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Confronting the Repercussions of Suicidality: A Review of Current Approaches for Preventing Suicide



Benjamin Gleason, PhD & Tanner Brooks, MA

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Introduction

Suicide is a critical worldwide phenomenon, with the repercussions of suicidality affecting not only the individual but also survivors, family members, friends, and communities in profound and lasting ways. As such, suicidality presents an imperative public health concern, in which risk and protection factors represent a crucial challenge and key issues for study. Recent research has assessed current protective and predictive models to examine their effectiveness and limitations and has proposed new frameworks for understanding and confronting suicidality.

Evaluating the accuracy of current suicide prediction models and the effects of their implementation, Belsher (2019) found that contemporary models produce accurate overall classification frameworks, but their accuracy at predicting future events is nearly non-existent.

Further analysis of prevention frameworks by Glenn (2018) suggests that the Research Domain Criteria (RDoC) model of suicide research provides a novel and promising approach through advancing new predictors, emphasizing transdiagnostic dimensions, and integrating information. Cramer (2017) advocates for a Social-Ecological Suicide Prevention Model: a promising and flexible framework for future research and program development tailored to population-specific needs.

Research by Large (2018) revealed critical limitations of suicide prediction, concluding that the most promising efforts in global suicide prevention may be found in universal prevention strategies rather than traditional approaches. Outcomes of research by Costanza (2020) reinforce the effectiveness of Meaning in Life as a protective factor against suicidality, involving key elements such as family, social support, and interpersonal connectedness.

Taliaferro (2019) identified influences such as mental health problems, depression, being the victim of teasing because of one's gender expression, and physical or sexual abuse as factors that differentiate transgender/gender non-conforming adolescents at various levels of suicidality, with parental connectedness and school safety as leading factors mitigating suicide risk.

Part 1: Overview

Article 1: Prediction Models for Suicide Attempts and Deaths: A Systematic Review and Simulation

Summary

To evaluate the accuracy of suicide prediction models in forecasting suicide and suicide attempts and simulate the effects of implementing suicide prediction models which use population-level estimates of suicide rates, researchers reviewed current studies aimed at identifying individuals at high risk for suicide attempt or completion.

Findings indicate that suicide prediction models utilizing statistical modeling and predictive algorithms produce accurate overall classification models, **but “their accuracy of predicting a future event is near zero” (p. 642).**

Critical concerns remain unaddressed, and “use of these models would result in **high false-positive rates** and considerable false-negative rates if implemented in isolation,” precluding their readiness for clinical application across health systems (p. 643). To date, “the performance of suicide prediction models suggests that they offer **limited practical utility in predicting suicide mortality**” (p. 642-650).

Reference

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.

Part II: Current Frameworks for Suicide Prevention

Article 2: Understanding Suicide Risk Within the Research Domain Criteria (RDoC) Framework: A Meta-Analytical Review

Summary

Pivoting away from a narrow focus on mental disorders as the primary explanatory and predictive variable of interest in suicide prevention, **the National Institute of Mental Health’s Research Domain Criteria (RDoC) provides a promising approach to suicide research.** Using the RDoC as a novel lens to conceptualize prospective predictors for suicidal thoughts and behaviors, researchers reviewed prospective risk factors within RDoC predictive domains to investigate the RDoC as a framework for advancing research on suicidal behavior. (p. 1-3)

The study yielded several key findings. First, the vast majority of existing research has focused on psychiatric risk factors that do not fit within the transdiagnostic, dimensional RDoC matrix, with only a fraction of predictors relating to RDoC domains. Research that *could* be linked to RDoC fell within the negative valence domain (e.g., hopelessness, rumination) rather than the positive valence domain (e.g., reward learning). Additionally, several promising domains have been the focus of only a small amount of research. The arousal and regulatory domain, for example, (e.g., insomnia, nightmares) was related to all suicide outcomes but had the least publication bias (p. 4-6).

Furthermore, **few RDoC-related protective factors have been examined and “none have been significantly related to suicide attempts or deaths” (p. 8)**. Lastly, the review found that the effect size for any single predictor/domain was relatively small, particularly after accounting for publication bias, highlighting “the need for research to identify novel risk factors for suicide, as well as empirically informed ways to combine factors to improve risk prediction.” (p. 7-8).

