to go beyond consideration of whether a given variable relates to STBs, and establish information on which variables exhibit the strongest associations and unique associations. Yarrington et al. is a good example of such work. They demonstrate a direct association between social anxiety and STBs but provide evidence that this association might be best understood as reflecting an association of STBs with distress or psychopathology more broadly. Given that analyses focused on a particular population (adults seeking employment), it will be important to determine if this pattern replicates in other populations.

Holman et al. (2020; this issue) and Marks et al. (2020; this issue) consider the implementation of interventions to reduce suicide risk in particular contexts. A forever-challenge in clinical science is how to translate knowledge into effective intervention, and this task depends greatly on context. Holman et al. describe major suicide prevention efforts conducted by the Veterans Administration (VA), and the various opportunities and challenges for suicide prevention within the VA context. While many therapists view suicide prevention through the lens of clinical care, suicide prevention can also be viewed and approached as a public health problem. As a massive but closed system of care, the Veteran’s Health Administration (VHA) provides a unique opportunity for a tailored, coordinated, public health approach to suicide prevention. The VHA approach emphasizes improved identification of those at highest risk for suicide (so perhaps there is some use for the prediction methods I critique in the previous section), expansion of means safety measures among veterans, and the provision of evidence-based individual approaches to treatment for individuals in crisis or at high-risk. By addressing suicide risk at both population and individual levels, the VA provides a model for a comprehensive approach to suicide prevention, including upstream prevention, clinical care, crisis services, and postintervention. Some

lessons learned will be unique to the VA system, but others provide meaningful guidance and inspiration for public health approaches to suicide prevention in the public sphere.

Finally, Marks et al. (2020; this issue) examine the American correctional system, where suicide is the leading cause of death. They review the unique history of suicide prevention within the correctional system, and the unique dilemmas that clinicians face when treating suicide risk within this system. For example, disclosing that an inmate is at high risk for suicide can lead to that inmate experiencing 10-minute check-ins, severe restrictions on possessions and clothing, and restrictions to finger foods—interventions that are arguably dehumanizing and demoralizing. In short, as Marks et al. note, treatment for suicide risk in correctional settings can look and feel like punishment. The authors conclude by describing innovative approaches to suicide prevention, such as the Prevention of Suicide in Prisons (PROSPeR) framework (Awenat et al., 2017), which involves delivery of cognitive-behavioral treatment plans by ex-offenders with lived experience of suicidality in the correctional system. Marks et al. is a must-read for researchers and clinicians concerned about ethical, effective treatment for suicide risk within the American correctional system.

Toward a Parsimonious and Actionable Understanding of Suicide

As noted earlier, science is largely based on the premise that parsimonious theories can help us understand and influence complex phenomena. For example, behavioral principles are relatively simple, yet provide powerful insights into understanding and managing maladaptive behaviors in diverse persons and contexts. Can we identify principles of suicide that are similarly simple yet powerful? I propose that we can, and offer a potential example.

Converging evidence suggests that a small set of factors can explain suicide and suicide risk. Specifically, (a) overwhelming pain and hopelessness are near-universal motivations for suicide (May et al., 2020), (b) connectedness helps create a life worth living and protects against suicide risk (Zareian & Klonsky, 2020), and (c) because attempting suicide is difficult and fear-some, suicidal ideation can only progress to suicide attempts when one has the capability to attempt suicide (Dhingra et al., 2019; Klonsky & May, 2015; Tsai et al., in press).

These principles are integrated in the Three-Step Theory (3ST) of suicide (Klonsky & May; Klonsky et al., 2018; Tsai et al.).

