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COMMENTARY (INVITED)

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The importance of understanding and addressing loneliness in psychotic disorders

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Social interactions are hard. Navigating the complexities of social life is especially challenging for people with schizophrenia and other psychotic disorders, given characteristic impairments in social skills (e.g., eye contact, reciprocity) and social cognition (e.g., theory of mind). Loneliness is distinct from social abilities and can be defined as the subjective, aversive experience of feeling disconnected from others. Recent estimates suggest that upwards of 40% of people in the general population report feeling lonely at least some of the time; this figure is as high as 80% in people with psychotic disorders. The pervasiveness of loneliness, coupled with a strong desire among those with psychosis to connect with others, makes it a critical problem to address in the context of clinical practice.

Badcock, Adery, and Park (2020) provide a timely and pragmatically useful review on loneliness in psychosis, including recommendations for addressing it clinically. They begin by summarizing the causes and correlates of loneliness, focusing on the role of positive and negative symptoms of psychosis, as well as anxiety, depression, and suicidality. Although these symptoms are moderately correlated with loneliness, few longitudinal studies exist, making it unclear what the causes and consequences of loneliness are. Somewhat surprisingly, social abilities are mostly unrelated to the experience of loneliness in psychosis. Instead, internal factors—such as self-esteem and perceived/self-stigma—are most related. To provide a conceptual framework for understanding the causes and consequences of loneliness, the authors propose a recursive model whereby the experience of psychosis leads to self-stigma, which contributes to social withdrawal and subsequent loneliness, and further exacerbates symptoms of psychosis. Given the lack of prospective data, however, the temporal relationships among these constructs may differ in important ways.

Our current understanding of loneliness is mostly limited to self-reports, which are typically gathered at a single point in time and are thus assumed to reflect stable dispositions or characterological tendencies. In their review, Badcock et al. (2020) summarize commonly used assessments of loneliness and discuss small but meaningful differences among subconstructs covered by each instrument (albeit, the validity of such demarcation is not always clear). It is encouraging to see that existing measures, such as the UCLA Loneliness Scale, show strong psychometric properties among people with psychotic disorders. Such evidence of reliability and validity suggests that clinicians and researchers can use these well-established scales among people with psychosis to inform and evaluate the effectiveness of interventions.

The authors discuss two potential ways to address the problem of loneliness in psychosis: (a) by increasing meaningful contact with others and (b) by targeting thoughts and beliefs that might interfere with the perceived benefits of existing relationships and contribute to feelings of loneliness. Interventions in the broader mental health literature focus primarily on enhancing social connection through behavioral approaches to social skill enhancement, or in "befriending"; however, as the authors point out, these interventions have not targeted the experience of loneliness directly, and their effects on loneliness are largely unknown.

Evidence that loneliness can be reduced is provided by two studies in the broader literature: one that enhanced social connection among adolescents with anxiety and depression,

and another that used mindfulness training in older persons. Although the efficacy of such approaches in reducing loneliness in people with psychotic disorders is unknown, the authors highlight recent pilot work focused on enhancing connections among youth with psychosis using a positive psychology framework. More work is needed to understand the potential benefit of such approaches for reducing loneliness in psychosis, particularly for those later on in the course of the illness.

Where do we go from here? Expansion of and support for theories of loneliness are sorely needed to provide conceptual frameworks for understanding its onset and maintenance. Theories from the broader literature are a useful starting point, while contributors unique to the experiences of psychosis are also important to explicate, such as those proposed by Badcock et al. (2020). As an example of the former, Cacioppo et al. (2006) proposed that a chronic state of loneliness contributes to implicit hypervigilance for social threats as a self-protecting mechanism that has been adaptively preserved through evolution. Hypervigilance for social threats leads to a self-reinforcing pattern of social withdrawal and relief, followed by increasing loneliness and isolation, and accompanied by further increases in hypervigilance for threats. Such a model could be useful for explaining the relationship between positive symptoms of psychosis (e.g., persecutory ideas) and isolation.

