2017

Early identification of individuals at risk for psychosis: recommendations for colleges and universities

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EARLY IDENTIFICATION OF INDIVIDUALS AT RISK FOR PSYCHOSIS: RECOMMENDATIONS FOR COLLEGES AND UNIVERSITIES

A clinical dissertation submitted in partial satisfaction

of the requirements for the degree of

Doctor of Psychology

by

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August, 2017

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This clinical dissertation, written by

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DOCTOR OF PSYCHOLOGY

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ACKNOWLEDGMENTS

I would like to express the deepest appreciation to my committee chair, Dr. Dennis Lowe, who has continually gone above and beyond to provide support and advisement when needed. Without his guidance and persistent help, this dissertation would not have been possible.

I would also like to thank my committee members, Drs. Stephanie Woo, Nivla Y. Fitzpatrick, and Nicole Moshfegh, whose willingness to offer specialized feedback enhanced the applicability of this dissertation to a real-world setting. Further, the support and encouragement of these individuals is truly cherished.

VITA

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- Bilingual, with fluency in English (native-speaker) and Spanish.
- Experience providing psychotherapy, conducting thorough clinical interviews, and performing psychological evaluations in Spanish.

Clinical Experience

Ventura Youth Correctional Facility; Camarillo, CA
Psychological Extern, August 2016 – July 2017
Supervised by James Morrison, Ph.D.

- Provide brief and long-term cognitive-behavioral therapy to adolescent and adult males between the ages of 14 and 24 in a correctional setting.
- Conduct group psychotherapy pertaining to substance abuse, impact of crime on victim, and community re-entry planning.
- Conduct psychological evaluations that include a comprehensive clinical interview, mental status exam, and psychological testing.

Kedren Community Health Center, Incorporated; Los Angeles, CA
Psychological Extern, September 2015 – August 2016
Supervised by Berta Ortiz, Ph.D.

- Conduct psychological evaluations that include a comprehensive clinical interview, mental status exam, and psychological testing, in the acute psychiatric adult unit. Testing batteries include objective and projective cognitive, neuropsychological, personality, and psychodiagnostic measures.
- Conduct clinical interviews, mental status exams, and psychological assessments in English and Spanish.
- Provide concise yet informative feedback regarding psychological testing results to the referral source, multidisciplinary team, and patient.
- Assist in the facilitation of group psychotherapy pertaining to various topics (e.g., psychoeducation regarding psychotropic medication, exercise, coping skills, leisure) in English and Spanish.

Pepperdine University Community Counseling Center; Irvine, CA
Therapist, September 2014 – Present
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- Provide brief and long-term individual psychotherapy in English and Spanish to outpatient adults coping with a wide range of clinical issues (e.g., depression, anxiety, personality disorders, substance abuse, suicidal ideation) in a community mental health setting.
- Collaboratively establish therapeutic goals with clients, devise treatment plans, and regularly assess client progress over time.
- Practice a variety of modalities and interventions based on client need, including cognitive-behavioral and psychodynamic techniques.

Behavioral Education for Children with Autism (BECA); Torrance, CA
Field Trainer, June 2010 – August 2014

- Provide applied behavioral analytic interventions to individuals with autism (12 months to 21 years in age) in a 1:1 setting. Utilize strategies such as schedules or reinforcement, contingency contracts, and token economies.
- Certified by the Crisis Prevention Institute (CPI) to safely manage disruptive and assaultive behavior.
- Review data in order to present client progress at bi-monthly meetings; devise and implement new interventions in collaboration with behavior analysts; work closely with families and superiors to ensure quality intervention services.

Teaching and Consultation

Pepperdine University; Malibu, CA
Peer Supervisor/Consultant, September 2016 – Present

- Selected to function as a peer supervisor/consultant to incoming first-year students.
- Meet one hour per week with peer supervisees in order to review videotaped psychotherapeutic sessions. Provide constructive feedback regarding therapeutic skills and implementation of clinical techniques grounded in multiple theoretical orientations.
- Provide initial constructive feedback on written intake evaluations, diagnostic conceptualization, and treatment planning.

Pepperdine University; Malibu, CA
Assessment Teaching Assistantship, September 2015 – Present

- Correct masters- and doctoral-level student scoring of objective and projective cognitive, neuropsychological, personality, and psychodiagnostic measures.
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Research

UCLA Youth Emotion Project; Los Angeles, CA
Research Assistant, September 2009 – June 2010

- Examine various risk factors for emotional disorders during the transition from late adolescence to early adulthood. Specifically, investigating whether neuroticism is a nonspecific risk factor for most, if not all, anxiety and mood disorders, whether specific risk factors have unique predictive validity above and beyond neuroticism, and whether there are diathesis-stress interactions.
- Duties include data entry, scheduling participants for phone and in-person interviews, and preparing Structured Clinical Interviews for DSM Disorders (SCIDs) for said interviews.

ABSTRACT

Psychotic disorders can instill a tremendous amount of distress on affected individuals (Srihari et al., 2014). Research has established that decreasing the duration of untreated psychosis can yield moderate improvements in the ultimate outcome of persons with schizophrenia-spectrum disorders (Gonçalves, de Rosalmeida Dantas, & Banzato, 2016; Reading & Birchwood, 2005). There exists a plethora of research directed at early identification of individuals at risk for psychosis within community-based settings (e.g., Johannessen et al., 2001; Power et al., 2007; Srihari et al., 2014). However, there have been limited efforts to generalize such endeavors to a college environment in the United States, despite the significant overlap between the typical age of onset for schizophrenia-spectrum disorders and the college student population. In order to address this issue, a comprehensive review of the literature pertaining to community-based early identification efforts was conducted. This review then informed the development of recommendations for higher education institutions to engage in early identification of psychosis within their student body. These recommendations are provided in a synthesized format for ease of distribution to colleges and universities.

Chapter 1: Introduction

Overview and Rationale

This dissertation project describes previous efforts to identify individuals at risk for psychosis and then suggests ways to apply these endeavors to a college population. While research has produced a plethora of means for early identification of psychosis (e.g., Addington et al., 2007; Joa et al., 2015; Srihari et al., 2014), very few of these efforts have been adapted to a college or university setting. A review of these prior attempts served as the foundation for the recommended applications to a university environment. It is hoped that the recommendations that emerged in this project will allow for the earliest possible identification of psychosis in college students. Early identification enhances the probability of a better prognosis and, potentially, for an evasion or reduction in psychotic symptoms and their consequences.

It is well known that psychotic disorders serve as a source of grave distress (Srihari et al., 2014), as their symptoms affect thinking, feeling, movement, and behavior (Miller & Mason, 2011). The experience of sub-threshold psychotic symptoms (e.g., perceptual illusions, superstitious beliefs) can prove to be extremely upsetting as well (Denenny, Thompson, Pitts, Dixon, & Schiffman, 2015). This is of concern because psychotic symptoms may be experienced by the general population at greater rates than previously thought. Studies have shown that a sizeable portion of the general public endorse a psychotic experience at one point or another without meeting criteria for the diagnosis of a psychotic disorder (Hanssen, Bijl, Vollebergh, & van Os, 2003; Kendler, Gallagher, Abelson, & Kessler, 1996). This is consistent with research that examined non-clinical samples which found that self-reported rates of schizotypy or psychosis-proneness that are far greater than estimated prevalence rates of schizophrenia-spectrum disorders (SSDs; Raine, 1991). Loewy, Johnson, and Cannon (2007) extended this

research to a college population and found similar results. Forty-three percent of the sample affirmed eight or more positive symptoms within the past month on the Prodromal Questionnaire, while 25% endorsed eight or more items within the past month at the frequency required for prodromal syndrome diagnosis by interview (Loewy et al., 2007). These positive symptoms involve the presence of sensations, beliefs, and behaviors that are not typical of human experience (e.g., delusions, hallucinations). In contrast, negative symptoms represent the absence of important interests or abilities (e.g., the inability to enjoy activities as much as before, low motivation; Miller & Mason, 2011) that are typical of human experience.

These early prodromal symptoms may represent the beginning phase of an SSD (Müller, et al., 2010). However, it is important to note that the experience of a psychotic symptom does not always result in an SSD or the severe distress and decrease in functioning that is characteristic of an SSD. This may partly explain the disparity between the high number of psychotic experiences reported by the general population and the low period prevalence of SSDs (i.e., 3.5/1,000 between 1996 and 2006; Sutterland et al., 2013). Nevertheless, for the minority of individuals that do go on to meet criteria for an SSD, the experience can lead to devastating effects (Cadenhead et al., 2010). Importantly, the signs of impending first-episode psychosis (FEP) are often unrecognized until it is too late. Thus, the opportunity for early intervention and improved prognosis is squandered.

The Impact of Psychosis on the Individual

Individuals with an SSD encounter increased difficulties across life experiences. For instance, Sung and Puskar (2006) identified six broad categories of challenges faced by adolescents and young people with psychotic disorders. These categories include challenges involved with: (a) family interactions (e.g., a lack of verbal interaction, familial conflict, a lack

of support from the family), (b) interactions with friends (e.g., loneliness in interactions with friends, impediment in making friends, withdrawal from friends), (c) school life (e.g., concentrating on one's studies, understanding lectures, taking tests), (d) managing everyday life (e.g., a lack of interest in all things, an inability to do anything even when bored), (e) social role performance (e.g., being fired from, or quitting, a part-time job due to an inability to perform which resulted in a sense of powerlessness), and (f) the experience of having a mental illness (e.g., difficulty accepting the presence of a mental illness, a loss of self-confidence, a pessimistic view of the future). The fact that SSDs lead to increased difficulties is further evidenced by research conducted by Ventura et al. (2015). This work found that negative symptom severity is associated with impoverished functioning in both employment and school (Ventura et al., 2015). It was postulated that this may be due to a lack of motivation (avolition) and/or social withdrawal, both of which are considered negative symptoms (Ventura et al., 2015). This is noteworthy, as there is evidence that negative symptoms are frequently a core feature of psychosis, even in the first episode (Harvey, Koren, Reichenberg, & Bowie, 2006).

In addition to increased difficulties across a variety of domains, individuals struggling with psychosis are at an increased risk for self-harm and suicide (Taylor, Hutton, & Wood, 2016). Self-harm, which may or may not involve the intention to take one's life, is prominent in individuals diagnosed with an SSD (lifetime prevalence 30%; Mork et al., 2013). It is also well established in the literature that persons diagnosed with an SSD experience elevated rates of suicidal behavior, such as completed suicide (lifetime prevalence 4.9-6.6%; Palmer, Pankratz, & Bostwick, 2005; Nordentoft et al., 2011), suicide attempts (lifetime prevalence 30.2%; Radomsky, Haas, Mann, & Sweeney, 1999), and ideation (15-day prevalence 20.4%; Kontaxakis et al., 2004). Nielssen and Large (2009) found that about half of all suicide attempts linked to

psychosis transpire during the first episode of the illness. Investigative studies of SSDs propose that suicidality may be particularly distinct during the initial stage of the disorder (Palmer et al., 2005). Thus, it appears that individuals in the initial stage of FEP are particularly vulnerable to suicidality.

Despite popular belief, individuals with SSDs are more likely to be victims of violence as opposed to perpetrators of violent deeds (Brekke, Prindle, Bae, & Long, 2001). This point is evidenced by research conducted by Silver, Arseneault, Langley, Caspi, and Moffitt (2005), which found that individuals diagnosed with schizophreniform disorder had considerably greater rates of threatened physical assaults, completed physical assaults, and sexual assaults than persons without a mental disorder. Similarly, research conducted by Teplin, McClelland, Abram, and Weiner (2005) found that over one quarter of individuals with severe mental illness (SMI) had fallen prey to violent crime within the past year. This is a rate that is well over 11 times greater than the rate of the general population (Teplin, McClelland, Abram, & Weiner, 2005). Furthermore, it was found that the annual incidence of violent crime inflicted upon the SMI sample (168.2 incidents per 1,000 persons) was over four times greater than the rates for the general population (39.9 incidents per 1,000 persons; Teplin, McClelland, Abram, & Weiner, 2005). Depending on the nature of the violent crime (e.g., rape/sexual assault, robbery, assault), prevalence of victimization was 6 to 23 times larger for individuals with SMI than the general public (Teplin, McClelland, Abram, & Weiner, 2005). A common argument to explain away such findings is that the increased risk for victimization for those with SMI may be a result of their initial aggressive behavior. Although this may be true for some, the augmented risk of ill-treatment in individuals with psychosis persists regardless of the nature of their conduct (Hiday et al., 2002; Silver, 2002).

The aforementioned consequences of psychosis are substantial in and of themselves. However, they are exacerbated by the fact that a diagnosis of an SSD naturally entails high treatment costs. Research has found that treatment of psychotic disorders can cost upwards of £14,394 (~$22,500) per annum and £40,816 (~$63,803) over a three-year period (McCrone, Knapp, Dhanasiri, 2009). There are a variety of services included in these costs, such as appointments with professionals (e.g., general practitioners, psychiatrists, and psychologists), inpatient hospital stays, and pharmaceuticals (Neil et al., 2014). Ideally, health insurance would cover these high costs of treatment. However, discontinuities in health insurance coverage often prevent this from occurring. For example, the Suffolk County (New York) Mental Health Project found that 44% of patients with a first admission for psychosis were uninsured (Rabinowitz et al., 1998). These findings were supported by further research conducted by Dodds et al. (2011), which found that of a cohort of early psychosis patients registered in Specialized Treatment Early in Psychosis (STEP) at the Connecticut Mental Health Center, 19.5% did not have insurance, while 41% were uncertain as to whether they were insured. Without continuous insurance, individuals diagnosed with an SSD are left to fare with the overwhelming costs of treatment unaided.

Identification of a Prodrome and Ultra High Risk

Research has established that a prodrome is linked to an increased risk for an ensuing SSD (Yung et al., 1998). For instance, Yung et al. (1998) looked at 20 prodromal individuals and found that 40% (eight individuals) went on to develop an SSD within six months. Further studies replicated this result by yielding similar figures (Cornblatt et al., 2003; Yung et al., 2003). Research has also established that decreasing the duration of untreated psychosis (DUP), which is the time between the onset of psychotic symptoms and the commencement of treatment, has

the capacity to yield moderate improvements in the ultimate outcome of persons with SSDs (Gonçalves et al., 2016; Reading & Birchwood, 2005). Thus, interest has emerged in the possibility of providing intervention prior to the onset of psychosis (Gonçalves et al., 2016). By intervening during the prodromal phase, when one's psychological and interpersonal assets are reasonably stable, the opportunity to correct the undesirable course of the illness may be at its greatest (Addington et al., 2007). Moreover, intervening during this period allows for an opportunity to alter numerous prognostic factors, including substance misuse, social isolation, negative symptoms, and cognitive dysfunction (Srihari et al., 2014). This is vital, as each of these factors can disrupt an already sensitive period of emerging adulthood (McGorry, 2011).

This interest in providing treatment to individuals prior to the onset of psychosis served as a catalyst for research into whether it is possible to detect the prodromal phase of illness, which is the period that immediately precedes structural changes in the brain, functional decline, and the onset of full-blown psychotic symptoms (Addington et al., 2007; Addington et al., 2012). In addition to this, attempts were made to generate criteria to identify individuals with a high probability of developing psychosis (Yung & Nelson, 2011). Such individuals are considered to be "ultra high risk," with the term "ultra" being used to differentiate it from the criteria employed in the genetic "high risk" approach (Yung & Nelson, 2011). The ultra high risk criteria incorporate the risk factor of age, as adolescence and young adulthood are considered age ranges with the greatest incidence of psychotic disorders (Yung et al., 2003). Age is then taken into consideration with respect to clinical risk factors (e.g., functional decline, prodromal symptoms, attenuated psychotic symptoms) in addition to genetic risk to determine whether an individual should be deemed as ultra high risk (Yung & Nelson, 2011). The ultra high risk criteria utilize a

successive screening strategy, which requires a combination of these various risk factors in order to "close in" on the at-risk diagnosis (Yung & Nelson, 2011).

The research generated from this interest has established that detection of the prodromal phase and ultra high risk is in fact possible (Miller et al., 2002; Quijada, Tizón, Artigue, & Parra, 2010). For instance, Miller et al. (2002) identified the prodrome in FEP by interviewing individuals with the Structured Interview for Prodromal Syndromes, which is a semi-structured diagnostic interview that comprises five sections: (a) the 19-item Scale of Prodromal Symptoms, (b) an adaptation of the Global Assessment of Functioning with precise anchor points, (c) a schizotypal personality disorder checklist based on the DSM-IV, (d) a family history of psychiatric disorders, and (e) a checklist for the Criteria of Prodromal Syndromes (Miller et al., 1999, 2002). Notably, this measure is intended to be employed by experienced clinicians who have received explicit training (Miller et al., 2002). More specifically, this training uses an apprenticeship model wherein interviewers co-rate four to five patients with one of the developers of the interview (Miller et al., 2002). The interviewer is then assessed by the developer regarding competence to independently administer the interview (Miller et al., 2002). Similarly, Quijada et al. (2010) identified persons at risk for psychosis through the use of the Early Recognition Inventory checklist, a screening instrument which is based on the Retrospective Assessment of the Onset and Course of Schizophrenia and Others Psychosis. This tool measures the presence and absence of unspecific symptoms, as well as late prodromal and psychotic symptoms within the previous 12 months (Quijada et al., 2010). In addition to this, variations in symptom intensity are assessed, along with the presence of risk factors (Quijada et al., 2010).

