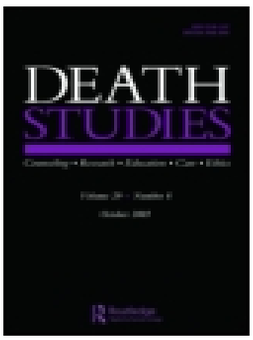

Death Studies

ISSN: 0748-1187 (Print) 1091-7683 (Online) Journal homepage: https://www.tandfonline.com/loi/udst20

The role of theory for understanding and preventing suicide (but not predicting it): A commentary on Hjelmeland and Knizek

E. David Klonsky

To cite this article: E. David Klonsky (2019): The role of theory for understanding and preventing suicide (but not predicting it): A commentary on Hjelmeland and Knizek, Death Studies, DOI: 10.1080/07481187.2019.1594005

To link to this article: https://doi.org/10.1080/07481187.2019.1594005

Published online: 15 Apr 2019.

DEATH STUDIES
https://doi.org/10.1080/07481187.2019.1594005

Routledge
Taylor & Francis Group

The role of theory for understanding and preventing suicide (but not predicting it): A commentary on Hjelmeland and Knizek

E. David Klonsky

Department of Psychology, University of British Columbia, Vancouver, BC, Canada

ABSTRACT

Hjelmeland and Knizek suggest that parsimonious theory is inappropriate for explaining a highly complex and contextual phenomenon like suicide. Similar suggestions have been made by others. In this commentary, I counter that the pursuit of parsimonious theory is at the core of any scientific enterprise, including health sciences and suicide science. Using examples from physics and psychology, I illustrate that parsimonious theories have been essential for understanding highly complex and contextual phenomena like the motion of objects and the behavior of people. I further illustrate that these theories, despite their undeniable validity and enormous utility, have limited value for predicting future real-world events; thus, it is important not to conflate valid theory with a highly accurate prediction of the future. To conclude, I offer suggestions for better evaluating and advancing suicide theory, and I affirm that the pursuit of parsimonious suicide theory is important and worthwhile, and must continue.

The pursuit of parsimonious theories is at the core of scientific inquiry. Health sciences, and suicide science, are no different. I therefore read with interest Hjelmeland and Knizek's (2019) critique of one of these theories: the Interpersonal Theory of Suicide (IPTS; Joiner, 2005). Hjelmeland and Knizek offer numerous specific criticisms of the IPTS (for a cogent rebuttal, see Smith, Schuler, Fadior, Marie, & Basu, 2019). However, I was most struck by their overarching assumption: parsimonious theory is ill-equipped to address a complex phenomenon like suicide.

Hjelmeland and Knizek convey this point repeatedly. Early in their critique, they suggest that a simple theory of suicide based on three factors can be "ignored" or "rejected" prima facie because suicide is a "complex, multifactorial, and contextual phenomenon." In their nine-page article, they critique the IPTS's simplicity at least seven times (e.g., "simplistic," "simple", "reductionist," "only three factors"), in contrast with suicide, which they describe as "complex" seven times. The message is clear: because suicide is complex, parsimonious theory is inappropriate.

Similar tensions have been noted in other recent articles. A JAMA Psychiatry editorial referred to suicide theories as "overly simple," in contrast to suicide risk, which is "complex and dynamic" (Nock, Ramirez, & Rankin, 2019). A recent opinion piece described theories of suicide as "relatively simple," whereas the prediction of suicide requires "the complex combination of hundreds of factors" (Franklin, Huang, Fox, & Ribeiro, 2018).

Is parsimonious theory inappropriate for understanding complex phenomena such as suicide? In what follows I (1) argue that parsimonious theory is ideally suited to help us understand complex phenomena, (2) clarify the relationship between parsimonious theory and the prediction of future events, and (3) offer suggestions for evaluating and advancing theories of suicide.

Parsimonious theory is fully compatible with complex phenomena

My first counterpoint to Hjelmeland and Knizek is that the scientific enterprise is based on the premise that parsimonious theories can help us understand complex phenomena (Brockman, 2013; Einstein, 1934). We need not look hard for examples.

Laws of motion from Isaac Newton and Johannes Kepler are beautiful examples of parsimonious explanations[1] for complex phenomena (NASA, 2009). These laws allow scientists, engineers, and countless others to understand the motion of objects across diverse contexts. At the same time, it is also true that the

CONTACT E. David Klonsky edklonsky@gmail.com Department of Psychology, University of British Columbia, Vancouver, BC, Canada.

specific factors influencing the motion of different objects – such as an apple rolling off a table, leaves blowing in the wind, sand floating in the ocean, and space debris orbiting earth – are highly complex, multifactorial, and contextual. Should laws of motion have been critiqued, ignored, or rejected on the basis that they are simple, yet seek to explain something complex, multifactorial, and contextual? Of course not.