Regarding psychosis-specific theories, the deafferentation hypothesis mentioned in Badcock et al.'s review would suggest that isolation serves an etiological role in the development of delusional ideation. What the specific role of loneliness, or subjective isolation, is in that framework is unclear. For example, do thoughts and feelings of loneliness precede the onset of delusional thinking, or even contribute to their formation? And, to what extent does delusional ideation interfere with the critical ability of people to establish a "shared reality" with others that is the basis for social relationships? Is loneliness a by-product or is it worsened by that difficulty? In addition, theories of social defeat would also seem particularly relevant for linking negative symptoms, including reduced social motivation and asociality, with loneliness and isolation (Fulford, Campellone, & Gard, 2018).

Better characterization of both internal and environmental factors involved in the experience of loneliness, within and between people, is also critical. A central theme emerging from the loneliness literature—and perhaps even more starkly in psychosis research given the centrality of social impairment—is the necessity of delineating the temporal nature of loneliness, particularly as it relates to overlapping constructs such as depression, self-esteem, and objective isolation (i.e., the state of being alone). Experience sampling methods, including the incorporation of smartphone sensors (geo-location, audio) to quantify social behavior, can help to identify the temporal sequencing of loneliness as it relates to social experiences in the context of daily life. For example, in a recent experience sampling study of people with schizophrenia, the quality (intimacy experienced) of interactions occurring in daily life was strongly associated with dispositional loneliness, while the quantity of daily interactions was unrelated to loneliness (Mote, Gard, Gonzalez, & Fulford, 2019). It is critical to also understand more about within-person fluctuations in loneliness and their associations with such social experiences to develop mechanistic and personalized models of social disconnection and connection. The onset and maintenance of loneliness likely operate idiosyncratically (e.g., the distress of loneliness could lead to symptoms such as paranoia, or depressed mood and anxiety could lead to a sense of social disconnection), making such models critical for the development of effective interventions.

Given the current state of the knowledge in this burgeoning research area, much of the work covered in this review comes from research in either general community samples or in other clinical conditions (e.g., depression). We would be remiss as a field to not acknowledge the potentially qualitatively distinct ways in which loneliness manifests among people with psychosis from those without. For example, while research suggests that the state of being alone and the subjective experience of loneliness are only modestly related in general populations, social isolation may exert a more powerful effect on loneliness in people with psychotic disorders, who have significantly smaller social networks and often struggle with isolation. Thus, subjective and objective isolation may relate to each other in ways distinct from those without psychosis, making interventions that focus on building social networks and social skills potentially more beneficial for reducing loneliness in this population. We must also recognize the fact that people with psychotic disorders often spend their daily lives in resource- and socially impoverished environments. For example, staggering rates of unemployment leave people with schizophrenia without opportunities for the breadth and depth of social participation available to those with more resources. Loneliness and isolation cannot be dissected from environment and context. Living in urbanized areas, for example, has been shown to be associated with loneliness in the general population (MacDonald, Willemsen, Boomsma, & Schermer, 2020). Perceived discrimination and internalized stigma are also associated with loneliness in psychosis (Lim, Gleeson, Alvarez-Jimenez, & Penn, 2018). And, as the coronavirus pandemic has recently highlighted, lack of access to technology may serve to expand an already wide digital divide between those with resources and those without—low rates of consistent access to reliable telecommunication and data plans among people with serious mental illness could prove further detrimental

to their social lives in the context of physical distancing (Fulford & Mote, 2019).

In their review, Badcock et al. (2020) have drawn attention to the important, but neglected, topic of loneliness in people with psychotic disorders and have provided a preliminary framework for conceptualizing factors that may influence the experience of loneliness in this population. Despite the fact that loneliness is a common experience in the lives of persons with psychosis and has important implications for both health and quality of life, it is rarely assessed in routine clinical practice, nor is it targeted in treatment. Consequently, little is known about the mechanisms involved in the development or maintenance of loneliness in the context of psychosis, and interventions have yet to be established and validated for either the prevention or treatment of loneliness in individuals with psychotic symptoms. A more in-depth understanding of the nature and circumstances in which loneliness evolves and fluctuates over time in persons with psychosis, and more systematic inclusion of it as a critical outcome in interventions focusing on psychosocial functioning, is needed to reduce the burden of loneliness and to improve the quality of life in these individuals.

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