It appears as if the established capacity to identify ultra high risk individuals has provided momentum for the early intervention movement, as evidenced by the formation of the DSM-5 diagnostic category Attenuated Psychosis Syndrome (Derenzo & Candilis, 2015). The development of this diagnostic category was suggested by the Psychotic Disorders Work Group so as to operate as a proxy for the ultra high risk concept (Fusar-Poli, Carpenter, Woods, & McGlashan, 2014). This category was initially labeled Psychosis Risk Syndrome but was disparaged as a premature and unclear classification (Gonçalves et al., 2016). This was due to the fact that along with necessitating early intervention for a "risk syndrome," at-risk individuals require treatment for their existing psychiatric symptomatology (Phillips, 2013). Consequently, the suggested diagnostic category was reevaluated, deemed a mental disorder, and renamed Attenuated Psychosis Syndrome (Gonçalves et al., 2016). Importantly, this syndrome differs from full-blown psychosis due to the sub-threshold (i.e., attenuated) intensity or frequency of manifest symptoms (Fusar-Poli et al., 2014).

Prolonged Duration of Untreated Psychosis

Despite the feasibility of identifying prodromal individuals or those who are considered to be ultra high risk, prolonged DUP is common (Tanskanen et al., 2011). This is especially surprising given that psychosis is frequently heralded by a variety of other distressing experiences or psychiatric symptoms (e.g., sleep disturbance, anxiety, depression) that would theoretically prompt an individual to seek early intervention (Falloon, Kydd, Coverdale & Laidlaw, 1996; McGlashan, 1996; Yung & McGorry, 1996; Zanini et al., 2013). For instance, research has discovered that DUP in standard services has a mean upwards of two years (Marshall et al., 2005) and a median of more than six months (Johannessen et al., 2001; Malla, Bechard-Evans, Joober, King, & Abadi, 2006). It appears as if this prolonged delay prior to

receiving services is due to a variety of factors (Tanskanen et al., 2011). For instance, individuals are often unaware that their experience is indicative of a mental health problem (Tanskanen et al., 2011). Rather, persons frequently attribute their symptoms to substance use, stress, physical illness, lack of sleep, or religious experiences (Tanskanen et al., 2011). DUP is also commonly elongated due to a belief that experienced symptomatology is transient and will resolve itself without intervention (Tanskanen et al., 2011). Moreover, insufficient knowledge regarding mental health services and types of treatment available upon onset appears to hinder persons from seeking assistance (Tanskanen et al., 2011). Finally, on occasions where individuals pursue assistance from organizations unaffiliated with mental health (e.g., religious organizations, youth groups, general practitioners), it is not uncommon for symptoms to go unnoticed or unrecognized as signs of psychosis, thereby elongating DUP (Tanskanen et al., 2011).

Early Intervention

Early intervention can be thought of as a sequence of approaches aimed at preventing the onset of psychosis or reducing the symptomatology experienced as a result of this disorder (Reading & Birchwood, 2005). These approaches are comprised of three intersecting components: (a) early detection of incipient psychosis, (b) decreasing delay in obtainment of initial intervention, and (c) delivering continuous intervention during the critical period (i.e., the early phase of psychosis; Reading & Birchwood, 2005).

Early detection of psychosis. In order for early detection of individuals at risk for psychosis to be successful, a desire to seek assistance on the part of the individual is necessary (Reading & Birchwood, 2005). It is this desire that facilitates help-seeking behavior in the at-risk person (Reading & Birchwood, 2005). A recognition of symptoms as indicative of a possible first episode of psychosis can diminish delays in help-seeking behavior, which in turn reduces

the DUP (Reading & Birchwood, 2005). Research has established that knowledge about mental health difficulties in a general population can be altered by mental health campaigns (Hughes et al., 2014; Joa et al., 2008; *S*øgaard & Fønnebø, 1995). Accordingly, public education is necessary in order to equip persons with the ability to recognize symptoms of psychosis (Reading & Birchwood, 2005).

One of the initial attempts to increase the general population's knowledge about psychosis started in Norway (Johannessen, Larsen, McGlashan, & Vaglum, 2000). Beginning in 1989, the Rogaland psychiatric community has arranged a yearly week-long conference about schizophrenia and additional types of SMI (Johannessen et al., 2001). This conference, which is intended for both lay and professional participants, is comprised of scientific presentations, arts (e.g., plays, movies, picture exhibitions of psychosis), and public talks by patients, families, politicians, and professionals (Johannessen et al., 2001). This, along with wide-ranging local media coverage in newspapers and television, delivers broad, anti-stigma-oriented information about schizophrenia (Johannessen et al., 2001). In the years after the implementation of this Norwegian public education effort, a plethora of similar endeavors have emerged internationally (e.g., Chong, Mythily, & Verma, 2005; Krstev et al., 2004; Lester, Birchwood, Freemantle, Michail, & Tait, 2009; Malla, Norman, Scholten, Manchanda, & McLean, 2005; Power et al., 2007; Renwick et al., 2008). For instance, two United Kingdom studies, REDIRECT and LEOCAT, delivered an educational workshop to general practitioners that encompassed a video presentation, oral information, and dispersal of flyers regarding early signs of psychosis and where to refer (Lester et al., 2009; Power et al., 2007). An Irish study, DETECT, forwarded information packs to all general practitioners within the study zone and led workshops for sizeable groups of general practitioners (Renwick et al., 2008). All three general practitioner

education campaigns aimed to enhance general practitioner's awareness of the signs and symptoms of early psychosis (Lloyd-Evans et al., 2011). The Singapore EPIP Project, on the other hand, communicated with healthcare providers and schools and utilized mainstream media to captivate the general public (Chong et al., 2005). Interventions comprised a docudrama on primetime television in four languages, advertising on television, radio, and newspapers, employment of celebrities in media campaigns, public poster and postcard campaigns, and the formation of a telephone hotline for the public to contact for advice or help (Chong et al., 2005). In addition to these interventions, the initiative at the PEPP service in Canada made written and telephone contact with general practitioners, attended school counselors' meetings, and implemented a public awareness campaign using posters, delivery of leaflets and other resources in public locations, and a 30-second television and movie theater advertisement (Malla et al., 2005). The campaign specifically sought to increase awareness of signs of early psychosis, the advantages of early treatment, and how to contact PEPP (Malla et al., 2005). Finally, the EPPIC initiative granted face-to-face training to general practitioners, youth workers, and counselors in order to improve identification and awareness of symptoms of early psychosis (Krstev et al., 2004). The initiative also aimed to increase help-seeking by young people and their families by delivering presentations in schools (Krstev et al., 2004).

Reducing treatment delay. The second component comprising early intervention is that of decreasing delay in the commencement of initial intervention (Reading & Birchwood, 2005). Elongated DUP can intensify stress on individuals and families, can escalate psychological deterioration, and has been found to correlate with inferior long-term outcomes (e.g., symptomatic recovery, insight, and quality of life; Drake, Haley, Akhtar, & Lewis, 2000; Lappin et al., 2007; Norman & Malla, 2001; Larsen, Moe, Vibe-Hansen, & Johannessen, 2000;

McGorry, Edwards, Mihalopoulos, Harrigan, & Jackson, 1996). While the definition of DUP has been variable across research studies, there exists sturdy support for the aforementioned harmful consequences of delays in treatment equaling six months or more (Norman & Malla, 2001).

Continuous intervention during the critical period. The overall course of psychosis has become better understood as a result of long-term follow-up studies of FEP (Reading & Birchwood, 2005). For instance, Harrison et al. (2001) established that the initial course of psychosis forecasts outcome in the medium term and that impairment arises quickly in the initial phase of psychosis. Consequently, the early stage of psychosis has been labeled as a critical period that affects long-term outcome (Birchwood & Macmillian, 1993; Birchwood, McGorry, & Jackson, 1997).

The duration of intervention necessitated for gains in the long-term course of psychosis remains debatable (Reading & Birchwood, 2005). However, studies have demonstrated multiple benefits of treatment at 3- and 5-year follow-up, including improved clinical and functional outcome and reductions in hospitalizations, suicides, and disengagements from services (Chen et al., 2011; Larsen et al., 2011). Importantly, the evidence base concerning the most effective interventions is insubstantial (Addington et al., 2011; Morrison et al., 2007; Reading & Birchwood, 2005; Rietdijk et al., 2010). Research is currently in progress to attend to this matter and aims to produce more information pertaining to intervention efficacy (Reading & Birchwood, 2005).

Effectiveness of Early Detection

Programs that deliver comprehensive early intervention have demonstrated improved long-term outcomes in schizophrenia (Srihari, Shah, & Keshavan, 2012). For instance, Bechdolf et al. (2012) found that integrated psychological intervention was effective in deferring the

commencement of psychosis over a 24-month period of time in individuals in the early stages of an initial prodromal state. Furthermore, only 3.2% of participants went on to develop psychosis after termination of treatment compared to 15.4% of individuals in a control group, suggesting that early intervention was, in fact, successful at preventing psychosis altogether (Bechdolf et al., 2012).

Early intervention can also considerably improve the meager results of usual care. The first two to five years after the emergence of psychosis frequently predict much of the ultimate clinical and psychosocial decline in SSDs, such as risk for completed suicide, relapse and re-hospitalizations, violence, and neurocognitive dysfunction. Accordingly, research has indicated that services aimed at providing early, phase-specific treatment yield superior improvement in functional status (e.g., occupational adjustment, social functioning) and quality of life (Malla & Payne, 2005). Moreover, long-term (3- and 5-years) outcome studies indicate that early intervention has to capacity to decrease hospitalizations, suicidal ideation and attempts, disengagement from services, and clinical symptoms (Chen et al., 2011; Larsen et al., 2011; Melle et al., 2006).

Absence of Early Detection Efforts on College Campuses

Presently, there is an abundance of research aimed at early identification of individuals at risk for psychosis that has transpired in community-based settings (e.g., Johannessen et al., 2001; Power et al., 2007; Srihari et al., 2014). However, there appears to have been limited efforts to generalize such endeavors to a college environment in the United States. This is surprising, as there is significant overlap between typical college student age and the age of onset for SSDs (i.e., late adolescence and early adulthood; Sung & Puskar, 2006). In fact, there appears to be a continuous increase in the incidence of schizophrenia, particularly in individuals under the age of

35 (Boydell et al., 2003). While this does not wholly account for the noticeable upsurge in the number of students with serious psychological issues on campus (Kitzrow, 2009), it is possible that this is a contributing factor. In regard to the increase in severe mental health challenges on college campuses, Gallagher and Taylor (2014) found that 52% of counseling center clients had severe psychological problems, which was an increase from 44% in 2013. Of these 52%, 8% had impairments so serious that they could not continue with their education, or could only do so with vast psychological/psychiatric assistance (Gallagher & Taylor, 2014). Furthermore, it was found that 90% of counseling centers hospitalized an average of 9 students for psychological reasons in 2014 (Gallagher & Taylor, 2014). Accordingly, efforts to engage in early identification of individuals at risk for psychosis on college campuses may greatly benefit a subset of students facing serious psychological issues—namely, those that are at risk for psychosis.

The Impact of Psychosis on the College

As previously discussed, the emergence of psychosis adversely affects the individual experiencing the illness (Sung & Puskar, 2006). However, the manifestation of psychosis within a student body may negatively impact the college as an institution as well. This is evidenced by the striking upsurge of lawsuits aimed at universities (Evans & Evans, 1998), particularly those involving student suicide (Moore, 2005). Given the aforementioned relationship between psychosis and increased rates of suicidal behavior, it appears that colleges remain vulnerable to such lawsuits (Kontaxakis et al., 2004; Nordentoft et al., 2011; Palmer et al., 2005; Radomsky et al., 1999). This vulnerability may be exacerbated by the public's view of universities as prosperous bodies with unlimited resources (Moore, 2005). Thus, litigants seeking lucrative defendants may easily jump at the opportunity to sue universities (Moore, 2005). What is of even

more concern to the higher education community is the courts' cooperation in entertaining such lawsuits (Fossey & Zirkel, 2011). For instance, two trial courts, one in Virginia and one in Massachusetts, pronounced that a higher education institution may be legally responsible for the suicide death of a student (Fossey & Zirkel, 2011). Although both cases settled without a verdict of liability by a court, the possibility remains that future trials may come to a different conclusion (Fossey & Zirkel, 2011).

Another negative consequence of student psychosis is the possibility for lost revenue from attrition. According to a national survey conducted by Kessler, Foster, Saunders, and Stang (1995), 86% of college students with mental health disorders (e.g., SSDs) dropped out of school without completing a degree. This is more than double the college dropout rate for the general population, which is estimated to range between 30% and 40% (Porter, 1990). This is a critical concern for colleges, as they lose a significant amount of money when students depart (Raisman, 2013). Each individual that drops out equates to one less student paying for tuition, fees, and other costs such as housing, food, and bookstore purchases. Colleges further lose out financially when possible alumni-related contributions are taken into consideration. The magnitude of these losses is made apparent by Raisman's (2013) study, which found that 1, 669 colleges and universities collectively lost nearly $16.5 billion due to attrition. The largest loss any individual institution faced was $102,533,338, while the smallest single loss was $10,584. On average, each school lost $9,910,811. This is revenue that may have been factored into the budgets of these schools but was never received, thereby serving as a loss to these institutions.

A secondary consequence of attrition is a lower ranking for the college or university. *U.S. News* establishes an institution's rank amongst national universities and liberal arts colleges by generating a weighted average of the institution's scores on seven wide-ranging categories of

academic input and outcome measures. In the past, the weight given to the category of retention rate has been 20% (Monks & Ehrenberg, 1999). Thus, the influence of this one category is demonstrated, as one-fifth of an institution's ranking relies on it. Analyses conducted by Monks and Ehrenberg (1999) suggest that "an increase in a selective private institution's US. News rank (a move to a less favorable ranking) leads the institution to accept a greater percentage of its applicants (an increase in its admit rate); that a smaller percentage of its admitted pool of applicants then matriculates (a decrease in its yield); and that its resulting entering class is of lower quality, as measured by average SAT scores" (p. 49). Thus, the onset of psychosis in a student can set forth a chain of events that ultimately leads the college or university to lose out financially, decrease in ranking, and admit lesser quality students.

The presence of student psychosis may also adversely affect the campus community. More specifically, it may cause a lower quality of life for peers in close proximity to the actively psychotic individual. Research has found that siblings of young people facing FEP endorse a lower quality of life (Bowman, Alvarez-Jimenez, Wade, Howie, & McGorry, 2014). Here, quality of life was organized into four domains: physical (e.g., activities of daily living, energy level), psychological (e.g., self-esteem, negative feelings), social (e.g., personal relationships, social supports), and environmental (e.g., financial resources, home environment; Bowman et al., 2014). A key finding of this study was that living with a young person with FEP specifically impacted social quality of life negatively (Bowman et al., 2014). This is crucial, as a large number of students live on college campuses (i.e., dormitories) or in clustered neighborhoods around the colleges (Bishaw, 2013). Thus, it is plausible to assert that sharing a room or floor with peers experiencing FEP places these students at greater risk for lesser quality personal relationships and social supports.

In addition to this lesser quality of life, students may be subjected to other negative consequences as a result of the presence of an actively psychotic individual on campus. For one, they may experience classroom disruptions due to a peer's inability to successfully manage their psychotic symptoms. Moreover, students may experience worry or fear due to stigma about the potential danger of psychotic students. Research has revealed that the general public negatively perceives and stigmatizes persons with SMI, including schizophrenia (Angermeyer & Matschinger, 1997; Penn & Martin, 1998; Wolff, Pathare, Craig, & Leff, 1996). These negative stances are typically greater than those held towards persons with a physical illness (Weiner, Perry, & Magnusson, 1988). Research demonstrates that individuals with SMI are often viewed as erratic and dangerous (Crisp, Gelder, Goddard, & Meltzer, 2005). In fact, people frequently believe that persons with psychiatric disorders are more likely than non-psychiatrically ill persons to perform violent or illegal deeds (Link & Stueve, 1994). Thus, the quality of the negative affects held by the general public towards persons with SMI is predominantly fear as opposed to aversion, disregard, or anger (Penn & Martin, 1998). This is consistent with research conducted by Link, Andrews, and Cullen (1992), which found that nearly half (45%) of respondents to a telephone survey held the belief that it is normal to fear someone with a mental illness. As a result of this possible fear within the student body, it is feasible that student quality of life may be further diminished.

