Social Science & Medicine 215 (2018) 69–79

Contents lists available at ScienceDirect

Social Science & Medicine

journal homepage: www.elsevier.com/locate/socscimed

Adolescents in crisis: A geographic exploration of help-seeking behavior using data from Crisis Text Line

Laura K. Thompson[a,*], Margaret M. Sugg[a], Jennifer R. Runkle[b]

[a] Department of Geography and Planning, Appalachian State University, P.O. Box 32066, Boone, NC, 28608, United States
[b] North Carolina Institute for Climate Studies, North Carolina State University, 151 Patton Avenue, Asheville, NC, 28801, United States

ARTICLE INFO

Keywords:
Adolescent
Mental health
Help-seeking
Crisis hotline
United States
Depression
Suicide

ABSTRACT

Nearly 3 out of 4 all lifelong mental disorders occur by the age of twenty-four. Remote crisis support holds great potential in filling a critical gap in complementing and expanding access to mental health services for acute episodes of mental distress in adolescents and young adults; yet little is understood about the individual factors that influence help-seeking behavior in this group. Recent evidence suggests technology-based mental health services have high acceptability among youth and may be used to treat anxiety and depression. The objective of this study was to examine county-level help-seeking behavior among adolescents and young adults using Crisis Text Line (CTL). CTL is a free, text-based crisis counseling service that has been available nationally since 2013. Spatial error regression was used to (1) identify the individual-level factors that correlate with help-seeking behavior for depression, anxiety, and suicidal thoughts and (2) to explore the geographic trends in text-based help-seeking behavior between adolescents and young adults across the rural-urban continuum. Increased rates of text-based help-seeking occurred in counties with higher mean household incomes, higher divorce rates, and lower residential stability. Rurality was the strongest predictor for low rates of help-seeking, and this finding is particularly concerning in light of elevated rates of suicide among rural counties. Rural communities, particularly those with low support-seeking behavior and comparatively high suicide rates, should be the target of future research and outreach.

1. Introduction

Mental health disorders, most notably depression and anxiety, affect 10–20 percent of children and adolescents globally (Keiling et al., 2011). Adolescents and young adults are particularly vulnerable to mental distress, with risk factors including genetic susceptibility or predisposition, the mental health of caregivers, childhood-onset chronic illness, and exposure to harmful environmental pollutants, trauma and abuse (Keiling et al., 2011; Secinti et al., 2017; Rauh and Margolis, 2016). The initial symptoms of mental disorders typically emerge in late childhood and early adolescence; whereby approximately one-half of mental health disorders begin by the age of fourteen, and three-quarters begin by the age of twenty-four (Kessler et al., 2005). Research has shown that less than half of adolescents with a mental disorder receive any type of treatment (Costello et al., 2014), and these rates are lower for populations with a history of being underserved, including those with lower socioeconomic status, racial and ethnic minorities, and individuals living in rural areas (Wang et al., 2005). Mental disorders during the early years are an important and under addressed public health problem, especially because these disorders are strongly associated with other health and developmental consequences including lower educational achievement, substance abuse, violence, and diminished reproductive and sexual health (Keiling et al., 2011).

Mental disorders in adolescents are also associated with increased risk of adult mental disorders and emerging evidence suggests that adolescence is an important time for mental health interventions to reduce both immediate and long-term impairments later in life (Fryers and Brugha, 2013; Pine and Fox, 2015; Olfson et al., 2015). Recent evidence suggests mixed results concerning the efficacy of mental health interventions in adolescent populations including school-based interventions, community-based interventions, digital platforms, and individual-/family-based interventions pointing to a lack of standardized interventions and outcomes across studies (Das et al., 2016). However, there is a growing body of evidence that suggests digital platforms or technology-based prevention and treatment programs are feasible and have high acceptability among youth and may have a moderate effect in treating anxiety and depression in young people, but more research is needed to understand the individual-factors associated with enhanced effectiveness (Kauer et al., 2014; Martin et al., 2011; and Farrer et al., 2013). Few studies have reported the differential effects of such interventions separately for gender, age, socioeconomic status, and geographic settings to provide further insight on the effectiveness of

* Corresponding author.
E-mail addresses: kovachmm@appstate.edu (L.K. Thompson), kovachmm@appstate.edu (M.M. Sugg), jrrunkle@ncsu.edu (J.R. Runkle).

https://doi.org/10.1016/j.socscimed.2018.08.025
Received 4 May 2018; Received in revised form 22 July 2018; Accepted 22 August 2018
Available online 26 August 2018
0277-9536/ Published by Elsevier Ltd.

technology-based interventions and inform the development of targeted strategies for various subgroups.

Traditionally, phone-based crisis hotlines have been used as a cost-effective service to de-escalate individuals in acute periods of crisis and direct them to additional mental health resources (Mishara and Daigle, 2000). The use of crisis hotlines has been associated with significant reductions in crisis severity, feelings of hopelessness, as well suicide attempts (Kalafat et al., 2007; Gould et al., 2007). Research on survivors of suicide attempts has shown that most suicide attempts are made within 10 min of initial suicidal ideation (Deisenhammer et al., 2009). Crisis hotlines provide a unique and critical service that is available continuously, anonymously, and at no cost. Yet adolescents and young adults have reported a preference for text-based communication over traditional call-based hotlines (Evans et al., 2013), suggesting text-based crisis lines may improve help-seeking behavior by providing a confidential, convenient, safe, and cost-effective method for vulnerable young adult populations to reach out for help during a crisis. Text-based communication platforms have significant potential to emerge as a cost-effective safety net to improve access to and complement mental health services during acute periods, but more research is needed to understand the factors that influence help-seeking behavior in this age group.