Consider an example more relevant to suicide: human behavior. Human behavior is inherently complex, multifactorial, and contextual. Behavior is impacted by countless physical, psychological, and contextual factors, as well as the interplay of these factors. Nevertheless, behavioral theory consists of a finite set of behavioral principles, such as reinforcement, punishment, and habituation, with enormous value for understanding behavior and behavioral disorders (Martin & Pear, 2014). The pursuit of parsimonious suicide theory is likewise important and worthwhile.

Predicting the future is optional

A common misperception is that a valid theory ensures highly accurate prediction of future events, and that anything less refutes the validity and utility of a theory. For this reason, Hjelmeland and Knizek criticize the IPTS's "predictive value". Prediction is indeed fundamental to supporting or refuting a theory's validity, but critically, this refers to prediction under controlled conditions in which the specified variables can be manipulated and their effects isolated. In contrast, even undeniably strong and useful theories can struggle to predict future real-world events.[2]

Consider again Newton's laws of motion. These laws, such as force = mass x acceleration, can be validated in controlled settings almost perfectly. They have near-universal applicability (though not near the speed of light or at the quantum level), and are relied upon by physicists, astronomers, engineers, and others worldwide. Yet, even these near-perfect laws can have limited predictive abilities in real-world scenarios. For example, despite having both strong theory and sophisticated computing power, NASA struggles to predict the motion of debris that threaten spacecraft; some trajectories can be predicted probabilistically, and others not at all (NASA, 2017).

Likewise, principles of behavioral theory such as reinforcement and punishment have been well-validated in controlled contexts, and applied worldwide with substantial success for clinical intervention (Martin & Pear, 2014). Yet, behaviorists cannot tell us who will develop the next anxiety or depressive disorder. Prediction in complex, real-world contexts is limited because there are thousands of potential reinforcers and punishers all acting at different times and in different ways. In addition, what is reinforcing for one person or in one culture may be punishing for another (Fong, Catagnus, Brodhead, Quigley, & Field, 2016). However, this complexity does not refute the principles that shape behavior. Behavioral principles are valid, and they provide an essential foundation for a variety of effective interventions, despite their limited ability to predict future real-world events.

This relationship between parsimonious theory and prospective prediction is highly relevant for suicidologists. Valid suicide theory can identify meaningful targets for intervention at both the individual and population levels and save lives (e.g., Anestis et al., 2017), even if unable to predict the next suicide. Indeed, parsimonious prevention models have reduced mortality substantially for other hard-to-predict causes of death, such as drunk driving, cancer, and stroke (Anestis et al., 2017; Fell & Voas, 2006; Wolters, Paul, Li, Rothwell, and Oxford Vascular Study, 2015).

Evaluation of suicide theories must improve

While I have argued that parsimonious suicide theory is important, not all theories are good. A good theory must achieve a tricky balance: it must be simple enough to be useful, actionable, and testable, yet broad enough to account for tremendous individual and contextual variation. A good theory also needs good evidence. I agree with Hjelmeland and Knizek and others (Franklin et al., 2018) that improvements are needed in the way theories are evaluated. A full accounting is beyond the scope of this commentary, but I conclude with three suggestions.

First, competing theoretical perspectives should be compared within the same study. For example, if different theories emphasize different causes of or motivations for suicidal desire, studies should specify which variables from these theories more strongly predict or motivate current suicidal desire. Examining competing predictions in careful research designs is essential for theory testing and advancement, even if highly accurate real-world prediction is unobtainable. As an author of the Three-Step Theory of Suicide (3ST; Klonsky & May, 2015), I acknowledge that this enterprise comes with discomfort. I am not eager to be refuted, nor to refute others who are my valued

colleagues. Yet, science demands that we put theories to the test so that the more accurate propositions can be (a) distinguished from less accurate ones and (b) further refined and improved.

Second, to the extent possible, causal predictions of suicide theories should be tested directly. This task is difficult since there are both ethical and practical constraints to manipulating a proposed risk factor to determine its effect on suicidal desire. However, there are ways forward. For example, hypothesized factors such as pain, hopelessness, or disconnection might be remediated in experimental designs, either in laboratory or treatment studies, to determine whether this manipulation reduces suicidal desire. Ecological momentary assessment (e.g., Kleiman et al., 2017), while unable to confirm causality, can examine suicidal thoughts and behaviors at time-scales more consistent with causal propositions compared to typical longitudinal designs (Franklin et al., 2017). Technological advances, such as virtual reality, offer novel opportunities for designs that can infer causality (Franklin et al., 2018).