Feasibility of Early Identification Efforts on a College Campus

Identification of attenuated psychosis syndrome in Chinese college students. A study conducted by Chen et al. (2014) examined whether Attenuated Psychosis Syndrome can be identified among older adolescents and young adults in a Chinese university. Two assessments were used for initial evaluation: (a) the 16-item Chinese version of the Prodromal Questionnaire

(CPQ-16), which is a self-report questionnaire employed to screen individuals for the risk of psychosis; and (b) the Symptom Checklist-90 (SCL-90), which is a multidimensional self-report symptom inventory consisting of 90 items designed to encompass different dimensions of psychological distress (e.g., somatization, depression, anxiety; Chen et al., 2014). Participants that met the positive threshold for the CPQ-16, as well as a randomly selected group of individuals that did not meet this threshold, participated in a clinician-administered, semi-structured interview with the utilization of the Structured Interview of Prodromal Syndromes in order to assess for Attenuated Psychosis Syndrome (Chen et al., 2014).

Of the 49 students that met the positive threshold for the CPQ-16, 20 met the criteria for a prodromal risk syndrome based on the Structured Interview of Prodromal Syndromes diagnostic standards (Chen et al., 2014). In contrast, not a single individual within the 50-person control group was diagnosed (Chen et al., 2014). For those that were positively detected for Attenuated Psychosis Syndrome, the Scale of Psychosis-Risk Symptoms (SOPS), which is a subscale of the Structured Interview of Prodromal Syndromes, was used to further diagnose one of three types of Psychosis-Risk Syndromes; all 20 students were classified as Attenuated Positive Symptom Prodromal Syndrome (Chen et al., 2014).

This study is believed to be the first to develop a screening questionnaire to detect individuals at ultra-high risk of psychosis with a focus on non-help-seeking persons in mainland China (Chen et al., 2014). Overall, it appears that the CPQ-16 demonstrates good preliminary validity in an undergraduate student population (Chen et al., 2014). Thus, these results suggest that there may be numerous prospectively identifiable individuals with Attenuated Psychosis Syndrome in the non-clinical population (e.g., colleges and universities) who have not pursued treatment (Chen et al., 2014).

Dissertation Aims: Proposing Recommendations for Colleges and Universities to Identify Students at Risk for Psychosis

In this review of the literature, the primary concern raised was that of a need for early identification of college students at risk for developing psychosis. Until now, it appears as if efforts have focused more so on identifying at-risk individuals from the community in general as opposed to a more targeted population (McFarlane et al., 2010). Thus, the primary goal of this dissertation was to develop a collection of protocols that may be utilized by colleges and universities to engage in active early identification of students at risk for psychosis. To the investigator's knowledge, a set of recommendations for higher education institutions to engage in the early identification of students at risk for psychosis does not yet exist in empirical or applied writings. Thus, this project aimed to make an original contribution to the literature. For example, current literature lacks information on how to generalize previous large-scale community-based initiatives to a smaller, more homogenous college population. This dissertation topic therefore fills a critical gap in the commencement of prompt identification efforts of psychosis amongst students. The development of protocols in a written, publishable manner (i.e., a white paper) allows for the ability to influence a wide-ranging audience at a relatively low cost. The final product may help establish a model of early identification of SSDs for colleges and universities. Furthermore, the offered recommendations serve as a form of advocacy for a marginalized population. Said suggestions have the potential to modify the adverse trajectory of students' illnesses, thereby increasing their likelihood of academic success and their ability to live a life to its full potential.

Chapter 2: Methodology

Chief Goal

The chief goal of this dissertation was to develop a group of recommendations that may be utilized by colleges and universities to engage in active early identification of students at risk for psychosis. This endeavor was undertaken by methodically reviewing and analyzing numerous bodies of literature, including literature on: 1) early identification efforts within various settings (e.g., community-based) and 2) measures that aid early identification. Examination of available literature entailed the identification of appropriate, replicable endeavors, as well as appropriate efforts that have not yet been implemented. This informed the recommendations that were put forth.

General Procedure

First, existing literature on approaches to early identification of psychosis were comprehensively reviewed in order to establish what information was presently available. This also served to highlight the gaps in the literature on generalizing such efforts to college campuses in the U.S. A review of the literature on past endeavors further underscored specific methods that have been successful. Thorough reviews of these bodies of literature were intended to inform the development of recommendations for U.S. colleges and universities to engage in active early identification efforts of students at risk for psychosis.

The second phase of the dissertation involved developing specific recommendations for colleges and universities. These recommendations incorporated previous effective efforts with modification suggestions to better suit a college environment. The proposals are presented in a resource format than can be disseminated to colleges and universities (See Appendix A).

Rationale for the creation of such recommendations, as well as goals for their implementation, are summarized in the resource.

Literature Review and Analysis Procedures

Identification of source material and study selection. Several topics in the literature on early identification of psychosis were reviewed in developing the aforementioned resource. Literature on the impact of psychosis on both the individual student and higher education institutions were examined in order to provide a context, and draw attention to the need, for the development of such a resource. Literature on current identification efforts worldwide were also extensively reviewed. These endeavors were distinct from one another in that they each utilized unique approaches to early identification of psychosis. Thus, a chief motive behind this review of the literature was to ascertain which specific methods proved to be effective. In doing so, the literature on early identification of psychosis in community-based environments informed the chosen approach to this same feat in a U.S. higher education environment. Furthermore, literature that centered around assessments to identify individuals at risk for psychosis were reviewed so as to pinpoint measures that may be utilized by colleges and universities. Analysis of each of these bodies of literature allowed for the identification of missing approaches that may be of use in a college setting. While it would have been ideal to have empirical studies supporting explicit approaches to early identification of college students at risk for psychosis in the U.S., the reality is that, to the investigator's knowledge, such studies do not exist. Thus, calls for more research in this area were incorporated into the formally written materials produced from this dissertation. By serving as a possible foundation for such research, this project serves to fill a critical gap in the literature.

Search strategies. Literature guiding the formation of the resource developed for this dissertation was identified through usage of research databases (e.g., PsycINFO) and public search engines (e.g., Google Scholar). Experimental, correlational, qualitative, and theoretical literature on the aforesaid areas of focus were amassed by the researcher. Weight was given to articles from peer-reviewed journals related to SSDs, the prodrome, and early identification of psychosis. Particular attention was paid to early identification of psychosis efforts that have transpired on college campuses. However, because that literature was limited, the investigator examined similar but broader writings (e.g., community-based early identification efforts). The literature review also consisted of an examination of similar subject matter within scholarly textbooks. Additionally, publications (e.g., online, printed) by advocacy groups for individuals with mental illness (e.g., National Alliance on Mental Illness) were reviewed in order to identify efforts that were worth generalizing to a college campus.

In order to carry out the literature research in an orderly fashion, assorted combinations of the following keywords were inputted into literature databases: *schizophrenia*, *schizophrenia spectrum disorders*, *psychotic disorders*, *psychosis*, *prodrome, symptoms*, *ultra high risk*, *early identification*, *assessments*, *prevalence*, *suicidality*, *violence*, *impac*t, *distress*, *college*, *students*, *screening*, *prevention*, *intervention*, *treatment*, *costs*, and *outcomes*. With the exception of highly cited works and sources that were deemed to be classic or groundbreaking to the areas of the literature reviewed, any research published more than 25 years ago was omitted from the review.

Development of resource content. The resultant findings from the thorough literature review were methodically assessed in order to guide the formation of the proposed resource. As previously mentioned, the resource includes explicit recommendations for colleges and universities to engage in efforts to identify students at risk for psychosis. The investigator

primarily utilized articles with detailed approaches toward this feat in community-based environments, as there was a scarcity of said recommendations geared specifically toward higher education institutions. Thus, along with including pertinent, related recommendations that have already been put forth in the literature, the investigator produced innovative and original recommendations guided through integration and analytical reflection upon various bodies of related literature.

An integrated resource was developed based on prior research about early identification of psychosis and past efforts to raise awareness about mental illness on college and university campuses. This resource borrowed from the successes of these bodies of research and modified them to suit a college environment. The recommendations produced were written in a widely distributable format (i.e., a white paper) so as to allow for effortless delivery to colleges and universities. Sections contained within the resource developed include background information on the topic, rationale for the development of recommendations to aid colleges and universities in the identification of students at risk for psychosis, and detailed tasks for the higher education institution to assume. The resource is organized as follows:

- A brief opening discussion of the purpose and goals of the resource.
- Critical background information about the incidence and prevalence rates of SSDs is provided, followed by a discussion of the impact of such disorders on both the individual students and college campuses.
- Information is highlighted regarding the relative lack of literature on methods a U.S. higher education institution can undertake to identify students at risk for psychosis. This is followed by a brief discussion of similar, successful attempts that have transpired in other settings (e.g., community-based, colleges outside of the U.S.).

- A plan is proposed to guide college and university efforts to identify students at risk for psychosis. Specific recommendations are included.

Chapter 3: Results

Overview

A thorough review of multiple early identification of psychosis efforts within various settings was conducted. This review identified several elements that were utilized by these efforts to aid the early identification of individuals at risk for psychosis—namely: 1) public education; 2) training of professionals; 3) developing referral networks; 4) early detection teams; and 5) treatment/intervention. Below, an in-depth description of these elements is provided.

Public Education

A large proportion of the efforts reviewed incorporated the methodological element of public education. This component, which was often referred to as an "information campaign," sought to augment the general population's knowledge pertaining to early indicators of serious mental illness (Johannessen et al., 2001). In addition, these information campaigns strove to highlight the accessibility of assistance and positive outcomes, as well as diminish stigma toward mental disorders and psychiatry (Johannessen et al., 2001). In doing so, the goal was to increase the rate of help-seeking behaviors from the population at large (Johannessen et al., 2001).

One common component of the various information campaigns was the utilization of mass media to educate the public (Chong et al., 2005; Detect, n.d.; Joa, Gisselgård, Brønnick, McGlashan, & Johannessen, 2015; Johannessen et al., 2001; Malla et al., 2005; Schultze-Lutter, Ruhrmann, & Klosterkotter, 2009; Srihari et al., 2014). For example, psychosis-related information and whole-page advertisements were carried out within newspapers and magazines, often on a regular basis (e.g., monthly; Detect, n.d.; Johannessen et al., 2001). The early treatment and intervention in psychosis (TIPS) project specifically funded an extensive series of newspaper advertisements that focused on the theme "myths and reality" (Johannessen et al.,

2001); each advertisement depicted the myth (i.e., a still frame from "One Flew Over the Cuckoo's Nest") juxtaposed with the reality (e.g., non-frightening, non-stigmatizing photos of young individuals seeing a general practitioner; Johannessen et al., 2001). Moreover, psychosis-related educational information (described in detail below) was disseminated via television and cinema commercials by several information campaigns (Chong et al., 2005; Detect, n.d.; Johannessen et al., 2001; Malla et al., 2005; Schultze-Lutter et al., 2009; Srihari et al., 2014). Popular soap operas and docudramas were also written to include an individual with schizophrenia who manifests the disorder and recovers (Chong et al., 2005; Detect, n.d.). Finally, social media (e.g., Facebook, Twitter, YouTube) was utilized as an additional channel to disseminate educational information to the general public (Srihari et al., 2014).

In addition to the use of mass media, several early identification efforts dispersed informational material in written formats (Chong et al., 2005; Johannessen et al., 2001; Malla et al., 2005; Srihari et al., 2014). While the materials themselves were wide-ranging in nature (e.g., posters, pamphlets, brochures, educational booklets), they offered similar information pertaining to psychosis (Chong et al., 2005; Johannessen et al., 2001; Malla et al., 2005; Srihari et al., 2014). For instance, they briefly described early psychosis, provided a symptom checklist depicting various levels of severity, and stressed the importance and effectiveness of early intervention (Johannessen et al., 2001; Malla et al., 2005). Often, these materials were displayed in public locales (e.g., subway and train stations, educational institutions) and given to professionals (e.g., health care professionals) to share with at-risk youth and their parents (Chong et al., 2005; Malla et al., 2005; Srihari et al., 2014). On other occasions, efforts were made to distribute in-depth brochures and educational booklets with the aforementioned information directly to households in a given catchment area (Johannessen et al., 2001). Still further, a

plethora of promotional items, including calendars, bookmarks, postcards, car stickers, and T-shirts, were distributed to movie theaters, restaurants, and other public gathering locales by a marketing company (Chong et al., 2005; Johannessen et al., 2001; Malla et al., 2005; Srihari et al., 2014). Importantly, these materials contained a brief description of early, but definite, psychosis and stressed the benefits of early intervention (Malla et al., 2005). For instance, the bookmarks contained concise information regarding early non-specific symptoms (e.g., social withdrawal, alterations in behavior or academic performance) and standard signs of psychosis (e.g., auditory hallucinations, suspiciousness; Malla et al., 2005). Calendars and pamphlets, on the other hand, comprised a more thorough account of early non-specific symptoms, later signs of psychosis, advantages of early intervention, and information regarding ease of access to the treatment program being offered (Malla et al., 2005). Finally, because it became apparent that the general public often seeks information on the internet, several early identification efforts launched websites to further disseminate educational information (Chong et al., 2005; Detect, n.d.).

Various information campaigns implemented education programs designed for high schools, colleges and universities, and clubs for young people (Chong et al., 2005; Hughes et al., 2014; Jørgensen, et al., 2000; Malla et al., 2005). These programs were led by clinicians associated with the early identification initiatives and focused on stages of schizophrenia, prodromal symptoms, positive psychotic symptoms, and treatment (Chong et al., 2005; Jørgensen, et al., 2000). The duration of these programs varied from initiative to initiative, ranging from one session total to one session per month (Jørgensen, et al., 2000; Malla et al., 2005).

In addition to education programs designed for students and young persons, an education program was designed explicitly for the general public by Kitchener and Jorm (2002). Specifically, a nine-hour course was devised that is presented across three consecutive weekly sessions, each of which is three-hours in duration (Kitchener & Jorm, 2002). Along with receipt of a course manual, participants receive lectures on the course material, which focus on helping individuals in mental health crises and/or in the early phases of mental health difficulties (Kitchener & Jorm, 2002). A variety of crisis situations are reviewed, such as suicidal ideation and behavior, acute stress reactions, panic attacks, and acute psychotic behavior (Kitchener & Jorm, 2002). Furthermore, various mental health problems are examined, including disorders pertaining to depression, anxiety, and psychosis (Kitchener & Jorm, 2002). The co-morbidity of these disorders with substance use disorders is further reviewed (Kitchener & Jorm, 2002). Importantly, participants obtain knowledge regarding the symptoms of these disorders, probable risk factors, locations and means to obtain assistance, and evidence-based treatments (Kitchener & Jorm, 2002). Participants are further encouraged to implement the following five basic steps when attempting to assist an individual in crisis: a) assess risk of suicide or harm; b) listen non-judgmentally; c) give reassurance and information; d) encourage person to get appropriate professional help; and e) encourage self-help strategies (Kitchener & Jorm, 2002). It is important to note that Kitchener and Jorm (2002) designed this course to be presented to two types of audiences: a) members of the general public who independently responded to publicity; and b) employees whose workplaces requested courses during working hours. Upon evaluation, Kitchener and Jorm (2002) found this course augmented participants' capacity to recognize a mental illness in a vignette, altered beliefs about treatment to be more similar to those of health professionals, diminished social distance from persons with mental illness, increased self-

assurance in delivering assistance to someone with a mental illness, and increased the amount of assistance offered to others.

Many of the efforts to educate the public further utilized large-scale events within the community (Chong et al., 2005; Johannessen et al., 2001; Malla et al., 2005). For instance, art exhibitions on the theme of psychosis were held (Chong et al., 2005), as well as regular fundraising events in partnership with family support groups for relatives of prodromal and actively psychotic individuals (Malla et al., 2005). Educational materials in written format were often distributed at these events (Malla et al., 2005). In addition to this, the Norwegian city of Stavenger has arranged a yearly week-long conference pertaining to schizophrenia and other forms of severe mental illness (Johannessen et al., 2001). This conference, which is intended for both professionals and the general public, incorporates scientific presentations, art exhibits (e.g., plays, movies, photo displays of psychosis), and talks by patients, families, politicians, and professionals (Johannessen et al., 2001). Presently, this conference is attended by approximately 1,000 professionals and 2,000-4,000 lay persons each year (Johannessen et al., 2001).

Training of Professionals

In an effort to raise awareness and knowledge of psychosis amongst specialists that are likely to come into contact with prodromal or high-risk individuals, a significant portion of the examined studies offered trainings geared toward these professionals. One highly targeted group was primary care specialists, which includes individuals such as general practitioners and emergency department staff (Broome et al., 2005; Chong et al., 2005; Detect, n.d.; Joa et al., 2015; Johannessen et al., 2001; Jørgensen, et al., 2000; Power et al., 2007; Lester et al., 2009; Schultze-Lutter et al., 2009; Srihari et al., 2014). In order to disseminate educational information to these individuals, workshops were conducted (Detect, n.d.; Schultze-Lutter et al., 2009) and

written materials distributed (e.g., leaflets, newsletters; Broome et al., 2005; Schultze-Lutter et al., 2009). On occasion, newsletters were circulated on regularly scheduled intervals (e.g., bimonthly; Chong et al., 2005). Training sessions were also implemented, which often incorporated the use of videos (Power et al., 2007; Lester et al., 2009) and psychosis-related discussions (e.g., phases of schizophrenia, prodromal symptoms, positive psychotic symptoms, how to identify the early signs of psychosis; Jørgensen, et al., 2000; Power et al., 2007). These videos were geared specifically for primary care specialists, as they depicted role-played consultations with young patients evidencing FEP (Lester et al., 2009). At times, they were designed to be utilized in conjunction with a checklist and a rating manual based on the Positive and Negative Syndrome Scale (PANSS) and Diagnostic and Statistical Manual of Mental Disorders (DSM; Johannessen et al., 2001). Certain videos also included direct messages regarding the relationship between substance use and psychosis, the importance of attending to parental concerns, and, most importantly, to refer in a timely manner to early-intervention programs (Lester et al., 2009). Refresher educational sessions were carried out in the months following the initial training sessions and consisted of personal testimonies from early-intervention program participants (Lester et al., 2009). Finally, educational websites were generated and promoted to these professionals for use outside of the training sessions (Broome et al., 2005; Srihari et al., 2014).