Importantly, the 3ST's focus on four factors—pain, hopelessness, connectedness, and capability—does not imply that other documented correlates, risk factors, and causes are irrelevant. Rather, the 3ST provides a context for understanding why other variables matter for suicide risk. For example, pain may explain the primary contributions of variables like depression, emotional distress, anxiety, and chronic physical pain; hopelessness may explain the contributions of variables like external locus of control and poor future orientation (as well as the seminal Beck Hopelessness literature); connectedness may explain the contributions of variables like interpersonal conflict, social isolation, and meaning in life; and capability for suicide may explain the contributions of variables like access to lethal means, knowledge of lethal means, and low harm avoidance temperament. The 3ST does not provide a comprehensive list of variables that cause pain, hopelessness, disconnection, and suicide capability for the same reasons that behaviorists have not published comprehensive lists of variables that can provide reinforcement or punishment. Life is too complex to list everything, and furthermore, what is painful or punishing for one person may provide hope or reinforcement for another (e.g., intense exercise). The key for any parsimonious theory is whether the principles are accurate and actionable.

Finally, as the title of this article implies, the main reason for understanding suicide is to prevent suicide. Thus, a good theory of suicide should not only be accurate, but directly inform prevention and treatment (Fox et al., in press). The 3ST identifies four clear targets for intervention. According to the 3ST, any intervention or prevention method will succeed in reducing suicide risk to the extent that it (a) decreases pain, (b) increases hope, (c) enhances connectedness, and/or (d) reduces capability for suicide. These targets are transdiagnostic and hypothesized to be relevant to all at-risk groups. Notably, these treatment targets are implicitly, if not explicitly, addressed by the articles in this special issue. For example, the distress tolerance and emotional regulation skills in DBT can reduce pain; the interpersonal skills in DBT as well as the couples interventions in CCRP (May, 2020) and TR&ST (Khalifian et al., 2020) can enhance connectedness; and the safety interventions by Sears et al.

(2020) and Zullo et al. (2020) can reduce capability for suicide.

In the fight to prevent suicide, knowledge is power. The articles in this special issue do a wonderful job of translating basic knowledge into potentially powerful interventions. This is the kind of work that deserves our support and attention; that deserves resources from our top funding agencies and space in our top journals; and that is most valuable as we seek to reduce suicide and help individuals at risk for suicide build lives worth living.