Finally, when evaluating theories, it is necessary to recognize that the fundamental factors emphasized by theories can manifest in myriad ways across different cases and contexts. For example, Newton's laws of motion specify what happens when a force is exerted on an object, but do not try to catalog all the possible sources of forces or all the contexts in which forces might occur (e.g., falling apple, leaf blowing in the wind, sand in the ocean, debris orbiting earth). Likewise, behavioral theory postulates mechanisms of reinforcement and punishment, but does not seek to catalog all the possible reinforcers (e.g., ice cream, praise, money) and punishments (e.g., physical pain, social exclusion, fear), or the ways in which these vary across people or context or culture. Similarly, the 3ST explains suicide risk in terms of four factors (pain, hopelessness, connectedness, and capability for suicide; Klonsky & May, 2015; Klonsky, Saffer, & Bryan, 2018), and the IPTS in terms of three factors (belongingness, burdensomeness, and capability; Joiner, 2005). However, these theories purposefully do not place constraints on the specific variables that can contribute to these factors. Countless sociocultural, interpersonal, psychological, environmental, and physical variables can influence them. The theories offer a concise framework through which to understand and organize the countless number of suicide risk factors that have been (and will be) identified.

In conclusion, the pursuit of parsimonious suicide theory must continue. We are best served not to rebuke *a priori* the validity and utility of parsimonious theories, but to better understand their potential contributions, and to more rigorously and seriously put them to the test.

Notes

1. For the purposes of this commentary, terms such as theories, laws, principles, and models are used interchangeably as examples of parsimonious explanations. However, these terms have different connotations, and are also used in somewhat different ways across scientific fields – a discussion that is beyond the scope of this commentary.

2. For optimal prediction of future events such as suicide, we are probably best served by sophisticated algorithms (see Walsh, Ribeiro, & Franklin, 2017).

Acknowledgments

I thank Alexis May and Alexis K. Black for their comments on earlier versions of this manuscript.

References

Anestis, M. D., Law, K. C., Jin, H., Houtsma, C., Khazem, L. R., & Assavedo, B. L. (2017). Treating the capability for suicide: A vital and understudied frontier in suicide prevention. *Suicide and Life-Threatening Behavior*, *47*(5), 523–537.

Brockman, J. (2013). *This explains everything: Deep, beautiful, and elegant theories of how the world works*. New York: HarperCollins.

Einstein, A. (1934). On the method of theoretical physics. *Philosophy of Science*, *1*(2), 163–169. doi:10.1086/286316

Fell, J. C., & Voas, R. B. (2006). Mothers against drunk driving (MADD): The first 25 years. *Traffic Injury Prevention*, *7*(3), 195–212.

Fong, E. H., Catagnus, R. M., Brodhead, M. T., Quigley, S., & Field, S. (2016). Developing the cultural awareness skills of behavior analysts. *Behavior Analysis in Practice*, *9*(1), 84–94.

Franklin, J. C., Huang, X., Fox, K. R., & Ribeiro, J. (2018). What suicide interventions should target. *Current Opinion in Psychology*, *22*, 50–53.

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), 187–232.

Hjelmeland, H., & Knizek, B. L. (2019). The emperor's new clothes? A critical look at the interpersonal theory of suicide. *Death Studies*, 1–11. doi:10.1080/07481187.2018.1527796

Joiner, T. E. (2005). *Why people die by suicide*. Cambridge, MA: Harvard University Press.

Kleiman, E. M., Turner, B. J., Fedor, S., Beale, E. E., Huffman, J. C., & Nock, M. K. (2017). Examination of real-time fluctuations in suicidal ideation and its risk factors: Results from two ecological momentary assessment studies. *Journal of Abnormal Psychology*, *126*(6), 726–738. doi:10.1037/abn0000273

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*(2), 114–129.

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.

Martin, G., & Pear, J. (2014). *Behavior modification*. New York: Psychology Press. doi:10.4324/9781315663340

NASA. (2009). *The science: Orbital mechanics*. Retrieved from https://earthobservatory.nasa.gov/features/OrbitsHistory/page2.php.

NASA. (2017). *Space debris and human spacecraft*. Retrieved from https://www.nasa.gov/mission_pages/station/news/orbital_debris.html.

Nock, M. K., Ramirez, F., & Rankin, O. (2019). Advancing our understanding of the who, when, and why of suicide risk. *JAMA Psychiatry*, *76*(1), 11–12.

Smith, P. N., Schuler, K., Fadior, N., Marie, L., & Basu, N. (2019). Socio-ecological context and the Interpersonal Theory of Suicide: A response to Hjelmeland & Knizek. *Death Studies*. doi:10.1080/07481187.2019.1586799

Walsh, C. G., Ribeiro, J. D., & Franklin, J. C. (2017). Predicting risk of suicide attempts over time through machine learning. *Clinical Psychological Science*, *5*(3), 457–469.

Wolters, F. J., Paul, N. L., Li, L., & Rothwell, P. M. & Oxford Vascular Study. (2015). Sustained impact of UK FAST-test public education on response to stroke: A population-based time-series study. *International Journal of Stroke*, *10*(7), 1108–1114.