Two additional groups of highly targeted specialists for training included mental health professionals and school staff (Broome et al., 2005; Chong et al., 2005; Joa, et al., 2015; Johannessen et al., 2001; Jørgensen, et al., 2000; Schultze-Lutter et al., 2009; Srihari et al., 2014). Information regarding early warning signs and prodromal symptoms was disseminated to these groups via the aforementioned mechanisms (i.e., the means utilized to train primary care

specialists). In addition to this, illustrative cases of early psychosis were discussed in depth with teachers and school counselors (Johannessen et al., 2001). On occasions where college counselors were specifically targeted for training, their respective counseling centers were visited regularly to provide refresher information, as well as consultation regarding potential referrals for early-intervention services (Srihari et al., 2014).

Developing Referral Network

Of the early identification efforts reviewed, several relied on community-based referrals so as to make contact with individuals in need of their services. In order to increase the number of referrals received, attempts were made to develop a referral network (Malla et al., 2005). This was accomplished by transmitting information pertaining to a given early-identification program to all family physicians, psychiatrists, and other mental health care programs in the targeted community (Malla et al., 2005). Specifically, succinct pamphlets that described the intent of the program, a brief description of psychosis, and criteria for admittance into the program were distributed (Malla et al., 2005). Contact information was also offered, typically in the form of a telephone hotline (Johannessen et al., 2001; Power et al., 2007; Srihari et al., 2014). It was further conveyed that the program maintained an open referral policy, that a referral from a physician was not required, and that all potential patients would be assessed within 72 hours following an initial screening (Malla et al., 2005).

In order to further develop a referral network, several early identification efforts turned to other components of their program. More specifically, requests for referrals were incorporated into efforts to train professionals and provide public education (Broome et al., 2005; Detect, n.d.; Johannessen et al., 2001; Jørgensen, et al., 2000; Power et al., 2007; Srihari et al., 2014). This was accomplished by providing contact information for the early identification program—

including a telephone number, fax number, organization address, and/or email address—to participants (Broome et al., 2005; Johannessen et al., 2001; Srihari et al., 2014). In doing so, requests for referrals were made to a range of individuals and entities, including school counselors, teachers, students, religious organizations, consumer organizations, and social welfare agencies (Johannessen et al., 2001; Srihari et al., 2014).

Early Detection Teams

The majority of early identification efforts reviewed incorporated the use of early detection teams. The primary role of these teams was to facilitate easy access to clinical attention and care (Johannessen et al., 2001). While the credentials of the team members were not always listed, the team referenced by Johannessen et al. (2001) included psychiatrists, psychologists, psychiatric nurses, and social workers (Johannessen et al., 2001). These teams often utilized telephone hotlines in order to be reached when psychosis was suspected (Johannessen et al., 2001; Power et al., 2007). The hotlines operated during standard working hours on weekdays (e.g., 8AM to 5PM; Johannessen et al., 2001; Power et al., 2007). Outside of these hours and on weekends, an answering machine was available to record messages from callers (Johannessen et al., 2001). It is important to note that several efforts accepted referrals from a variety of sources other than the individual at risk, such as friends, relatives, and health professionals (Broome et al., 2005; Early Detection and Intervention Team, n.d.; Malla et al., 2005; Power et al., 2007). The referred individual was then contacted so as to participate in a telephone screening assessment (Johannessen et al., 2001; McGorry et al.,1996; Srihari et al., 2014; Yung et al., 2003). If a prodromal or psychotic illness was suspected, an in-person evaluation was offered within, at most, 72 hours, which consisted of administration of a psychological assessment (which will be discussed in further detail below; Broome et al., 2005; Detect, n.d.; Johannessen

et al., 2001; Malla et al., 2005; Srihari et al., 2014; Power et al., 2007). So as to accommodate the individual's preference, this evaluation was available to take place in flexible locations (e.g., within the home, school, primary care clinic; Broome et al., 2005; Detect, n.d.; Early Detection and Intervention Team, n.d.; Johannessen et al., 2001; Power et al., 2007; Srihari et al., 2014). In the event that a prodromal or psychotic episode was confirmed, treatment was guaranteed within a short period of time (e.g., within one week; Johannessen et al., 2001; Power et al., 2007).

At times, detection teams encountered participation hesitancy on the part of the potentially prodromal or acutely psychotic individual. When this occurred, caregivers seeking help to address patient reluctance were offered education pertaining to available resources (e.g., mechanisms to access emergency services), as well as continued support to resolve the issue and allow for entry into care (Srihari et al., 2014). In order to counteract ambivalence that can postpone initiation of treatment, recurrent efforts were made to contact the individual via telephone so as to establish a meeting in the community (Srihari et al., 2014). These telephone calls persisted until the individual voiced clear refusal (Srihari et al., 2014).

Psychological assessments. A plethora of assessment tools were utilized by the various early identification efforts to obtain wide-ranging information specific to the individual's experience. In order to determine whether psychosis was suspected, members of detection teams utilized measures that focused primarily on psychotic symptoms (See Appendix B). These measures were utilized to administer telephone screenings to referred individuals (Johannessen et al., 2001; McGorry, et al, 1996; Srihari et al., 2014; Yung et al., 2003). When conducting these screenings, some early identification efforts utilized the Positive and Negative Syndrome Scale, which has the capacity to measure psychotic symptoms (Johannessen et al., 2001; Lester et al., 2009). This measure, which is a 30-item, 7-point rating instrument, provides descriptive

information for each item, as well as detailed anchoring criteria for each of the seven rating points (Kay, Fiszbein, & Opfer, 1987). Other early identification efforts utilized the Prodromal Questionnaire—16 as a screening tool for psychosis (Chen et al., 2014). This measure consists of 16 true/false items: nine address perceptual abnormalities/hallucinations, five assess for unusual thought/content/delusional ideas/paranoia, and two focus on negative symptoms (Ising et al., 2012).

Once it was established that the individual was either experiencing prodromal symptoms or was actively psychotic, a plethora of psychological measurements were used across studies/programs to obtain various information pertaining to their symptoms. For instance, some early identification efforts made attempts to measure an individual's level of psychopathology and to rate their level of symptom severity with the use of the Scale for the Assessment of Negative Symptoms, the Scale for the Assessment of Positive Symptoms, and the Positive and Negative Syndrome Scale (Jørgensen, et al., 2000; Schultze-Lutter et al., 2009). The Scale for the Assessment of Negative Symptoms is a clinician-rated 20-item measure that assesses affective flattening, anhedonia-asociality, attention, alogia, and avolition-apathy (Andreasen, 1982). The 35-item Scale for the Assessment of Positive Symptoms is similar in that it is clinician-rated and categorizes each item into one of five domains: hallucinations, delusions, bizarre behavior, positive formal thought disorder, and inappropriate affect (Voss et al., 2013). Other early identification efforts used the Structured Interview of Prodromal Syndromes to determine whether an individual was presently at risk for psychosis or has become actively psychotic (Joa, et al., 2015; Srihari et al., 2014). This instrument is a structured diagnostic interview that has the ability to yield three prodromal syndrome diagnoses: (a) frankly psychotic positive symptoms that were too transitory and sporadic to comprise a wholly psychotic

syndrome, (b) attenuated positive symptoms, and (c) functional decline in the presence of genetic risk (Miller et al., 2003). The Structured Interview of Prodromal Syndromes was also used by some early identification efforts to assess for the onset and duration of the prodromal phase, as was the Premorbid Adjustment Scale (McGorry et al., 1996; Srihari et al., 2014). This latter instrument measures premorbid functioning via the achievement of age-appropriate developmental and social milestones (i.e., sociability and withdrawal; peer relationships; ability to function outside of the nuclear family; and capacity to form intimate socio-sexual ties) at each of the four developmental stages (i.e., childhood; early adolescence; late adolescence; and adulthood; van Mastrigt & Addington, 2002). The Premorbid Adjustment Scale, which utilizes a 0-6 Likert-type scale equipped with phrased anchor points to assist in scoring, generates clinician ratings through interviews with patients and/or their family members (van Mastrigt & Addington, 2002). Several early identification efforts further utilized this measure to garner a better understanding of individuals' functioning prior to the onset of the prodromal or psychotic phase (Jørgensen, et al., 2000; Lester et al., 2009; McGorry et al., 1996; Srihari et al., 2014).

In order to monitor the development of psychotic features over time, Yung et al. (2003) administered the aforementioned Scale for the Assessment of Negative Symptoms to individuals at monthly intervals. So as to make formal diagnoses of psychotic disorders, Chong et al. (2005), used the Structured Clinical Interview for DSM-III-R, while Malla et al. (2005) utilized the Structured Clinical Interview for DSM-IV Axis I Disorders; both of these measures are semi-structured assessment instruments for clinical disorders (Lobbestael, Leurgans, Arntz, 2011). Chen et al. (2014) garnered further information regarding symptomatology via administration of the Symptom Checklist—90, which is a 90-item self-report symptom inventory. This measure rates nine differing dimensions of psychological distress (i.e., somatization, obsessive-

compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism) with a five-point Likert scale based on the amount of distress the individual has experienced due to their symptoms over the previous seven days (Chen et al., 2014). Finally, Lester et al. (2009) assessed recovery with the use of the previously discussed Positive and Negative Syndrome Scale (Lester et al., 2009).

Treatment/Intervention

A significant portion of the efforts reviewed made treatment available to individuals who were identified as either prodromal or actively psychotic. Often, this treatment consisted of recommendations for the use of antipsychotic medication (Broome et al., 2005; Joa, et al., 2015; Jørgensen, et al., 2000). In addition to this, individual and group psychotherapy was offered, frequently in the form of cognitive behavioral therapy (Broome et al., 2005; Detect, n.d.; Early Psychosis Intervention Programme, n.d.; Joa, et al., 2015; McGorry et al., 1996; London Health Sciences Centre, n.d.). Here, the goal was to reduce symptoms, as well as lessen various forms of distress (e.g., stress, anxiety, depression, low self-esteem; Detect, n.d.). When cognitively oriented psychotherapy for early psychosis (COPE; Jackson et al., 1998) was used, the aim was to assist each individual in adjusting to the onset of a psychotic disorder and its impact on their self-concept, identity formation, and self-esteem (McGorry et al., 1996). In addition to individual and group psychotherapy, social skills training was offered to individuals who might benefit, as determined by the findings of an initial assessment of one's social skills and social function (Jørgensen, et al., 2000).

Multidisciplinary teams consisting of psychiatrists, psychologists, nurses, social workers, case managers, occupational therapists, and vocational specialists were often utilized (Early Assessment & Support Alliance, n.d.; Early Psychosis Intervention Programme, n.d.; Jørgensen,

et al., 2000; Lambeth & Southwark, n.d.; London Health Sciences Centre, n.d.). The descriptions of these multidisciplinary teams offered specific information pertaining to case management and occupational therapy, in particular. For instance, case managers ensured that a thorough care plan was developed for each individual and that holistic care persisted throughout the various stages of recovery (Early Psychosis Intervention Programme, n.d.). Occupational therapists, on the other hand, made efforts to maximize individuals' recovery by identifying and attaining goals pertaining to work, training, education, leisure, and daily structure (Detect, n.d.). While not explicitly named as a goal of these multidisciplinary teams, it should be noted that multiple programs made efforts to provide individuals with emotional, social, and practical support (Broome et al., 2005; Lambeth & Southwark, n.d.).

Treatment further consisted of the use of day programs during the recovery phase of psychotic episodes (McGorry et al., 1996). Such programs are based in a secure location, though activities frequently occur in the community (McGorry et al., 1996). Participation is considered time-limited, as individuals are expected to set goals and work toward returning to mainstream society (McGorry et al., 1996).

When an individual presented as acutely psychotic, inpatient hospitalization was at times utilized for treatment (McGorry et al., 1996). On these occasions, the focus was on reducing symptomatology (McGorry et al., 1996). This was accomplished through the use of low doses of neuroleptics, use of benzodiazepines and lithium as "neuroleptic-sparing" agents, and management of disturbed behavior through close nursing supervision (McGorry et al., 1996).

Several efforts were made to include the individual's family in treatment (Early Psychosis Intervention Programme, n.d.; Jørgensen, et al., 2000; McGorry et al., 1996; Srihari et al., 2014). More specifically, individual family meetings were held without the patient so as to

form an alliance and debrief (McGorry, et al., 1996). Moreover, workshops were offered to provide psychoeducation regarding the given illness, various forms of treatment, relapse prevention, the role of caregivers and self-care, crisis management, and assorted community resources (Early Psychosis Intervention Programme, n.d.). Finally, multi-family groups were held for approximately four to six families and patients to provide training in formal problem solving, as well as to develop communication skills (McGorry et al., 1996). Typically, these groups met every two weeks over an 18-month period (McGorry et al., 1996).

Inclusion/exclusion criteria for psychotic status. Of the various studies that offered treatment/intervention, some utilized inclusion and exclusion for treatment based on the level and nature of psychosis experienced by individuals. For instance, Yung et al. (2003) differentiated between "Attenuated Psychotic Symptoms," "Brief Limited Intermittent Psychotic Symptoms," and "Trait and State Risk Factors". More specifically, "Attenuated Psychotic Symptoms" described individuals who were experiencing symptomatology that strays from normal phenomena but are not yet acutely psychotic (e.g., perceptual disturbances with an intensity below psychoticism; ideas that others are hostile toward them with a simultaneous realization that this is untrue and that he or she is simply "being paranoid;" Yung et al., 2003). "Brief Limited Intermittent Psychotic Symptoms," on the other hand, referred to persons whose symptoms are of psychotic intensity but occur infrequently or remit after less than seven days (e.g., auditory hallucinations that manifest twice per month; Yung et al., 2003). Finally, "Trait and State Risk Factors" defined individuals who had non-specific symptoms (e.g., low-level mood or anxiety symptoms) combined with a trait-risk factor for a psychotic illness (i.e., schizotypal personality disorder or a first-degree relative diagnosed with a psychotic disorder; Yung et al., 2003). Similarly, Power et al. (2007) utilized the following inclusion criteria to

define FEP: a period of at least one week wherein unremitting psychotic symptoms are experienced that meet criteria for "transition psychosis" as defined by the Comprehensive Assessment of At-Risk Mental States. In addition to this, inclusion criteria comprised age ranges varying between a low of 14 and a high of 35, as this is considered the period of greatest risk for becoming psychotic (Häfner, Maurer, Loffler, & Riecher-Rossler, 1993; Power et al., 2007; Yung et al., 2003). In regard to exclusion criteria, the following conditions were utilized: intellectual disability, presence of a known organic brain disorder, and history of psychotic episodes (treated or untreated; Power et al., 2007; Yung et al., 2003).

Inclusion/exclusion criteria for treatment. Several of the studies that incorporated treatment/intervention further utilized inclusion and/or exclusion criteria to determine whether individuals were eligible for receipt of services. Common inclusion criteria consisted of age (ranging from a low of 16 to a high of 65), presence of psychotic symptoms (e.g., per DSM-IV criteria), and residency in a defined catchment area (Broome et al., 2005; Johannessen et al., 2001; Jørgensen, et al., 2000; Malla et al., 2005; Srihari et al., 2014). Exclusion criteria, on the other hand, included organic causes of psychosis and substance-induced psychosis, (Chong et al., 2005; Jørgensen, et al., 2000).

Chapter 4: Discussion

Overview

After a thorough review of community-based early identification of psychosis efforts, it is necessary to examine not only the information garnered from such endeavors, but how such efforts can be specifically applied to a college environment. In conducting this review, the following shared components were identified: 1) public education; 2) training of professionals; 3) developing referral networks; 4) early detection teams; and 5) treatment/intervention. In providing public education, "information campaigns" were implemented so as to increase the general population's knowledge about early indicators of severe mental illness. This was accomplished through the use of mass media, dispersal of informational material in written formats, implementation of educational programs, and utilization of large-scale community events. In training professionals, efforts were made to target a variety of occupational groups, including primary care specialists, mental health professionals, and school staff. Trainings primarily involved the dissemination of information via written materials and educational workshops. In order to expand referral networks, requests for referrals were made to family physicians, psychiatrists, and other mental health care programs in a given catchment area, as well as to professionals that participated in the trainings put forth by these endeavors. When early detection teams were utilized, hotlines were established for receipt of referrals. Referred individuals would then be contacted by a member of the detection team for a telephone screening assessment. If, based on this screening, it was determined that the individual might be prodromal or actively psychotic, an in-person evaluation was recommended. Finally, treatment/intervention consisted primarily of recommendations for the use of antipsychotic medications, individual and group psychotherapy, use of multidisciplinary teams for case management and occupational

therapy, use of day programs during the recovery phase of psychotic episodes, inpatient hospitalization, and familial involvement in treatment.