References

- Azrael, D., & Miller, M. (2020). Access to firearms, homicide, and suicide: Role of the mortality multiplier. *American Journal of Public Health, 110*(10), 1456-1457.
- Belsher, B. E., Smolenski, D. J., Pruitt, L. D., Bush, N. E., Beech, E. H., Workman, D. E., ... Skopp, N. A. (2019). Prediction models for suicide attempts and deaths: a systematic review and simulation. *JAMA Psychiatry, 76*(6), 642-651.
- Butler, A. C., Chapman, J. E., Forman, E. M., & Beck, A. T. (2006). The empirical status of cognitive-behavioral therapy: a review of meta-analyses. *Clinical Psychology Review, 26*(1), 17-31.
- Centers for Disease Control. (2020). *What works: Strategies to reduce or prevent alcohol-impaired driving*. Retrieved 10/29/2020 from https://www.cdc.gov/motorvehiclesafety/impaired_driving/strategies.html.
- Chapman, A., & Hood, P. (2020). Telehealth and suicide risk management. *the Behavior Therapist, 43*, 285-292.
- Christodoulou, E., Ma, J., Collins, G. S., Steyerberg, E. W., Verbakel, J. Y., & Van Calster, B. (2019). A systematic review shows no performance benefit of machine learning over logistic regression for clinical prediction models. *Journal of Clinical Epidemiology, 110*, 12-22.
- DeCou, C. R., Comtois, K. A., & Landes, S. J. (2019). Dialectical behavior therapy is effective for the treatment of suicidal behavior: A meta-analysis. *Behavior Therapy, 50*, 60-72.
- Delgado, M. R., Olsson, A., & Phelps, E. A. (2006). Extending animal models of fear conditioning to humans. *Biological Psychology, 73*(1), 39-48.
- Edge. (2010). *What is your favorite deep, elegant, or beautiful explanation?* Retrieved November 3, 2020 from <http://www.edge.org/annual-question/what-is-your-favorite-deep-elegant-or-beautiful-explanation>
- Fazel, S., & O'Reilly, L. (2020). Machine Learning for Suicide Research—Can It Improve Risk Factor Identification?. *JAMA Psychiatry, 77*(1), 13-14.
- Fox, K. R., Huang, X., Guzmán, E. M., Funsch, K. M., Cha, C. B., Ribeiro, J. D., & Franklin, J. C. (in press). Interventions for suicide and self-injury: A meta-analysis of randomized controlled trials across nearly 50 years of research. *Psychological Bulletin*.
- Franklin, J. C., Ribeiro, J. D., Fox, K. R., Bentley, K. H., Kleiman, E. M., Huang, X., ... Nock, M. K. (2017). Risk factors for suicidal thoughts and behaviors: a meta-analysis of 50 years of research. *Psychological Bulletin, 143*(2), 187.
- Gupta, H. V., Farrell, A. M., & Mittal, M. K. (2014). Transient ischemic attacks: predictability of future ischemic stroke or transient ischemic attack events. *Therapeutics and clinical risk management, 10*, 27.
- Holman, C., Bozzay, M., Barredo, J., Lenger, K., & Primack, J. (2020). Suicide prevention within the veterans administration. *the Behavior Therapist, 43*, 305-309.
- Insurance Information Institute (III). (2020). *Facts + Statistics: Alcohol-impaired driving*. Retrieved 10/29/2020 from <https://www.iii.org/fact-statistic/facts-statistics-alcohol-impaired-driving>.
- Jin, H. M., Khazem, L. R., & Anestis, M. D. (2016). Recent advances in means safety as a suicide prevention strategy. *Current Psychiatry Reports, 18*(10), 96.
- Khalifian, C., Leifker, F., Morland, L., Depp, C., Glynn, S., & Bryan, C. (2020). Treatment for Relationships and Safety Together (TR&ST): A novel couples-based suicide-specific intervention. *the Behavior Therapist, 43*, 318-325.
- Klonsky, E.D. (2020). The role of theory for understanding and preventing suicide (but not predicting it): A commentary on Hjelmeland and Knizek. *Death Studies, 44*, 459-452.
- Klonsky, E.D., & May, A.M. (2015). The Three-Step Theory (3ST): A new theory of suicide rooted in the "Ideation-to-Action" framework. *International Journal of Cognitive Therapy, 8*, 114-129.
- Klonsky, E.D., May, A.M., & Saffer, B.Y. (2016). Suicide, suicide attempts, and suicidal ideation. *Annual Review of Clinical Psychology, 12*, 307-330.
- Klonsky, E.D., Saffer, B.Y., & Bryan, C.J. (2018). Ideation-to-action theories of suicide: A conceptual and empirical update. *Current Opinion in Psychology, 22*, 38-43.
- Linehan, M. M., Comtois, K. A., Murray, A. M., Brown, M. Z., Gallop, R. J., Heard, H. L., ... Lindenboim, N. (2006). Two-year randomized controlled trial and follow-up of dialectical behavior therapy vs therapy by experts for suicidal behaviors and bor-