1.1. Text-based crisis service and adolescent help-seeking

Crisis Text Line (CTL) was established in response to the growing popularity of text-message based communication among adolescents and the growing demand for improved access to critical mental health services in this underserved population. This free crisis counseling service is widely available across the U.S., and volunteer counselors have engaged in over 800,000 conversations since its inception in August 2013. Detailed records of each CTL conversation provide novel insight into adolescent and young adult help-seeking behavior concerning a wide assortment of commonly faced challenges including anxiety, bullying, depression, family and school-related problems, and suicidal thoughts. CTL, search engines, and other technology platforms passively collect anonymous data that can provide valuable insight into the temporal and geographic variation of help-seeking behaviors and crisis mental health service support needs and demand in young adults to inform more targeted public health strategies.

Recent developments in online and text-based resources have expanded remote-access counseling and mental health services. Little research has examined the use of hotlines among adolescents, likely because adolescents rarely used traditional call-based hotlines (Gould et al., 2006). However, because adolescents today predominantly communicate via text message (Lenhart et al., 2010), text or chat-based hotlines may provide a much-needed resource for depressive or suicidal adolescents. A pilot study of a text-based hotline conducted in 13 schools observed increased rates of help-seeking among adolescents (Evans et al., 2013).

Telephone and other remote counseling services offer several benefits to users, the most obvious being the accessibility of these services and the immediacy with which individuals can receive counseling. Users also have more control over when they receive help, can end the session at any time, and are able to remain anonymous. This increased sense of control and privacy can make the difference in whether an individual will seek help during a crisis, particularly for individuals who feel stigmatized (Lester and Rogers, 2012). As a result, new platforms for remote crisis counseling may encourage help-seeking among adolescent and young adult populations that have been traditionally less likely to receive support for mental distress (Evans et al., 2013; Haner and Pepler, 2016). More research is needed to characterize the individual-level factors that motivate help-seeking behaviors in this age group.

These new crisis services also provide an unprecedented means to continuously collect high resolution mental health data nationally for adolescents and young adults that may be used to monitor and detect trends in mental distress and suicidal ideation in near real-time (Sueki, 2011; Yang et al., 2011; Ayers et al., 2013, 2016; Jashinsky et al., 2014). For example, in a state-level analysis Gunn and Lester identified positive associations between internet searches for suicide-related terms and a state's suicide rate (2013).

1.2. Contextual factors that influence help-seeking behavior in teens and young adults

Prior research has demonstrated that a variety of demographic, socioeconomic, and environmental factors can influence both the prevalence and treatment rates of mental disorders among adolescents (Barkan et al., 2013; Reiss, 2013; Fontanella et al., 2015; VanderWielen et al., 2015; Center for Behavioral Health Statistics and Quality, 2016; Nestor et al., 2016). Lower socioeconomic status has been linked to increased occurrence of mental health issues among adolescents (Reiss, 2013), and reduces the likelihood of receiving any form of mental health treatment (Center for Behavioral Health Statistics and Quality, 2016). Further, youth with less educated parents experienced increased severity and persistence of Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) disorders (Mclaughlin et al., 2011; Kessler et al., 2012).

Mental health outcomes related to race and ethnicity in the U.S. have strong ties to socioeconomic status (Alegria et al., 2015), and prevalence among minority groups varies across the lifespan, with lower prevalence rates measured in adolescence (Merikangas et al., 2010), and higher rates in adulthood (Breslau et al., 2014; Williams and Earl, 2007). Mental health services are less available in neighborhoods with higher racial and ethnic minority populations, making it more challenging for minority populations to receive treatment (VanderWielen et al., 2015). In one study, racial and ethnic minority adolescents in the U.S. were less likely to ask for help for depression (Sen, 2004). Stigma and mental health education may also play a role in racial and ethnic disparities in treatment for mental health and suicidal ideation (Batterham et al., 2013).

1.3. Geographic variation in youth mental disorders

Research examining mental health outcomes across the rural-urban continuum is contradictory. Peen et al. found the prevalence of depression and anxiety higher in urban areas, although association was small in comparison to other risk factors, such as marital status (2010). Other studies have found slightly elevated rates of depression among rural adults (Probst et al., 2006) and no differences in depression prevalence across the rural-urban continuum in either adolescents or adults (Breslau et al., 2014). In contrast, elevated risk for suicide among rural populations in the U.S. is well-established. Suicide rates in the most rural locations are nearly double those found in the most urban locations, and this gap is widening and found among adolescents (Fontanella et al., 2015). Several possible explanations for this have been proposed, including a lack of mental health services in rural locations, cultural factors (e.g., stigma), social isolation, access to lethal means, and socioeconomic factors (Fontanella et al., 2015).

Geographic variation in environmental conditions has also been explored as a possible contributor to variations in mental health outcomes. Certain mental health disorders are known to be impacted by seasonality such as winter Seasonal Affective Disorder (SAD). Prevalence of SAD has been associated with northern latitudes (Magnusson, 2005) and reduced exposure to light in the winter (Nillni et al., 2009), though little work has been done to explore the prevalence of SAD among adolescents (Nillni et al., 2009). In a national survey, no significant differences in prevalence of SAD were observed across latitudes, but parents of adolescents ages sixteen to eighteen reported exacerbated symptoms of depression during winter months (Nillni et al., 2009). The seasonality of mental health issues is further supported by a recent study that identified significant seasonal trends in Google searches for all mental health issues combined in the U.S. and Australia (Ayers et al., 2013).

1.4. Objectives

Depression and anxiety disorders are the most common DSM-IV disorders reported by adolescents in the U.S. (Kessler et al., 2012), and