While these elements have proven to effectively aid in the identification of at-risk individuals in a community setting (Broome et al., 2005; Johannessen et al., 2001; Power et al., 2007; Yung et al., 2003), to the researcher's knowledge, they have not been generalized to a college environment. In fact, limited literature appears to exist on efforts to identify and provide intervention to individuals at risk for psychosis on college campuses, particularly in the U.S. Still less information is available on feasible means for U.S. colleges and universities to undertake early identification efforts on their campuses. Thus, the clear, delineated protocol being put forth by this dissertation may serve as a valuable foundation for future implementation and evaluation of early identification efforts within higher education institutions.

Recommendations for Public Education

It has been established that mental health campaigns can alter knowledge about mental health problems in a general population (Hughes et al., 2014; Joa et al., 2008; Søgaard & Fønnebø, 1995). For instance, research supports the notion that public education can increase the general population's recognition of psychotic symptoms (Joa et al., 2008; Joly, Bernard, Williamson, & Mittal, 2012; Norman, Malla, Verdi, Hassall, & Fazekas, 2004). By extending such campaigns to college campuses, it is anticipated that a similar increase in both mental health awareness and psychosis symptom recognition will ensue. Several of the tactics utilized by community-based information campaigns—namely, multi-media use, public announcements, information directed at professionals, large-scale events, and instructional formats—can feasibly be implemented by higher education institutions. However, several modifications may help to tailor these methods specifically to a college environment.

Multi-media use. As done by prior early identification efforts, higher education institutions should utilize mass media to provide education pertaining to psychosis. Firstly, as nearly 100% of undergraduate students access the internet (Smith, Rainie, & Zickuhr, 2011), it is recommended that colleges and universities mimic early identification efforts by developing a website to disseminate in-depth psychosis-related information, including but not limited to a description of the nature and course of psychosis and SSDs (e.g., the stages of schizophrenia), common signs and symptoms of SSDs (e.g., prodromal symptoms, positive symptoms, negative symptoms, cognitive symptoms), the importance of early intervention, what typical treatment entails, and information regarding the early detection team, including contact information. This website should further contain information pertaining to college-specific challenges due to psychosis, as well as a breadth of material related to the illness, including personal testimonies of individuals who have struggled with psychosis and have benefitted from treatment, information regarding the assessment process (e.g., the types of topics that will be discussed, including social circumstances, psychiatric history, substance use, risk assessment), and helpful information for family members (e.g., the importance of family support during the recovery process, tools for managing the stress that may be associated with caring for a loved one with an SSD). Importantly, given that individuals struggling with psychosis are at an increased risk for self-harm and suicide (Taylor et al., 2016), resources for those in crisis should further be made available on this website. Specifically, the website should incorporate prompts to contact emergency services (i.e., 911) if immediate help is needed, as well as the phone number to the Distress Phone Service, which provides confidential, non-judgmental support, 24 hours a day, 7 days a week, for people experiencing feelings of distress or despair (i.e., 1-800-SUICIDE/1-800-784-2433). Additionally, given that college- and university-affiliated counseling centers often

have a website already in place, it is recommended that an explicit link to this psychosis-specific website be added. Further, it is recommended that this website be promoted on various written materials (see *Public Announcements* below) so that the campus community is aware of its existence.

In addition to this website, psychosis-related information and extensive series of whole-page advertisements should be repeatedly published in newspapers affiliated with the university. Given the continuous nature of these advertisements, the information depicted can vary throughout the series; over time, however, it is recommended that all of the in-depth information previously described be distributed through these newspaper advertisements. In addition to this, educational information should be described in commercials that air on a college's television channel and/or at university-hosted film screenings. Given the brief duration of these commercials, it is recommended that they contain information regarding common SSD symptoms, a statement encouraging the viewer to seek assistance should these symptoms sound familiar, and contact information for the college or university's early detection team. Moreover, higher education institutions' social media accounts should be utilized to further disseminate a wealth of psychosis-related information to students, faculty, and staff (e.g., Facebook, Twitter). Along with posts containing said information, electronic advertisements can be generated for publication on these accounts. Due to the concise nature of advertisements, it is recommended that they follow the model suggested for commercials (i.e., listing common symptoms of psychosis, encouraging one to seek out assistance should these symptoms be experiences, and contact information for the early detection team).

Public announcements. Given that posters are a commonly found medium on university campuses (Potter, Moynihan, Stapleton, & Banyard, 2009), several should be employed that

depict the same information recommended for social media advertisements. For a model that higher education institutions can turn to when devising posters of their own, see Appendix C. Importantly, because there already exists a plethora of posters on college campuses, it is recommended that higher education institutions make efforts to strategically place the psychosis-specific posters in locales with more captive audiences. Examples of such locations include residence halls; cafeterias (e.g., napkin holders on tables); check-out lines at bookstores; and buildings that house graduate programs, as their population is primarily students in their early 20s.

In keeping with the efforts of community-based early identification endeavors, which distributed written materials directly to residences in given catchment areas, higher education institutions should deliver written resources of their own to dormitories and university-affiliated apartments. Promotional items (e.g., calendars, bookmarks, postcards, car stickers, T-shirts) should also be distributed to these residences, as well as other college- or university locales, including but not limited to book stores, libraries, and recreation centers. Importantly, these written materials and promotional items should contain psychosis-related educational information. Items that can only support a limited amount of content due to their size (e.g., bookmarks, car stickers, T-shirts) should be modeled after the aforementioned electronic advertisements, meaning that information regarding common signs of psychosis should be included, along with the contact information for the early detection team and encouragement to seek them out for assistance. Larger items that can host a greater amount of content should contain more in-depth information, such as the aforementioned description of the nature and course of psychosis and SSDs (e.g., the stages of schizophrenia), common signs and symptoms of SSDs (e.g., prodromal symptoms, positive symptoms, negative symptoms, cognitive

symptoms), the importance of early intervention, what typical treatment entails, and information regarding the early detection team, including contact information. So as to tailor these materials specifically to a college population, it is recommended that information is provided regarding the unique difficulties one might experience as a student manifesting psychosis. Specifically, Sung and Puskar's (2006) six broad categories of challenges faced by adolescents and young adults with psychosis should be referenced, viz. difficulties with: (a) family interactions (e.g., a lack of verbal interaction, familial conflict, a lack of support from the family), (b) interactions with friends (e.g., loneliness in interactions with friends, impediment in making friends, withdrawal from friends), (c) school life (e.g., concentrating on one's studies, understanding lectures, taking tests, leadership positions/roles on campus), (d) managing everyday life (e.g., a lack of interest in all things, an inability to do anything even when bored), (e) social role performance (e.g., being fired from, or quitting, a part-time job due to an inability to perform which resulted in a sense of powerlessness), and (f) the experience of having a mental illness (e.g., difficulty accepting the presence of a mental illness, a loss of self-confidence, a pessimistic view of the future). Additionally, the following college-specific experiences related to increased positive and negative symptoms of schizophrenia should be discussed: reduced participation in school activities, greater absences from class, and decreased motivation related to academic responsibilities (Sung, Kim, Puskar, & Kim, 2006).

It is further recommended that efforts be made to partner with various clubs and organizations affiliated with the university when coordinating the dispersal of written materials. For instance, organizations geared toward a focus on mental health may serve as ideal allies; such groups include NAMI on Campus club, which has 176 active clubs nationwide (NAMI On Campus Clubs, n.d.) and Active Minds, which has 444 international active chapters (Active

Minds Chapters, n.d.). Psychology-related organizations should further be sought out for collaboration, including Psi Chi, which considers community service to be a vital component of the organization (Chapter Service Projects; n.d.). Finally, partnering with fraternities and sororities is recommended, as philanthropy is thought to be a primary tenet of Greek organizations (Martin, Hevel, Asel, & Pascarella, 2011). Additionally, higher education institutions can encourage and support the formation of a grassroots organization intended to increase awareness of and interest in the manifestation of psychosis within the student body; this body of students can then be invited to assist in the dispersal of written materials.

Information directed at professionals. Similar to community-based efforts, colleges should disperse pamphlets, brochures, and educational booklets to professionals (e.g., college-based primary care specialists, counseling center staff) who are encouraged to share these materials with students with whom they come into contact with. Given the capacity of these types of publications to store a substantial amount of content, they should contain the same, thorough information previously recommended for written materials.

Large-scale events. The large-scale events organized by community-based efforts should further be replicated by higher education institutions. In fact, various colleges and universities across the country already do so during Mental Illness Awareness Week. This week, which occurs during the first full week of October, is filled with efforts by the National Alliance on Mental Illness (NAMI) and various participants nationwide to bring awareness to mental illness, fight stigma, offer support, educate the general public, and promote equal care (Mental Illness Awareness Week, n.d.). In accordance with Mental Illness Awareness Week, colleges and universities should host events on campus, ideally in a heavily trafficked locale, where scientific presentations and art exhibitions are held, talks are given by patients, families, and professionals,

and educational materials previously referenced are distributed. It is further recommended that efforts be made to partner with the aforementioned clubs and organizations affiliated with the university when coordinating these large-scale events.

Instructional formats. In addition to these proposals, it is recommended that colleges and universities implement education programs using an instructional format. While the education programs led by prior early identification initiatives were directed at various youth (i.e., those in high schools, colleges and universities, and clubs), such programs on a college campus should be geared toward very specific groups, namely incoming freshman and transfer students. Such education programs can be integrated into the orientations that incoming freshman and transfer students are often required to attend. Or, conversely, students may be required to enroll in a seminar course that focuses on this information, along with other mental health issues that are prevalent amongst college students (e.g., depression, suicidal ideation), during their first semester on campus (Gallagher, 2002; Schwartz, 2011). It is also possible to require incoming freshmen and transfer students to complete an online education program specific to common mental health issues experienced by college students, including psychosis, in the weeks or months prior to their arrival at the institution. While, to the researcher's knowledge, such a program does not yet exist, its development may prove to be worthwhile given the demonstrated success of a similar program, *AlcoholEdu*. More specifically, *AlcoholEdu*, an online interactive program designed to diminish the negative ramifications of alcohol use amongst college students, has been effective in reducing drinking frequency, including binge drinking, among college freshman (Paschall, Antin, Ringwalt, & Saltz, 2011). Ideally, the creation and implementation of an online education program geared toward mental health issues, including psychosis, would yield similar success.

Regardless of the modality utilized by higher education institutions to implement these education programs, it is recommended that the entire gamut of information previously discussed—from the information suggested for written materials to the material proposed for the in-depth website—be included. Furthermore, it is recommended that information is provided regarding how to help individuals in mental health crises and/or those in the early phases of mental health difficulties. The method that is ultimately chosen by a given college or university will then dictate the level of detail that can be paid to these various topics when presented to students.

Recommendations for Training of Professionals

It has been established that interventions designed to help professionals recognize psychosis are of critical importance, as these efforts are correlated with a reduction in DUP (Norman et al., 2004; Padilla et al., 2015). Given the high rates of college students endorsing positive psychotic symptoms (i.e., 43% affirming eight or more positive psychotic symptoms within the past month and 25% endorsing eight or more items within the past month at the frequency required for the diagnosis of a prodromal syndrome; Loewy et al., 2007), it appears necessary to provide training to professionals within a higher education institution, as well as those in the vicinity of the institution, that are likely to come into contact with such students. In doing so, a reduction in DUP within this population is anticipated. Importantly, while the recommendations that follow are geared specifically toward university-affiliated professionals, invitations should be extended to local professionals for attendance and participation.

Of the evaluated efforts that implemented training of professionals, attempts were made to target primary care specialists, mental health professionals, and school staff (Broome et al., 2005; Chong et al., 2005; Detect, n.d.; Johannessen et al., 2001; Jørgensen, et al., 2000; Power et

al., 2007; Lester et al., 2009; Schultze-Lutter et al., 2009; Srihari et al., 2014). In generalizing this endeavor to a college environment, similar professionals should be targeted, as they constitute individuals that are likely to come across prodromal or actively psychotic pupils. For instance, given that a significant proportion of individuals experiencing FEP make contact with either a family physician (55%) or a hospital emergency service (68%) before successfully obtaining treatment (Norman et al., 2004), training of college-based and local primary care specialists is warranted. Moreover, as approximately 16% of the roughly 1.8 million college students that seek assistance from university counseling centers each year face severe psychological problems (American College Health Association, 2008; Gallagher, Gill, & Sysko, 2000), training mental health professionals situated on college campuses further appears to be appropriate, as they are likely to encounter these students of interest. Finally, given the dearth of mental health professionals on college campuses (Gallagher, 2008), school staff that engage with students one-on-one (e.g., professors, athletic coaches, residence life staff, financial aid staff, academic advisors) may serve as critical identifiers of students struggling with prodromal or actively psychotic symptoms (Hunt & Eisenberg, 2010). This is supported by research, which indicates that teachers and lecturers are in a fundamental position to recognize early signs of psychosis given their constant contact with young pupils (Collins & Holmshaw, 2008). This is further supported by empirical evidence, which has established that trainings geared toward increasing knowledge of psychosis can augment teachers' capacity to identify the signs and symptoms of this mental illness (Langeveld et al., 2011).

Various training mechanisms utilized by early identification efforts appear to be generalizable to college environments. More specifically, educational information regarding the signs and symptoms of prodromal and psychotic illnesses should be disseminated via written

materials (e.g., leaflets, newsletters). Newsletters further expanding on this information should also be circulated at regularly scheduled intervals (e.g., bimonthly). In addition to this, training sessions should be conducted in which discussions are held regarding the phases of schizophrenia, prodromal symptoms, positive psychotic symptoms, and how to identify the early signs of psychosis. At these training sessions, videos should be used in conjunction with a checklist and rating manual based on the PANSS and Diagnostic and Statistical Manual of Mental Disorders. Moreover, videos highlighting the relationship between substance use and psychosis, as well as the importance of referring individuals in a timely manner to early-intervention programs, should be shown; information regarding mechanisms to make referrals to the early detection team should be provided so as to facilitate this process. When training sessions are geared specifically for primary care specialists, videos should be utilized that depict role-played consultations with young patients manifesting FEP. In addition to this, illustrative cases of early psychosis should be discussed in depth with training participants. Importantly, it is recommended that these training methods further incorporate teachings on how to speak with students about the symptoms they are noticing, how to utilize the Prodromal Questionnaire—16 to conduct a screening for a prodromal or actively psychotic state, how to encourage self-screening online, and how to promote self-referral to the college early detection team (or counseling center if a detection team is not in place). In order to adequately prepare professionals to engage in such dialogue with students, training in effective communication strategies should be provided. For instance, the higher education institution can incorporate information regarding the "Listen-Empathize-Agree-Partner" (LEAP) method, which is a psychotherapeutic intervention that consists of communication techniques intended to reinforce the therapeutic alliance and augment treatment compliance (Amador, 2000, 2007, 2010). In addition to this,

information can be provided regarding motivational interviewing, which is a counseling technique designed to assist an individual explore and resolve ambivalence through the use of empathic listening and evocation of their individual reasons for change (Miller & Rollnick, 2012; Satre et al., 2016). In the months following these training sessions, refresher educational sessions should be held that consist of personal testimonies from early-intervention program participants.

It is important to note that attempting to train professionals associated with a higher education institution may pose a unique challenge that was not necessarily faced by community-based endeavors: ambivalence regarding participation in such trainings. While it can be argued that participation in these trainings can be mandated as a requirement of employment, it is worthwhile to explore mechanisms by which participation may be incentivized. For instance, as medical professionals and mental health specialists are frequently required to participate in continuing education, allowing for the accrual of continuing education units may serve to bolster interest and engagement. Moreover, when higher education institutions have wellness programs available to staff and faculty, attendance of training sessions can be rewarded as part of such programs. Specifically, participation in training sessions can result in the accrual of points that later can be exchanged for rewards. Conversely, participation in such trainings may be encouraged through the inclusion of a free lunch, which is a commonly used incentive for attending wellness programs. If financially feasible, attendance of these trainings may further be encouraged by offering paid bonuses to participants. As no two higher education institutions are equal, it is necessary for individual colleges and universities to reflect upon specific means for incentivizing that are viable given their unique circumstances.

Recommendations for Developing Referral Networks

Just as was done by community-based early identification efforts, college-based endeavors to educate the public should incorporate requests for referrals to the respective early detection team. In addition to this, information regarding the early detection team (e.g., a succinct description of psychosis, program intent, contact information) should be transmitted via concise pamphlets to campus-based primary care specialists, counseling center employees, professors, staff, and students. So as to highlight the utility of referrals and further encourage their occurrence, the significance of early intervention should additionally be highlighted in these pamphlets. Furthermore, as colleges and universities are recommended to engage in training of professionals, such trainings should incorporate requests for referrals to the early detection team, as well as encouragement to promote self-referral to students of concern.