Overall, the study found that the RDoC framework “provides a novel and promising approach to suicide research and conceptualizing risk and protective factors for suicide” (p. 8). Despite significant predictive associations with suicide outcomes observed across nearly all RDoC domains, many of the constructs within those domains have never been examined as potential risk factors. **Future research should examine these novel risk factors suggested by the RDoC approach, and “go beyond the ‘usual suspects’ of suicide risk factors (e.g., mental disorders, sociodemographics) to make discoveries about the factors that lead people to suicidal behavior” (p. 8-9)**.

Reference

Glenn, C. R., Kleiman, E. M., Cha, C. B., Deming, C. A., Franklin, J. C., & Nock, M. K. (2018). Understanding suicide risk within the Research Domain Criteria (RDoC) framework: A meta-analytic review. *Depression and Anxiety, 35*(1), 65-88.

Article 3: A Social-Ecological Framework of Theory, Assessment and Prevention of Suicide

Summary

Integrating and analyzing suicide risk/protective factors, assessment, and intervention/prevention literature, researchers advocate a Social-Ecological Suicide Prevention Model (SESPM) to catalyze new approaches to increasing suicide rates. Merging general and population-level risk and protective factors, **the SESPM organizes and addresses risk and**

protective factors at the societal, community, relational, and individual levels to inform and enhance corresponding prevention strategies (p. 1-2).

As a multi-level model, the SESPM shows significant capability to move suicide risk assessment forward and overcome current limitations in the field in three main ways. First, as the current literature tends to be fragmented by individual SESPM level, the broader SESPM approach “provides a potential comprehensive framework for organizing risk and protective factor knowledge,” applying a working template for adding new factors and examining mutually moderating influences between different levels (p. 2). Through this strengthened organization of factors, the SESPM can also provide grounding for multi-level intervention and prevention program design and implementation. Finally, as current theories of suicide consistently fail to fully integrate multi-level perspectives, **the SESPM’s multi-tier approach “can provide a framework for the re-organization of current theories of suicide,” spurring efficacy and growth in theory and practice (p. 2-5).**

Study outcomes suggest that **SESPM-based research is needed to inform best practices for prevention programming via multi-level efforts that address general practitioner education concerning depression and suicide, increase access to care for high-risk groups, and emphasize restricting access to lethal means.** An ideal multi-level approach would involve characteristics such as: incorporating risk and protective factors with the strongest empirical support relative to the population; the use of prevention strategies at each SESPM level; grounding in relevant theory to inform mechanisms of change, and; the presence of prevention efforts using at least primary and secondary prevention techniques (p. 6-8).

Despite limitations, including the time, labor, and resources necessary for education and training efforts, the SESPM offers an advantageous backdrop for tailoring current prevention programs to population-specific needs. As a promising and flexible framework for additional research and program development, it represents **“a valuable step in moving from a hyper-focus on individual-level suicide prediction toward a comprehensive, multi-level perspective on suicide prevention”** (p. 8-9).

Reference

Cramer, R. J., & Kapusta, N. D. (2017). A social-ecological framework of theory, assessment, and prevention of suicide. *Frontiers in Psychology, 8*, 1756.

[Part III: A Closer Look at Innovative Methods](#)

[Article 4: The Role of Prediction in Suicide Prevention](#)

Summary

Examining opportunities for prevention through suicide predictions based on international suicide rates, mental disorders, mental health care settings, and demographic factors, this assessment of preventative interventions at the population, higher-risk group, and individual levels reveals critical limitations of suicide prediction. (p. 197-199)

At the international level, evidence suggests that applying universal prevention methods—such as reducing unemployment and increasing opportunities for mental health treatment—results in lowered suicide rates, and “may hold the best hope for global suicide prevention” (p. 199). An important measure to reduce suicide within nations involves lowering the stigma of mental disorders in higher-risk groups and increasing access to appropriate health care as a universal, rather than selective, strategy (p. 199-200).

Additionally, despite the strong association between mental disorders and suicide, and indications that psychiatric inpatients may benefit from selective suicide prevention measures, **“the view that suicide can be prevented simply by the treatment of mental disorder is both overly simplistic and overly optimistic”** (p. 200).

Furthermore, recent meta-analyses of suicide risk assessment and classifying high-, medium-, and low-risk groups found that no risk factor was so strongly associated with suicide as to be clinically useful, **indicating that “while risk assessments do provide some information about future suicide, the information is limited and a very limited set of selective suicide-prevention interventions might be rationally used on the basis of a higher-risk categorization”** (p. 201-202).