- derline personality disorder. *Archives of General Psychiatry*, 63(7), 757-766.
- Marks, R., Moreira, N., & Law, K. (2020). The history, ethics and current state of suicide policy in america's correctional system. *the Behavior Therapist*, 43, 335-338c.
- May, A. M. (2020). Are two heads better than one? Including partners in suicide prevention. *the Behavior Therapist*, 43, 310-317.
- May, A.M., Pachkowski, M.C., & Klonsky, E.D. (2020). Motivations for suicide: Converging evidence from clinical and community samples. *Journal of Psychiatric Research*, 123, 171-177.
- McHugh, C. M., & Large, M. M. (2020). Can machine-learning methods really help predict suicide? *Current opinion in psychiatry*, 33(4), 369-374.
- Merwick, Á., Albers, G. W., Amarenco, P., Arsava, E. M., Ay, H., Calvet, D., ... Giles, M. F. (2010). Addition of brain and carotid imaging to the ABCD2 score to identify patients at early risk of stroke after transient ischaemic attack: a multicentre observational study. *The Lancet Neurology*, 9(11), 1060-1069.
- Ribeiro, J. D., Franklin, J. C., Fox, K. R., Bentley, K. H., Kleiman, E. M., Chang, B. P., & Nock, M. K. (2016). Letter to the Editor: Suicide as a complex classification problem: machine learning and related techniques can advance suicide prediction-a reply to Roaldset (2016). *Psychological Medicine*, 46(9), 2009-2010.
- Ribeiro, J. D., Huang, X., Fox, K. R., Walsh, C. G., & Linthicum, K. P. (2019). Predicting imminent suicidal thoughts and non-fatal attempts: The role of complexity. *Clinical Psychological Science*, 7(5), 941-957.
- Sears, M. S., Jackson, L. L., & Gaona, L. (2020). Suicide prevention in dialectical behavior therapy: Integrating firearm lethal means safety counseling into practice. *the Behavior Therapist*, 43, 293-299.
- Tsai, M., Lari, H., Saffy, S., & Klonsky, E. D. (in press). Examining the Three-Step Theory (3ST) of Suicide in a Prospective Study of Adult Psychiatric Inpatients. *Behavior Therapy*.
- United Nations Office on Drugs and Crime (UNODC). (2019). Global Study on Homicide 2019. United Nations Office on Drugs and Crime.
- Ward-Ciesielski, E. F., & Rizvi, S. L. (2020). The potential iatrogenic effects of psychiatric hospitalization for suicidal behavior: A critical review and recommendations for research. *Clinical Psychology: Science and Practice*, e12332.
- World Health Organization (WHO). (2018). World Health Data Platform: Causes of Death. Retrieved 10/19/2020 from www.who.int/data/gho/data/themes/topics/causes-of-death.
- Yarrington, J., LeBeau, R., Ruiz, J., Bornheimer, L., Craske, M., & Himle, J. (2020). Exploring factors related to suicide risk in a unique sample of socially anxious job seekers. *the Behavior Therapist*, 43, 325-334.
- Zareian, B., & Klonsky, E. D. (2020). Connectedness and suicide. In *Alternatives to Suicide* (pp. 135-158). Academic Press.
- Zullo, L., Meza, J., Rolon-Arroyo, B., Vargas, S., Venables, C., Miranda, J., & Asarnow, J. (2020). Enhancing safety: Acute and short-term treatment strategies for youths presenting with suicidality and self-harm. *the Behavior Therapist*, 43, 300-305.
-
- No conflicts of interest or funding to disclose.
- Correspondence to** E. David Klonsky, Ph.D., 2136 West Mall, Department of Psychology, University of British Columbia, Vancouver BC V6T 1Z4 Canada edklonsky@psych.ubc.ca



psychotherapy.net in Partnership with ABCT

Master therapists, CE credits, well-executed videos; these are some of the attributes of the various plans that are offered through Psychotherapy.net, in partnership with ABCT, all at considerable discounts to ABCT members. Several different plans are available.

With a membership, you get ongoing access to hundreds of powerful training videos proven to help you master the art of therapy, and up to 20 free CE credits. To explore quality videos in CBT, visit www.psychotherapy.net/abct; there's even a reminder on the splash page so you won't forget the discount if you subscribe.

- \$100 off Psychotherapy.net video memberships
- Access over 300 training videos featuring master therapists in action
- Up to 20 CE credits included

To see Hayes, Linehan, Barlow, Ellis, Freeman, Reid Wilson, and many others demonstrating clinical skills, go to

Psychotherapy.net/ABCT