Additionally, a self-assessment tool should be available to students who wish to evaluate whether they are manifesting signs of a prodromal or actively psychotic state. This tool should be made available on the aforementioned educational website designed to be accessed by students. This assessment tool can be modeled after the one put forth by Mental Health America (n.d.), which utilizes the Prodromal Questionnaire—Brief Version, a measure that has been established as possessing sensitivity ranging from 88-89%, specificity ranging from 58-68%, and is considered to be an effective self-report screen for prodromal psychosis syndromes when followed by a diagnostic interview (Loewy, Pearson, Vinogradov, Bearden, & Cannon, 2011). However, it is recommended that the questions put forth by this assessment tool be informed by the Prodromal Questionnaire—16 rather than the Prodromal Questionnaire—Brief, as the former has been found to demonstrate high sensitivity (87%) and specificity (87%) along with adequate internal consistency (Ising et al., 2012). Because false detection of a prodromal or actively

psychotic state can lead to unnecessary concern and anxiety (Yang, Wonpat-Borja, Opler, & Corcoran, 2010), the high sensitivity and specificity of the Prodromal Questionnaire—16 are particularly valuable.

In terms of feedback provided to the examinee, it is recommended that one's psychosis risk, as determined by their responses to the online assessment, is given. This, too, can be modeled after Mental Health America (n.d.), which provides one of the following responses based on the examinee's score:

- Low/No Risk for Psychosis: Your results indicate that you have none, or very few signs of psychosis.
- Possible Risk for Psychosis: Your results indicate that you are experiencing some signs of psychosis.

Importantly, it is recommended that the tentative language utilized by Mental Health America (n.d.) is incorporated into the psychosis risk feedback, particularly in the event that the examinee's results are suggestive of potential psychosis. In doing so, an effort is being made to evade excessive distress that can result from more definitive language. The use of tentative language further reflects an understanding that an online assessment measure cannot yield a diagnosis of a psychiatric condition; rather, an evaluation by a mental health professional is required for provision of a formal diagnosis.

Regardless of one's assessment results, it is recommended that information regarding psychosis is provided. Specifically, it should be stated that the illness has the capacity to affect thinking, feeling, movement, and behavior. Moreover, common signs and symptoms of psychosis should be listed, namely prodromal symptoms, positive symptoms, negative symptoms, and cognitive symptoms. As was done by Mental Health America (n.d.), a disclaimer

should be offered which makes clear that: 1) the individual's results do not mean he or she has a mental illness, and 2) the results are not meant to be considered a diagnosis. This latter point should be followed with a statement differentiating between early signs of psychosis (i.e., prodrome) and a diagnosable psychotic disorder. It is further suggested that information is listed regarding additional factors that can cause psychosis, such as stress, lack of sleep, drug use, and head trauma (Mental Health America, n.d.). Similar to Mental Health America (n.d.), various links to resources should be provided to the examinee. Specifically, a link to the aforementioned website designed to disseminate psychosis-related information should be provided, along with contact information for the university's early detection team (or counseling center if a detection team is not in place). On occasions when an individual is considered a possible risk for psychosis based on their results, feedback should further include explicit encouragement to contact the early detection team (or, again, the counseling center), as well as someone in their support system, such as a parent, mentor, or trusted individual (Mental Health America, n.d.).

In addition to these suggestions, it is recommended that colleges and universities develop a mobile application specifically to allow for communication between the campus community and the early detection team. Thus, a means for electronic referrals is established. A similar endeavor has been undertaken by *LiveSafe*, a mobile safety system that allows for effective safety-related communication via a campus safety application connected to a cloud-based command dashboard (LiveSafe, n. d.). The goal of *LiveSafe* is for students to communicate information with friends and safety officials about sexual assault, mental health issues, and violence, thereby averting incidents before they transpire (LiveSafe, n. d.). Through iPhone and Android devices, students have the ability to report GPS-tagged information, along with photos, video, and audio clips (LiveSafe, n. d.). Safety officials are then able to reply to students with the

use of a Command Dashboard using a real-time two-way chat, or investigate further by utilizing the information submitted (LiveSafe, n. d.). It is recommended that *LiveSafe's* technology be used to inform the development of an early detection team's mobile application, as it provides students a means to easily communicate concerns and referrals to this team via their smartphones.

Higher education institutions should also utilize already-established organizations on campus as referral sources. Specifically, organizations that focus their attention on student behavior and safety should be targeted. Examples of such assemblies include behavioral intervention teams, behavioral assessment teams, and threat assessment and management teams (See Appendix D) for a detailed description of these teams). When concerns regarding student behavior are deemed below the threshold necessary for action by these organizations, referrals can be made, if appropriate, to the college or university detection team for further review.

Recommendations for Early Detection Teams

Research has established that prodromal and acutely psychotic individuals identified via detection teams respond as well to treatment as those identified through ordinary referral channels (Johannessen et al., 2007). Thus, when feasible, it is recommended that colleges or universities form early detection teams to identify students at risk for psychosis. The aim of such teams, overall, is to reduce sources of delay that contribute to elongated durations of untreated psychosis. Stated differently, these early detection teams will seek to reduce the time between identification of problem behavior and entry into treatment.

The methods employed by community-based early detection teams appear generalizable to a higher education environment. More specifically, within a college campus, an early detection team can be established under the auspices of the counseling center. This team can be

led by staff clinicians, such as psychologists, marriage and family therapists, and social workers. In instances where this is not feasible due to already heavy workloads, undergraduate students, graduate students, and pre-doctoral psychology interns can be utilized, either as paid employees or volunteers, who are supervised by mental health professionals. This detection team should accept self-referrals via an established telephone hotline that operates during standard working hours. Outside of these hours and on weekends, an answering machine should be utilized to accept messages from callers.

When contacting self-referred individuals for an initial phone screening, it is recommended that the Prodromal Questionnaire—16 be utilized. This measure has demonstrated high sensitivity (87%) and specificity (87%), as well as adequate internal consistency (Ising et al., 2012). As previously discussed, the high sensitivity and specificity of this assessment tool are advantageous, as needless apprehension and distress may ensue as a result of false detection of a prodromal or actively psychotic state (Yang et al., 2010). Moreover, the low number of items makes the Prodromal Questionnaire—16 ideal for screening sizeable populations, which augments the viability of early identification (Ising et al., 2012). While Ising et al. (2012) recommend a cutoff score of six or more affirmed items to consider an individual at ultra high-risk for developing psychosis, it is necessary to consider that persons being screened are sometimes hesitant to be wholly forthcoming regarding their symptomatic experience; thus, a lower cutoff score—possibly four—should be utilized. Those who meet or exceed this cutoff score should then be referred for an in-person assessment by the early detection team at a flexible location that is acceptable to the individual (e.g., the counseling center, their place of residence, a public location on campus). Importantly, endorsement of items deemed as critical (e.g.,

endorsing olfactory or gustatory hallucinations) could also warrant an in-person assessment despite a final score that is below the cutoff.

In addition to the Prodromal Questionnaire—16, questions regarding genetic risk and functional deterioration should be asked. For instance, individuals being screened may be asked whether they currently meet criteria for schizotypal personality disorder or have a first-degree relative with a psychotic disorder. Moreover, they should be asked about changes in functioning (e.g., academic deterioration, social isolation) to determine whether deterioration is present. If either is present, the individual should be referred for an in-person assessment regardless of their score on the Prodromal Questionnaire—16.

In conducting the in-person assessment, the Structured Interview for Prodromal Syndromes should be utilized, as it demonstrates adequate predictive validity and excellent sensitivity and specificity (i.e., 100% sensitivity 24-months post-assessment; specificity ranging between 71% and 74% 6 to 18-months post-assessment; Miller et al., 2003). If it is found that one of three prodromal syndrome diagnoses is warranted (i.e., frankly psychotic positive symptoms that are too transitory and sporadic to comprise a wholly psychotic syndrome; attenuated positive symptoms; or functional decline in the presence of genetic risk), the individual should be referred for treatment/intervention. Given that 73% of college counseling centers either limit the number of sessions students are allowed or explicitly promote their center as a short-term service (Gallagher, 2014), it is likely impractical for these centers to offer services to the identified students in need. Thus, it is recommended that colleges and universities maintain a knowledge of treatment/intervention services in the surrounding area that can adequately serve these individuals so as to make appropriate referrals. Again, higher education

institutions may turn to the Partners for StrongMinds website for information regarding nearby Coordinated Specialty Care (Partners for StrongMinds, n.d.).

On occasions when higher education institutions do not have the resources to form an early detection team, it is recommended that behavioral intervention teams, behavioral assessment teams, or threat assessment and management teams already in place within an institution assume this role and carry out the aforementioned recommendations. These teams are typically comprised of a wide range of professionals, many of which lack specialized training in mental health (Mrad, Hanigan, & Bateman, 2015; Perloe & Pollard, 2016). Thus, it is recommended that members of these teams be required to participate in trainings geared specifically toward enriching knowledge of psychosis. Such trainings should aim to provide individuals with a sufficient understanding of the nature and course of psychosis, as well as what typical treatment entails; to prepare these professionals to recognize the signs and symptoms of the disorder, including prodromal symptoms, positive symptoms, negative symptoms, and cognitive symptoms; and to teach effective strategies for approaching students of concern with the intent of encouraging self-referral to an early intervention program.

For higher education institutions where an early detection team is unfeasible and a behavioral intervention team, behavioral assessment team, or threat assessment and management team is not already in place, it is recommended that a knowledge of nearby early identification efforts is held. Such an awareness can allow for the utilization of these efforts to identify students that may be facing a prodromal or actively psychotic state. This, in turn, may allow for timely receipt of treatment/intervention. In order to obtain an awareness of nearby early identification efforts, higher education institutions may consult the Partners for StrongMinds

website, which collects and updates information regarding Coordinated Specialty Care across the U.S. (Partners for StrongMinds, n.d.).

Critical alteration to college- or university-based detection teams. Importantly, the efforts of a college- or university-based detection team should differ from those based in the community in the following respect: Endeavors to actively pursue students that appear at risk for psychosis should be adamantly avoided. This is critical, as proactive pursuit of such students may generate a negative view of detection teams as "mental health police" amongst the student body.

Recommendations for Program Evaluation

While it was beyond the scope of this dissertation to carry out or assess the recommendations that were proposed, this will be an important endeavor to undertake. Such a program evaluation is critical, as colleges and universities will need to be aware of the outcomes of the procedures recommended by this research. In carrying out such an endeavor, it is suggested that the following variables be measured or tracked:

1. Public Education: Knowledge pertaining to early signs/symptoms of psychosis within the campus community over time.
2. Training of Professionals: Knowledge regarding early signs/symptoms of psychosis amongst campus staff.
3. Training of Professionals: Knowledge pertaining to effective communication strategies one can utilize with students who are suspected of being at risk for psychosis so as to encourage self-referral.
4. Developing Referral Networks: The number of referrals made to the early detection team and/or counseling center.

5. Early Detection Teams: The number of students that utilized the early detection team.
6. Early Detection Teams: Student ratings of their experience making contact and working with the early detection team.
7. Treatment/Intervention: The number of students who obtain treatment and where.
8. Treatment/Intervention: The impact of treatment/intervention on multiple variables, including enrollment status over time, graduation, and ratings of quality of life.

Prioritization of Recommendations

While implementation of all aforementioned recommendations is ideal, it is understood that such an undertaking may not always be feasible. Consequently, a discussion of how these endeavors may be prioritized is warranted. The following is a possible sequence of importance of the recommendations put forth by this research:

Priority 1: Public education, development of referral network, and treatment/intervention. Research has established that public education campaigns can result in significant increases in knowledge pertaining to the given topic (Trussell, Koenig, Vaughan, & Stewart, 2001). Furthermore, public education campaigns are already a common occurrence on college campuses (DeJong, 2002; Vader, Walters, Roudsari, & Nguyen, 2011). Given the clear utility of these campaigns, as well as their established presence amongst higher education institutions, implementation of public education efforts may be the most manageable. Importantly, development of a referral network should be prioritized in conjunction with public education, as it has been recommended that endeavors to educate the public should incorporate requests for referrals to the respective early detection team (or college counseling center if an early detection team is unfeasible). In addition to development of a referral network, higher education institutions should carry out the recommendations for treatment/intervention

simultaneously with public education endeavors. Specifically, colleges and universities should maintain a knowledge of treatment/intervention services in the surrounding area that can adequately serve individuals identified as at risk for psychosis. In doing so, the early detection team or college counseling center will be adequately prepared for the influx of referrals resultant of efforts to engage in public education and development of a referral network.

Priority 2: Training of professionals, development of referral network, and treatment/intervention. Because staff training and development is already a typical element of employment within colleges and universities, the recommendations put forth to train professionals may be embedded into these occurrences and subsequently practically achieved. Moreover, development of a referral network should be emphasized concurrently with training of professionals, as it has been recommended that referral information be provided during training sessions in order facilitate the referral process. Furthermore, colleges and universities should execute the aforementioned recommendations for treatment/intervention in conjunction with training of professionals; as previously stated, doing so will ensure that staff within an early detection team or college counseling center are sufficiently prepared to respond to the influx of referrals regarding individuals that may be at risk for psychosis.

Priority 3: Early detection teams. The development of an early detection team is by far the most involved endeavor of the recommendations put forth as it requires a great deal of resources, including physical space, staff, and equipment. Each of the aforementioned recommendations can be carried out without the existence of an early detection team, as an already-established counseling center within a college or university can take on the responsibilities of such a team. However, it is important to highlight the utility of an early detection team within a higher education institution. More specifically, such a team would be

comprised of staff that are specifically trained to assess and identify individuals at risk for psychosis. This is in stark contrast to a college counseling center which is made up of staff who, despite possible participation in the "training of professionals" recommendations, remain focused on broader mental health concerns. Moreover, there exists the possibility that the duty of staff to engage in early identification may be set aside in order to focus on other responsibilities associated with their role; given that an early detection team's primary duty is to assess and identify students at risk for psychosis, this latter concern would not be an issue. Thus, the formation of an early detection team is ideal, as it may enhance the process of identifying students at risk for psychosis.

Risks and Benefits of Early Detection and Intervention

Importantly, the risks of early detection and intervention for psychosis must be considered. These risks involve two primary issues: stigma and psychotropic medication side effects (McGlashan, 2005). In regard to stigma, there exists a potential risk of stigmatizing individuals "as psychotic and doomed to chronic illness" (McGlashan, 2005, p. s114). However, according to McGlashan (2005), this risk can be mitigated by providing education and counseling to persons regarding psychosis, as well as about the probability of advancing to the onset of an SSD. Importantly, while it may be tempting to "protect" an individual from distress by withholding knowledge of their risk for psychosis, such an act can be considered a violation of their civil liberties and right to being informed (McGlashan, 2005).

There also exists the potential for adverse side effects due to psychotropic medication use. Atypical neuroleptics, which are the most frequently prescribed drug for schizophrenia, yield immediate side effects that are moderate in frequency and modest in gravity (McGlashan, 2005; Nasrallah, 2008). These immediate side effects include weight gain, glucose dysregulation,

and dyslipidemia (McGlashan, 2005; Nasrallah, 2008). Importantly, atypical neuroleptics also carry the risk of inducing serious complications, including extrapyramidal side effects (e.g., akathisia [a movement disorder typified by a feeling of inner restlessness and a powerful need to be in constant motion], facial grimacing) and tardive dyskinesia (i.e., a movement disorder characterized by stereotypic, choreiform or athetoid involuntary movements in one's mouth, tongue, face, extremities, or body; Cavero-Redondo, Álvarez-Bueno, Pozuelo-Carrascosa, Díez-Fernández, & Notario-Pacheco, 2015; Lieberman, 2004; Nalbant et al., 2016). There also exists the potential for anticholinergic side effects, such as dry mouth, constipation, bowel obstruction, blurred vision, impaired concentration, and memory impairment (Lieberman, 2004). While long-term side effects of atypical neuroleptics remain indefinite, they may include cardiovascular health risks, decreased medication adherence, and may eventually lead to clinical deterioration (McGlashan, 2005; Nasrallah, 2008). Given that antipsychotic medications serve as a common treatment for psychosis, a thorough understanding of these side effects is crucial (Broome et al., 2005; Joa, et al., 2015; Jørgensen, et al., 2000).

In regard to benefits of early detection and intervention for psychosis, a primary gain is that of discovering one's legitimate risk for psychosis over time (McGlashan, 2005). In addition to clarifying what the individual is truly experiencing (i.e., a prodrome), early detection can elucidate factors that may have influenced the manifestation of prodromal symptomatology, such as substance use and social stress (Addington et al., 2014; McGlashan, 2005; Mizrahi, 2016). Moreover, identified individuals will receive the benefit of earlier intervention than is typical for FEP (McGlashan, 2005).