At the individual level, risk factors possessed by classes of people alone cannot lead to certainty about suicide. Predictions about suicide can only reach a high level of certainty if specific, proximal, and individually unique factors are stressed using contemporaneous judgment that de-emphasizes traditional risk factors and involves as little forecasting as possible (p. 202).

On the whole, **“the limitations of suicide prediction appear to be profound,” and the best prospects for global suicide prevention lie in universal prevention strategies,** not traditional notions of prediction or risk assessment. Suicide risk categorization results in unacceptably high false positive rates, and risk assessment has a very low positive suicide predictive value. Clinicians “should focus on improving the interaction with the patient to maximize the therapeutic alliance” (p. 202-203).

Reference

Large, M. M. (2018). The role of prediction in suicide prevention. *Dialogues in Clinical Neuroscience*, 20(3), 197-205.

Article 5: Suicide Prevention from A Public Health Perspective. What Makes Life Meaningful? The Opinion of Some Suicidal Patients

Summary

In his book, *Man's Search for Meaning*, Viktor Frankl identified "Meaning in Life" (MiL) as a crucial resource in individuals presenting the best chance to survive hardship through the "will to meaning." Building on Frankl's observations that MiL can be a protective against suicidality, researchers interviewed a cohort of suicidal patients attending a hospital psychiatric emergency department to investigate the main themes that suicidal patients identified as MiL carriers in their existences (p. 128, 129).

Participants' interviews revealed that interpersonal and affective relationships were the main themes that give or could give MiL to suicidal patients, (72%) with responses particularly emphasizing family (40%) and children and grandchildren (37%). The second most important theme identified was profession and education, (18%) with responses stressing the desire for profit/providing solvability, dignity/consistent employment, self-realization, and social image (p. 130-131).

The third main thematic area associated with MiL was related to intellectual pleasures, involving the search for harmony and beauty, expressions of creativity and artistic pursuits (9%). Non-intellectual pleasures such as sports, recreation, and travel were present in a limited number of cases (4%). Lastly, a transcendental dimension, i.e. spirituality and religion, was found as the the main theme in 7% of answers. Only partial or uncertain MiL was described in 1% of patients, and no themes related to MiL identified in 3% of patients (p. 131-132).

Study outcomes confirm that "family, social support, and interpersonal connectedness are strong parameters favoring MiL in suicidal patients," and authentic relationships, creativity, and everyday human activities are relevant resources. Results are consistent with Frankl's observations of MiL as a protective factor against suicide, specifically his three factors related to human possibilities: creativity as addressing personal realization; perception and the search for beauty with an emphasis on a sense of authenticity; and an individual's effort to self-determine their inner attitude. (p. 131) (p. 130, 131)

Protective aspects identified in the study could "be considered among a public health agenda's points for suicide prevention programs taking into account also protective factors/support, including a community's mental health resources" (p. 128-133).

Reference

Costanza, A., Amerio, A., Odone, A., Baertschi, M., Richard-Lepouriel, H., Weber, K., ... & Canuto, A. (2020). Suicide prevention from a public health perspective. What makes life

meaningful? The opinion of some suicidal patients. *Acta Bio Medica: Atenei Parmensis*, 91(Suppl 3), 128.

Article 6: Risk and Protective Factors for Self-Harm in a Population-Based Sample of Transgender Youth

Summary

Analyzing data from a 2016 Minnesota Study Survey, researchers sought to identify factors distinguishing transgender/gender non-conforming (GNC) adolescents across three groups: no self-harm, non-suicidal self-injury (NSSI) only, and NSSI and suicide attempt (SA). The study specifically investigated what factors distinguish transgender/GNC adolescents who engage in self-harm from those who report no self-harm behavior and differentiate transgender/GNC adolescents who report current NSSI and a suicide attempt from those who report NSSI, but no history of a suicide attempt (p. 1-3).

Overall, 34% of transgender/GNC students reported NSSI only and 18% reported NSSI+SA during the previous year. Factors that differentiated students who reported NSSI only from those who reported no self-harm included mental health problems, depression, being the victim of teasing because of one's gender expression, running away from home, and alcohol use. Variables that distinguished the NSSI+SA group from peers who reported no self-harm uniquely included physical or sexual abuse, relationship violence, bullying victimization, lower-levels of connectedness to non-parental adults, and marijuana use (p. 4-6).