Cultural Considerations for Early Detection and Intervention

Initial research on psychosis (e.g., Falloon, 1992) pointed toward the necessity of early intervention for psychotic disorders (Chen, 2013). Consequently, groundbreaking efforts transpired in Australia and Norway in an attempt to initiate services that focus on the requisites of early identification and intervention (McGlashan & Johannessen, 1996; McGorry et al., 1996). The success of these pilot efforts served as motivation for the formation of such programs in a growing number of locations internationally (Chen et al., 2011; Henry et al., 2010; Petersen et al., 2005). In 1998, the International Early Psychosis Association was founded with the purpose of promoting scientific research and service formation (Chen, 2013). Over the last two decades, we have seen the advancement of early psychosis detection and intervention teams across Europe, Australia, New Zealand, Asia, and North America (Chen, 2013).

Prior to the implementation of early identification and intervention services in Asia, such endeavors transpired in locations that embrace a "Western" culture (Chen, 2013). Thus, Chen (2013) argues that, aside from local alterations to the implementation method of services, the necessity of adjustments for cultural differences in these Western endeavors is fairly minute. However, as these endeavors continue to increase beyond Western civilizations, the importance of cultural variables intensifies (Chen, 2013). The interaction between culture and the manifestation and management of psychosis can drastically impact the efficacy of intervention (Chen, 2013). Accordingly, rather than merely grafting a current endeavor from one setting to another, it is necessary to be mindful of cultural differences that may warrant methodological adaptations (Chen, 2013).

While Chen (2013) proposes that the need for alterations in early identification and intervention efforts based on cultural differences within Western societies is relatively small, it is

important to note that he does not outright discount the need for such modifications. Despite the broad categorization of various countries as "Western," cultural differences between these nations do exist. Consequently, a mindfulness of such differences on the part of colleges and universities is critical when implementing the aforementioned recommendations, as they have been informed by international endeavors. Such differences include but are not limited to varying levels of importance of social networks, which may impact the likelihood of symptomatology recognition by others and disclosure to the affected individual; differences in treatment practices based on cultural attitudes, which may obstruct help-seeking behavior; and expectations within families to care for members who do not have the capacity to care for themselves, which may delay the procurement of professional assistance (Kalla et al., 2002). Still further, colleges and universities should be mindful of their unique institutional culture which may impact the effectiveness and success of the proposed recommendations. For instance, variables such as stigma, contextual events that have occurred on campus, pessimistic beliefs pertaining to the prognosis of psychosis, and the size of a college or university can significantly affect the result of early identification efforts on a college campus. Thus, it is critical that attention is paid to cultural differences across various categories ranging from larger, international variances to smaller, institutional differences.

Ethical Concerns for Early Detection and Intervention

Given the upsurge of research on individuals at risk for psychosis, along with the introduction of Attenuated Psychosis Syndrome in DSM-5 under "conditions for further study," it is necessary that higher education institutions remain mindful of the ethical considerations involved in working with students at risk for an SSD (Cassetta & Goghari, 2015). Such a mindfulness is vital, as a review of the Ethical Principles of Psychologists and Code of Conduct

(American Psychological Association, 2010) reveals a plethora of ethical predicaments that may surface when working with this population (Cassetta & Goghari, 2015).

Respect for peoples' rights and dignity. Psychologists and other mental health professionals possess an ethical responsibility to respect the rights and dignities of those they serve (Cassetta & Goghari, 2015). Consequently, a critical task for these professionals is to ensure that those being assessed for psychosis risk retain power over their own lives and are not denied their personal freedoms (Cassetta & Goghari, 2015). Moreover, when obtaining consent from individuals for early detection and intervention, discussions pertaining to the purpose and quality of services, as well as the possible risks and benefits, should be had (Cassetta & Goghari, 2015). During the course of this process, mental health professionals should strive to protect vulnerable individuals, particularly juveniles and those with cognitive deficits (Cassetta & Goghari, 2015). Furthermore, it is necessary to maintain an awareness of state and federal laws and regulations regarding confidentiality, especially when working with minors or family members with a desire to be informed of assessment results (Cassetta & Goghari, 2015).

Beneficence and nonmaleficence. It is necessary to thoroughly discuss the risks and benefits of early psychosis detection and intervention with individuals prior to their involvement (Cassetta & Goghari, 2015). For instance, when detailing the risk of stigmatization, the possibility of information misuse by insurance companies or employment agencies should be addressed (Cassetta & Goghari, 2015). Moreover, the risks related to use of psychotropic medication and psychotherapies should be thoroughly reviewed (Cassetta & Goghari, 2015). Conversely, benefits of early detection and intervention, including the possibility of averting transition to an SSD or obtaining a deeper comprehension of one's behavioral symptomatology, are equally important to discuss (Cassetta & Goghari, 2015). Lastly, those working in the mental

health field should be judicious when relaying the results of early psychosis screening, as there exists the possibility of misinterpretation of this information by the individual (Cassetta & Goghari, 2015). Such care is vital, as a misunderstanding of results may yield adverse consequences on the individual's welfare (Cassetta & Goghari, 2015).

Fidelity and responsibility. Mental health professionals should maintain knowledge regarding the existing evidence supporting the assessment tools and early intervention practices they are carrying out with their clientele (Cassetta & Goghari, 2015). In doing so, professionals put themselves in a position where they can easily fulfill their additional duty of delivering correct information to individuals, which allows these persons to make informed decisions regarding obtainment of services (Cassetta & Goghari, 2015). Moreover, mental health professionals should not circumvent use of the term "psychosis" in their work with at-risk persons, as this may serve to bolster stigmatization of SSDs (Cassetta & Goghari, 2015).

Justice. It is of great importance that those working with at-risk individuals be mindful of their cognitive biases concerning individuals with SSDs, as well as to make certain that these partialities are not adversely influencing their capacity to remain objective or to foster rapport with their clientele (Cassetta & Goghari, 2015). Furthermore, mental health professionals working with this particular population should remain current on the latest research regarding individuals at risk for psychosis, particularly that which pertains to assessment strategies and intervention approaches (Cassetta & Goghari, 2015). It is also recommended that professionals publishing research findings on this topic ensure that their conclusions are not being misrepresented by policymakers, the media, or the general public (Cassetta & Goghari, 2015).

Strengths and Limitations of the Present Study

The present research demonstrates notable strengths, including the following:

1. An original contribution is made to the literature, as, to the investigator's knowledge, there does not yet exist a set of recommendations for colleges and universities to engage in the identification of students at risk for psychosis. Thus, this research establishes an innovative model of early identification of psychosis for higher education institutions.
2. The development of protocols in a written, publishable manner makes it possible to influence a wide-ranging audience at a relatively low cost.
3. The recommendations put forth by this study are informed by the large body of research that has examined means for identifying individuals at risk for psychosis within the community. Thus, this research leverages existing modalities that have been found to be effective at identifying such individuals, thereby augmenting the likelihood of success.
4. Recommendations are proposed in a manner that allows colleges and universities to select specific elements they wish to endeavor. Thus, flexibility is built into the recommendations, as higher education institutions that differ in various characteristics, including size and access to resources, have the liberty to implement the suggestions that are deemed feasible.

Limitations of this research include the following:

1. There exists an issue of funding, as the proposed recommendations require varying degrees of financing. Of the community-based early identification of psychosis efforts that were reviewed, several were made possible via grants. Colleges and universities, on the other hand, may not have this same luxury and instead may hold sole responsibility for funding these endeavors.

2. As previously cited, the dearth of research on early identification of psychosis within colleges and universities allows this dissertation to serve as a novel model for this endeavor. However, this lack of prior research also serves as a limitation, as this dissertation was unable to benefit from a literature base focused on the effectiveness of community-based methodologies within the unique setting that is higher education institutions.
3. Colleges and universities may be reluctant to implement early psychosis identification efforts due to the low incidence rate of SSDs. Rather, their interest may lie in targeting mental illness in more broad terms.

Concluding Remarks

There appears to be mounting evidence supporting the importance of efforts to identify students at risk for psychosis within a higher education institution. For one, there has been a noticeable upsurge in the number of students with serious psychological issues on campus (Kitzrow, 2009). This may be partly due to the significant overlap between typical college student age and the age of onset for SSDs (Sung & Puskar, 2006), as well as the continuous increase in the incidence of schizophrenia, particularly in individuals under the age of 35 (Boydell et al., 2003). Not only can early identification enhance the probability of better prognosis for individual students, it can offer the possibility of complete evasion or reduction in psychotic symptoms and their consequences; regardless, both the individual affected and the college or university as a whole stand to benefit significantly from implementation of the recommendations put forth.

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APPENDIX A

Recommendations Provided in Executive Summary Format

Early Identification of Individuals at Risk for Psychosis: Recommendations for Colleges and Universities

Background

It is well known that psychotic disorders serve as a source of grave distress (Srihari et al., 2014), as their symptoms affect thinking, feeling, movement, and behavior (Miller & Mason, 2011). The experience of sub-threshold psychotic symptoms (e.g., perceptual illusions, superstitious beliefs) can prove to be extremely upsetting as well (Denenny, Thompson, Pitts, Dixon, & Schiffman, 2015). This is of concern because psychotic symptoms may be experienced by the general population at greater rates than previously thought. Studies have shown that a sizeable portion of the general public endorse a psychotic experience at one point or another without meeting criteria for the diagnosis of a psychotic disorder (Hanssen, Bijl, Vollebergh, & van Os, 2003; Kendler, Gallagher, Abelson, & Kessler, 1996).

Presently, there is an abundance of research aimed at early identification of individuals at risk for psychosis that has transpired in community-based settings (e.g., Johannessen et al., 2001; Power et al., 2007; Srihari et al., 2014). This is due in part to research which has established that decreasing the duration of untreated psychosis (DUP), which is the time between the onset of psychotic symptoms and the commencement of treatment, has the capacity to yield moderate improvements in the ultimate outcome of persons with schizophrenia-spectrum disorders (SSDs; Gonçalbes, de Rosalmeida Dantas, & Banzato, 2016; Reading & Birchwood, 2005). Thus, interest has emerged in the possibility of providing intervention prior to the onset of psychosis (Gonçalves, de Rosalmeida Dantas, & Banzato, 2016). By intervening during the prodromal phase, when one's psychological and interpersonal assets are reasonably stable, the opportunity to correct the undesirable course of the illness may be at its greatest (Addington et al., 2007).

Despite this, there appears to have been limited efforts to generalize such research to a college environment in the United States. This is unexpected, as there is significant overlap between typical college student age and the age of onset for SSDs (i.e., late adolescence and early adulthood; Sung & Puskar, 2006). In fact, there appears to be a continuous increase in the incidence of schizophrenia, particularly in individuals under the age of of 35 (Boydell et al., 2003). Research specifically examining a college population found that forty-three percent of the given sample affirmed eight or more positive symptoms (e.g., delusions, hallucinations) within the past month on the Prodromal Questionnaire, while 25% endorsed eight or more items within the past month at the frequency required for prodromal syndrome diagnosis by interview (Loewy, Johnson, & Cannon, 2007). These points may be contributing factors as to why there has been a noticeable upsurge in the number of students with serious psychological issues on campus (Kitzrow, 2009). More specifically, Gallager and Taylor (2014) found that 52% of counseling center clients had severe psychological problems, which was an increase from 44% in 2013. Of these 52%, 8% had impairments so serious that they could not continue with their education, or could only do so with vast psychological/psychiatric assistance (Gallager & Taylor, 2014). Furthermore, it was found that 90% of counseling centers hospitalized an average of 9 students for psychological reasons in 2014 (Gallager & Taylor, 2014). Accordingly, efforts to engage in early identification of individuals at risk for psychosis on college campuses may greatly benefit a subset of the increasing number of students facing

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serious psychological issues—namely, those that are at risk for psychosis.

Purpose and Goals of this Resource

In order to address the dearth of early identification of psychosis efforts on college campuses, a comprehensive review of the literature pertaining to such endeavors in community-based settings was conducted. This review then informed the development of recommendations for higher education institutions to engage in early identification of psychosis efforts within their student body. It is hoped that these recommendations will allow for the earliest possible identification of psychosis in college students, as early identification enhances the probability of a better prognosis and, potentially, for an evasion or reduction in psychotic symptoms and their consequences.

How Psychosis Impacts the Individual

Individuals with an SSD encounter increased difficulties across life experiences. For instance, Sung and Puskar (2006) identified six broad categories of challenges faced by adolescents and young people with psychotic disorders. These categories include challenges involved with:

1. Family interactions
2. Interactions with friends
3. School life
4. Managing everyday life
5. Social role performance
6. The experience of having a mental illness

Individuals struggling with psychosis are also at an increased risk for self-harm and suicide (Taylor, Hutton, & Wood, 2016). Self-harm, which may or may not involve the intention to take one's life, is prominent in individuals diagnosed with an SSD (lifetime prevalence 30%; Mork et al., 2013). It is also well established in the literature that persons diagnosed with an SSD experience elevated rates of suicidal behavior, such as completed suicide (lifetime prevalence 4.9-6.6%; Palmer et al., 2005; Nordentoft et al., 2011), suicide attempts (lifetime prevalence 30.2%; Radomsky et al., 1999), and ideation (15-day prevalence 20.4%; Kontaxakis et al., 2004). Nielssen and Large (2009) found that about half of all suicide attempts linked to psychosis transpire during the first episode of the illness. Investigative studies of SSDs propose that suicidality may be particularly distinct during the initial stage of the disorder (Palmer et al., 2005). Thus, it appears that individuals in the initial stage of FEP are particularly vulnerable to suicidality.

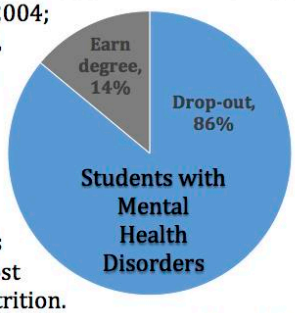
Despite popular belief, individuals with SSDs are more likely to be victims of violence as opposed to perpetrators of violent deeds (Brekke, Prindle, Bae, & Long, 2001). This point is evidenced by research conducted by Silver, Arseneault, Langley, Caspi, and Moffitt (2005), which found that individuals diagnosed with schizophreniform disorder had considerably greater rates of threatened physical assaults, completed physical assaults, and sexual assaults than persons without a mental disorder.

The aforementioned consequences of psychosis are substantial in and of themselves. However, they are exacerbated by the fact that a diagnosis of an SSD naturally entails high treatment costs. Research has found that treatment of psychotic disorders can cost upwards of £14,394 (~$22,500) per annum and £40,816 (~$63,803) over a three-year period (McCrone, Knapp, Dhanasiri, 2009). There are a variety of services included in these costs, such as appointments with professionals (e.g., general practitioners, psychiatrists, and psychologists), inpatient hospital stays, and pharmaceuticals (Neil et al., 2014). Ideally, health insurance would cover these high costs of treatment. However, discontinuities in health insurance coverage often

prevent this from occurring and leave the affected individual to finance these costs.

How Psychosis Impacts Colleges and Universities

The manifestation of psychosis within a student body may negatively impact higher education institutions. This is evidenced by the striking upsurge of lawsuits aimed at universities (Evans & Evans, 1998), particularly those involving student suicide (Moore, 2005). Given the relationship between psychosis and increased rates of suicidal behavior, it appears that colleges remain vulnerable to such lawsuits (Kontaxakis et al., 2004; Nordentoft et al., 2011; Palmer et al., 2005; Radomsky et al., 1999).



Another negative consequence of student psychosis is the possibility for lost revenue from attrition. According to a national survey conducted by Kessler, Foster, Saunders, and Stang (1995), 86% of college students with mental health disorders (e.g., SSDs) dropped out of school without completing a degree. This is more than double the college dropout rate for the general population, which is estimated to range between 30% and 40% (Porter, 1990). This is a critical concern for colleges, as they lose a significant amount of money when students depart due to loss of tuition, fees, bookstore purchases, and costs related to housing and food (Raisman, 2013).

A secondary consequence of attrition is a lower ranking for the college or university. U.S. News establishes an institution's rank amongst national universities and liberal arts colleges by generating a weighted average of the institution's scores on seven wide-ranging categories of academic input and outcome measures. In the past, the weight given to the category of retention rate has been 20% (Monks & Ehrenberg, 1999). Thus, the influence of this one category is demonstrated, as one-fifth of an institution's ranking relies on it.

The presence of student psychosis may also adversely affect the campus community. More specifically, it may cause a lower quality of life for peers in close proximity to the actively psychotic individual, such as those sharing a room or floor with an individual experiencing first episode psychosis. Additionally, fear may spread through the student body, as persons with severe mental illness are often perceived as unpredictable and dangerous (Crisp, Gelder, Goddard, & Meltzer, 2005).

Recommendations for Colleges and Universities

Public Education

Multi-media Use: Higher education institutions should utilize mass media (e.g., websites, university-affiliated newspapers, commercials aired on university television channels) to provide information pertaining to psychosis. Specifically, the following information should be emphasized: common signs of psychosis; a description of the nature and course of psychosis and SSDs (e.g., the stages of schizophrenia); common signs and symptoms of SSDs (e.g., prodromal symptoms, positive symptoms, negative symptoms, cognitive symptoms); the importance of early intervention; what typical treatment entails; and information regarding the early detection team, including contact information. Because social media is a prominent technology utilized by young adults, it is suggested the aforementioned psychosis-related information be shared via posts on platforms such as Facebook, Twitter, and Snapchat. Furthermore, electronic advertisements should be generated that depict information regarding common SSD symptoms, a statement encouraging the reader to seek assistance should these symptoms sound familiar, and contact information for the college or university's early detection team.

Public Announcements: Given that posters are a commonly found medium on university campuses (Potter, Moynihan, Stapleton, &

Banyard, 2009), several should be employed that depict the same information recommended for social media advertisements.

Higher education institutions should deliver written resources and promotional items (e.g., calendars, bookmarks, postcards, car stickers, T-shirts) to university-affiliated residences and heavily-frequented locales on campus. Depending on the size of these materials, variations of the aforementioned psychosis-related educational information should be included. It is further recommended that efforts be made to partner with various clubs and organizations affiliated with the university (e.g., NAMI, Psi Chi, Greek organizations) when coordinating the dispersal of written materials.

Information Directed at Professionals: Schools should also disperse pamphlets, brochures, and educational booklets with the aforementioned psychosis-related information to professionals (e.g., college-based primary care specialists, counseling center staff) who are encouraged to share these materials with students with whom they come into contact with.

Large-scale events: In accordance with Mental Illness Awareness Week, colleges and universities should host events on campus, ideally in a heavily trafficked locale, where scientific presentations and art exhibitions are held, talks are given by patients, families, and professionals, and educational materials previously referenced are distributed.

Instructional Formats: Colleges and universities should further implement education programs using an instructional format geared toward incoming freshman and transfer students. Such education programs can be integrated into the orientations that incoming freshman and transfer students are often required to attend. Or, conversely, students may be required to enroll in a seminar course that focuses on this information, along with other mental health issues that are prevalent amongst college students (e.g., depression, suicidal ideation), during their first semester on campus (Gallagher, 2002; Schwartz, 2011). It is also possible to require incoming freshmen and transfer students to complete an online education program specific to common mental health issues experienced by college students, including psychosis, in the weeks or months prior to their arrival at the institution.

Training of Professionals

When implementing efforts to train professionals, primary care specialists, mental health professionals, and school staff that engage with students one-on-one (e.g., professors, athletic coaches, academic advisors) should be targeted. Educational information regarding the signs and symptoms of prodromal and psychotic illnesses should be disseminated to these persons via written materials (e.g., leaflets, newsletters). Additionally, training sessions should be conducted which focus on the phases of schizophrenia, prodromal symptoms, positive psychotic symptoms, how to identify the early signs of psychosis, and how to refer to the detection team. In order to adequately prepare professionals to engage in help-seeking dialogue with students, training in effective communication strategies should be provided.

Developing Referral Networks

College-based endeavors to educate the public should incorporate requests for referrals to the respective early detection team. In addition to this, information regarding the early detection team (e.g., a succinct description of psychosis, program intent, contact information) should be transmitted via concise pamphlets to campus-based primary care specialists, counseling center employees, professors, staff, and students. So as to highlight the utility of referrals and further encourage their occurrence, the significance of early intervention should additionally be highlighted in these pamphlets. Furthermore, as colleges and universities are recommended to engage in training of professionals, such trainings should incorporate encouragement to promote self-referral to students of concern.

Additionally, a self-assessment tool should be available to students who wish to evaluate whether they are manifesting signs of a prodromal or actively psychotic state. This tool should be made available on the aforementioned educational website designed to be accessed by students. On occasions when an individual is

considered a possible risk for psychosis based on their results, feedback should include explicit encouragement to contact the early detection team.

In addition to these suggestions, it is recommended that colleges and universities develop a mobile application specifically to allow for communication between the campus community and the early detection team. Thus, a means for electronic referrals is established.

Early Detection Teams

Within a college campus, an early detection team can be established either independently or under the auspices of the counseling center. This team can be led by staff clinicians, such as psychologists, marriage and family therapists, and social workers. In instances where this is not feasible due to already heavy workloads, undergraduate students, graduate students, and pre-doctoral psychology interns can be utilized, either as paid employees or volunteers, who are supervised by mental health professionals. This detection team should accept self-referrals via an established telephone hotline that operates during standard working hours. Outside of these hours and on weekends, an answering machine should be utilized to accept messages from callers. When contacting self-referred individuals for an initial phone screening, it is recommended that the Prodromal Questionnaire—16 be utilized, as it has demonstrated high sensitivity (87%) and specificity (87%), as well as adequate internal consistency (Ising et al., 2012). Furthermore, questions pertaining to genetic risk and functional decline should be asked.

If an in-person assessment is warranted based on the initial phone screening, the Structured Interview for Prodromal Syndromes should be utilized, as it demonstrates adequate predictive validity and excellent sensitivity and specificity (i.e., 100% sensitivity 24-months post-assessment; specificity ranging between 71% and 74% 6 to 18-months post-assessment; Miller et al., 2003). If it is found that one of three prodromal syndrome diagnoses is warranted (i.e., frankly psychotic positive symptoms that are too transitory and sporadic to comprise a wholly psychotic syndrome; attenuated positive symptoms; or functional decline in the presence of genetic risk), the individual should be referred for treatment/intervention.

Given that 73% of college counseling centers either limit the number of sessions students are allowed or explicitly promote their center as a short-term service (Gallagher, 2014), it is likely impractical for these centers to offer services to the identified students in need. Thus, it is recommended that colleges and universities maintain a knowledge of treatment/intervention services in the surrounding area that can adequately serve these individuals so as to make appropriate referrals. Higher education institutions may turn to the Partners for StrongMinds website for information regarding nearby Coordinated Specialty Care (Partners for StrongMinds, n.d.).

Importantly, endeavors to actively pursue students that appear at risk for psychosis should be adamantly avoided. This is critical, as proactive pursuit of such students may generate a negative view of detection teams as "mental health police" amongst the student body.

Conclusion

There appears to be mounting evidence supporting the importance of efforts to identify students at risk for psychosis within a higher education institution. For one, there has been a noticeable upsurge in the number of students with serious psychological issues on campus (Kitzrow, 2009). While this increase is not solely accounted for by the presence of psychosis amongst the student body, it is possible that this phenomenon may be a contributing factor; this is conceivable, as there exists significant overlap between typical college student age and the age of onset for SSDs (Sung & Puskar, 2006), as well as a continuous increase in the incidence of schizophrenia, particularly in individuals under the age of 35 (Boydell et al., 2003). Not only can early identification enhance the probability of better prognosis for individual students, it can offer the possibility of complete evasion or reduction in psychotic symptoms and their

consequences; regardless, both the individual affected and the college or university as a whole stand to benefit significantly from implementation of the recommendations put forth.

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APPENDIX B

Early Identification of Psychosis: Psychological Assessments to Determine Whether Psychosis is Suspected

	FETZ	The EPPIC and PACE Initiatives	Identification and Characterization…China	OASIS	OPUS	The PEPP/ECIP Service in Canada	REDIRECT	The Prevention of Psychosis Study	The Singapore EPIP Project	The STEP-ED Study	The TIPS Project
Structured Clinical Interview for DSM		•		•		•		•	•	•	
Scale for the Assessment of Negative Symptoms		•			•	•					
Scale for the Assessment of Positive Symptoms					•						
Premorbid Adjustment Scale		•			•		•			•	
Prodromal Questionnaire—16			•								
Symptom Checklist—90			•								
Positive and Negative Syndrome Scale	•			•			•			•	•
Structured Interview for Prodromal Syndromes	•							•		•	

APPENDIX C

Psychosis Poster Example

Sound like you or someone you know?

Check it out!

Visit www.YourSchoolWebsite.com
or call 1-800-Early-Detection-Team-Phone-Number

APPENDIX D

Descriptions of Behavioral Intervention Teams, Behavioral Assessment Teams, and Threat Assessment and Management Teams

Behavioral Intervention Teams

Research conducted by Mrad, Hanigan, and Bateman (2015) examined the behavioral intervention team (BIT) employed by Ozarks Technical Community College. Here, the BIT utilizes a formalized method when attending to mental health issues and other behaviors that could cause harm to self or others or disturb the academic milieu (Mrad et al., 2015). The BIT maintains various goals, including: 1) to avert crises before they transpire by delivering outreach and educational programming, consultation, proper assessment, and referrals; 2) to make certain that students considered to be of concern based on their conduct are contacted via follow-up procedures and instructed on how to obtain necessitated services to enhance their wellbeing; and 3) to develop an integrated and accessible reporting and tracking system that provides BIT members with the ability to monitor patterns of behavior that may warrant additional evaluation, as well as the capacity to document responses to distraught students (Mrad et al., 2015).

The BIT examined by Mrad, Hanigan, and Bateman (2015) fostered a culture within the college that values recognition, response, reporting, and referral of individuals of concern so that intervention may be delivered promptly, effectively, and to a wider range of students. This particular BIT is made up of six full-time institutional employees, including the Director of Counseling, Dean of Students, Assistant Dean of Disability Support Services, Assistant Registrar, College Director of Safety and Security, and a faculty member (Mrad et al., 2015).

Each of these team members possess a masters or doctoral degree, as well as broad experience working in higher education student affairs, administration, and instruction (Mrad et al., 2015). Additionally, team members have a collective professional background in disability support, vocational rehabilitation, law enforcement, military service, student conduct, and counseling (Mrad et al., 2015). The BIT meets weekly for two to three hours so as to review new incident reports, allocate proper action plans, and review open cases for updates (Mrad et al., 2015). Moreover, BIT members arrange educational outreach events and professional development activities for the campus community so as to promote the mission of the team (Mrad et al., 2015). Along with weekly meetings, members of the BIT engage in frequent consultation so as to ensure collaborative and focused intercessions with students of interest (Mrad et al., 2015).

The examined BIT offers recurring professional development events so as to certify that those associated with the institution have a thorough understanding of the types of behaviors that warrant reporting, how to report, and the importance of reporting (Mrad et al., 2015). Along with in-person trainings, a website is devoted to delivering resources, answering frequently asked questions, and describing the reporting process (Mrad et al., 2015). Notably, an online reporting system is utilized which has been found to be secure, easily reachable, and permits anonymous behavior reports (Mrad et al., 2015).

Behavioral Assessment Teams

Similar to BITs, behavioral assessment teams (BATs) are frequently formed within higher education institutions to address crises, disturbing behavior, and medical and psychiatric situations amongst students, faculty, and staff (Graney, 2011). According to Sokolow and Lewis (2009), effective BATs are those that are formal, wide-ranging in scope and purpose, have the ability to track student behaviors over time, and have the capacity to recognize trends in

behavior, both individually and collectively. Sokolow and Lewis (2009) further propose that BATs be typified by the following key factors:

1. Use formalized protocols of precise engagement methods;
2. Consider their function as predominantly to support and deliver resources to students, and secondarily to manage threats;
3. Use required psychological assessment;
4. Maintain authorization to incite involuntary medical/psychological withdrawal policies;
5. Are firmly supported by strong threat assessment aptitude, beyond law enforcement and psychological assessment measures;
6. Utilize rubrics to categorize threats;
7. Cultivate a broad reporting culture within the establishment;
8. Train and educate the community regarding when and what to report;
9. Are technologically savvy and have access to ample databases that facilitate a longitudinal examination of behavior patterns and trends amongst individual students;
10. Focus on faculty- and staff-based risk in conjunction with student-based risk;
11. Deliberately combine institutional risk management programs and risk mitigation approaches;
12. Monitoring periods where student distress becomes latent so as to determine whether such tranquility warrants an increased or decreased need for examination.

Threat Assessment and Management Teams

As a result of the 2007 Virginia Tech shooting, there has been an upsurge in the formation of teams within higher education institutions to assess potential threats to campus safety (Brunt, 2012). Teams existed prior to this tragedy, though their focus was more so on assisting at-risk students to locate support on campus, or on responding to student needs following natural disasters and other upsetting events within this setting (Brunt, 2012). Presently, it is approximated that over 80% of four-year colleges and universities have teams devoted to assessing possible threats to campus security (Eells & Rockland-Miller, 2011). These TAM teams are intended to obtain information regarding persons of concern, evaluate their advancement on a pathway toward violence and intercede in manners that seek to preclude escalation along this path, and consistently reassess and adjust management plans so as to safeguard continued campus safety (Perloe & Pollard, 2016). In ideal situations, TAM teams offer a bidirectional network for information via communication with the campus community, which is intended to engage individuals of concern (Perloe & Pollard, 2016). Notably, TAM teams are typically comprised of public safety representatives, legal counsel, administration, and mental health services (Perloe & Pollard, 2016).

A significant challenge to understanding TAM teams is that their work is frequently mistaken for violence risk assessments (Pollard, Flynn, & Eells, 2015). TAM teams implement scientifically informed, fact-based investigations and assessments that center on a person of interest's thoughts and behaviors so as to gauge whether, and to what degree, the individual is progressing along a course toward an attack on a particular person (Borum, Fein, Vossekuil, & Bergulund, 1999; Bulling & Scalora, 2013). Violence risk assessments, on the other hand, are frequently utilized to decide whether specific conditions are met that warrant unfavorable action

against an individual, such as hospitalization, criminal charges, or dismissal from a school (Pollard et al., 2015). At no point in time is the work of a TAM team done in an adversarial spirit. Within colleges and universities, TAM teams employ an approach wherein information is channeled from the campus community to a trained interdisciplinary group of faculty and staff. It then becomes the TAM team's responsibility to assess, intervene, and thwart persons from causing harm to themselves or others (Pollard et al., 2015).

Research conducted by Bolante and Dykeman (2015) found that TAM teams typically focus on student and staff issues within the given higher education community. Specifically, it was found that the roles and functions of TAM teams within community colleges varied from the assessment of individuals or situations with a possibility for targeted violence to the assessment of the the institution's physical environment (Bolante & Dykeman, 2015). Circumstances that would warrant a response from the TAM team include: reports of potentially threatening physical behavior; actual threatening physical behavior; reports of potential verbal threats; actual threatening verbal behavior; and written or digital threats (e.g., text messages, anonymous posts on social media; Bolante & Dykeman, 2015). While less of a focus, TAM teams have also been found to respond to natural threats (e.g., hurricanes), noteworthy changes in student behavior, guns, terrorism, student conduct issues, and restraining orders (Bolante & Dykeman, 2015). In addition to this, many TAM teams are responsible for training institution employees to appropriately identify and report concerning situations, to engage in violence prevention, and to assist students experiencing low levels of distress (Bolante & Dykeman, 2015).

The research conducted by Bolante and Dykeman (2015) further established that a formal TAM team is often in place within a given college or university, though informal teams are also utilized (Bolante & Dykeman, 2015). In regard to the individuals that comprise these teams, it

was found that institutional employees are often relied on, along with individuals unaffiliated with the organization (Bolante & Dykeman, 2015). Moreover, it was discovered that TAM team members receive less than 40 hours of threat assessment training prior to serving on the team (Bolante & Dykeman, 2015).

Numerous methodologies were found to be employed by TAM teams (Bolante & Dykeman, 2015). Specifically, the use of personal interviews with individuals of concern, as well as with persons close to these individuals, is frequently indicated (Bolante & Dykeman, 2015). Furthermore, checklists of behaviors with and without scoring systems are utilized, along with customized lists of questions based on the situation at hand and structured risk assessment instruments (Bolante & Dykeman, 2015). In addition to this, inspections of social media, home visits, background checks for weapon possession, and use of psychological reports are often implemented (Bolante & Dykeman, 2015). In certain instances, forensic psychologists are hired to conduct risk assessments (Bolante & Dykeman, 2015).

APPENDIX E

Pepperdine University's Graduate and Professional Schools Institutional Review Board

Exemption Notice

PEPPERDINE UNIVERSITY

Graduate & Professional Schools Institutional Review Board

March 15, 2016

Sylvia Lizette Lares

Project Title: Early Identification of Individuals at Risk for Psychosis: Recommendations for Colleges and Universities

Re: Research Study Not Subject to IRB Review

Dear Ms. Lares:

Thank you for submitting your application, *Early Identification of Individuals at Risk for Psychosis: Recommendations for Colleges and Universities*, to Pepperdine University's Graduate and Professional Schools Institutional Review Board (GPS IRB). After thorough review of your documents you have submitted, the GPS IRB has determined that your research is **not** subject to review because as you stated in your application your dissertation ***research*** study is a "critical review of the literature" and does not involve interaction with human subjects. If your dissertation research study is modified and thus involves interactions with human subjects it is at that time you will be required to submit an IRB application.

Should you have additional questions, please contact the Kevin Collins Manager of Institutional Review Board (IRB) at 310-568-2305 or via email at kevin.collins@pepperdine.edu or Dr. Judy Ho, Faculty Chair of GPS IRB at gpsirb@pepperdine.edu. On behalf of the GPS IRB, I wish you continued success in this scholarly pursuit.

Sincerely,

Judy Ho, Ph. D., ABPP, CFMHE
Chair, Graduate and Professional Schools IRB

cc: Dr. Lee Kats, Vice Provost for Research and Strategic Initiatives
Mr. Brett Leach, Compliance Attorney