Main factors related to increased risk for SA among transgender/GNC students who self-injure only included mental health problems, physical or sexual abuse, bullying victimization, lower grades, and running away from home. **Parental connectedness and school safety emerged as the two leading factors differentiating the two groups.** Schools can utilize these findings to support bullying prevention policies that specifically involve teasing other students about their gender expression, and "must ensure transgender/GNC youth feel safe and protected at school, which likely involves creating inclusive and accepting environments." (p. 9) (p. 7-9)

Given that clinicians and school personnel are well-positioned to address factors that increase risk of self-harm behavior, they "should enhance protective factors that may reduce the likelihood transgender/GNC youth will engage in NSSI and/or attempt suicide such as facilitating connections to prosocial adults within and outside one's family, implementing policies and practices that ensure students feel safe at school, and encouraging academic excellence" (p. 10) (p. 9, 10).

Reference

Taliaferro, L. A., McMorris, B. J., Rider, G. N., & Eisenberg, M. E. (2019). Risk and protective factors for self-harm in a population-based sample of transgender youth. *Archives of Suicide Research, 23*(2), 203-221.

Conclusion

This report examined the dangers of suicide, and its lasting impact on individuals, communities, and societies, with special attention to the development of new frameworks to examine and predict suicidal thought and behavior.

Belshar, et al reviewed current literature on suicide prevention, specifically pertaining to the threat on US military members, finding little success with current models of suicide prediction. In fact, this review suggested that harm could come from current models, as they may lead to false positives (i.e., indicate a threat of suicide when one does not exist, thereby raising red flags to superiors in a military chain of command).

In seeking to move beyond only looking at mental disorders as the primary explanatory factor for suicide risk, Glenn and colleagues (2018) created another framework that indicates suicidal thoughts and behaviors. It was found that this framework, RDOC, “provides a novel and promising approach to suicide research and conceptualizing risk and protective factors for suicide” (p. 8).

Cramer and Kapusta (2017) created a multi-level framework that merges individual and population level risk and protective factors, and that recognize societal and community influence on individual behavior. For example, their multi-level model argues for more education, increased care for high-risk groups, and restricting access to lethal means.

Large (2018) examined suicide prevention rates, finding that universal methods, such as reducing unemployment and offering opportunities for mental health treatment, results in lowered suicide rates. The author also found that no risk factor was strongly associated with suicide, thus suggesting that suicide risk assessments may provide “very limited” usefulness.

Costanza et al (2020) looked at the concept of “meaning in life” developed by author, and Holocaust survivor, Viktor Frankl, finding that having this “meaning” is a valuable resource to provide protection against hardship. Interviews with suicidal patients found that interpersonal and affective relationships were the main themes that give or could give MiL to suicidal patients, (72%) with responses particularly emphasizing family (40%) and children and grandchildren (37%).

Taliaferro and colleagues (2019) investigated risk and protective factors for self-harm among transgender youth, finding that 34% of transgender youth reported self-harm and over half reported self-harm and suicide attempt. Among those who self-harm and those who attempt suicide, the research found that parental connectedness and school safety emerged as the two leading factors differentiating the two groups.

Author Information

Benjamin Gleason, PhD is the Director of Applied Research for the Prospectus Group. He earned a PhD in Educational Psychology & Educational Technology from Michigan State University, researching how to best support communities of learners through educational technology. He is now Assistant Professor of Educational Technology at Iowa State University. Before academia, Benjamin worked in youth and adult-serving learning spaces for almost fifteen years, from designing youth-initiated community service projects and teaching high school in Richmond, California, to working as a university instructor in Guatemala. Benjamin is also a founder of the Prospectus Group.

Tanner Brooks earned his BA in Political Science from Oberlin College and an MA (Distinction) International Studies and Diplomacy from the University of London School of Oriental and African Studies, where his thesis focused on examining the application of international human rights norms to the experience of child soldiers in Sierra Leone. He has a decade of experience in national and international activism, advocacy, and education, from working on political campaigns, nonprofits, and political action committees to writing and teaching politics and sociology as a professor in Tunisia. His recent work involves mentoring and tutoring teenage survivors of sex trafficking and providing counseling services at a suicide prevention call-line.