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ORIGINAL ARTICLE

Lived experience of loneliness in psychosis: A qualitative approach

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ABSTRACT

Background: Loneliness impedes recovery from mental illness. Despite increased interest in loneliness in psychosis, qualitative methods are underused in clinical research on this topic.

Aims: We used qualitative interviews to explore loneliness among persons with schizophrenia spectrum disorders (SSDs). We examined which aspects of living with psychosis were associated with the experience of loneliness, including symptomatology, social relationships, and disruptions in school/work.

Methods: Sixteen participants diagnosed with SSDs engaged in semi-structured, qualitative interviews about loneliness. Participants commented on current activities and social relationships, including their perceptions of the quantity, quality and types of relationships. Important demographic and clinical information was acquired through communication with participants and/or through medical record review. Thematic analysis was used to examine interview content.

Results: Our analyses revealed four key topic areas and several sub-themes related to loneliness across participants, including aspects of the physical environment (e.g. financial limitations), social context (e.g. lacking a romantic partner), and psychological functioning (e.g. psychotic/symptoms) that impact lonely feelings. Participants commented on coping strategies to manage loneliness and provided suggestions for possible interventions.

Conclusions: Persons diagnosed with SSDs report significant and impactful feelings of loneliness. This study highlights the need for novel and effective treatments targeting loneliness in this population.

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Introduction

As a social species, human beings have evolved to function within collaborative social networks (Cacioppo & Cacioppo, 2014). As such, loneliness can be defined as the distressing emotional response to social disconnection or perceived deficiency in one's social relationships (Peplau & Perlman, 1982). Research on loneliness suggests individuals experiencing psychological dysfunction report significantly greater feelings of loneliness than normative groups (Badcock et al., 2015). These experiences may be particularly impactful for individuals with psychosis as the vast majority report loneliness and social isolation as a top-ranked barrier to recovery from mental illness (Morgan et al., 2017).

Considering its prevalence and implications on health (Holt-Lunstad et al., 2015), recovery (Roe et al., 2011), well-being (Eglit et al., 2018) and quality of life (Nevarez-Flores et al., 2020), the concept of loneliness is receiving growing attention in the field (Lim et al., 2018). Lim et al. (2018) recently proposed a preliminary theoretical model of loneliness in psychosis suggesting loneliness is related to various mental health and recovery variables, including wellbeing, social perception, and psychopathology. A recent review and clinical guide underscore the impact of loneliness on negative symptoms of psychosis, comorbid psychiatric symptoms such as social anxiety and suicidal ideation, as well as the impact of lonely feelings on clients' attitudes toward oneself and others (Badcock et al., 2020). Although these reviews emphasize important patterns of associations with loneliness in this population, details about how individuals with psychosis perceive, process and cope with these experiences remain unknown (Lim et al., 2018).

Unlike anxiety, depression and other more prevalent diagnoses, schizophrenia remains exceptionally elusive and stigmatized (Woods, 2011). Qualitative studies offer a unique opportunity to elucidate the lived experience of a psychological disorder (McCarthy-Jones et al., 2013). Qualitative research methodologies also facilitate a more central and active role for clients to describe their own experiences (Hohmann & Shear, 2002). In clinical research, these techniques allow clients' responses to guide the development of testable hypotheses and refine theoretical explanations of constructs of interest (Bendassolli, 2013). Despite these advantages, however, this approach to understanding loneliness has not been followed in schizophrenia research.

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An "emic" approach involves understanding at the level of the individual whereas an "etic" perspective is taken by an observer ("from the outside looking in") (Tinker & Armstron, 2008). Emic approaches such as in-depth interviews may be a particularly useful way to elicit descriptions of loneliness that are not bound to definitions proposed by researchers or providers (Barg et al., 2006). Etic approaches, in contrast, involve the use of self-report questionnaires and other measures developed by researchers with an "outsider" status (Tinker & Armstron, 2008). Incorporating emic strategies may also facilitate more person-centered assessment and individualized treatments designed to alleviate the impact of loneliness on persons with psychosis.

Part of the difficulty in developing accurate assessment and generating effective treatments for loneliness in psychosis is two-fold. First, the field has yet to distill which aspects of having a psychotic illness impact the severity and frequency of loneliness on the level of the individual. Second, we lack a cohesive and clear view of how persons with psychosis perceive and manage lonely feelings. With this in mind, the current study aims to systematically evaluate the lived experiences of loneliness in psychosis. We sought to examine which aspects of living with psychosis impact perceptions of loneliness, including perceived social support and symptoms.

Materials & methods

Design

This study employed exploratory, qualitative semi-structured interviews conducted with individuals diagnosed with a psychotic disorder engaged in treatment at the Schizophrenia Treatment and Evaluation Program (STEP) community outpatient clinics in North Carolina. All interviews were conducted between August 2019-February 2020. We used a combination of inductive and deductive analytic approaches to analyze participant responses. This process allowed for theme identification to stem from our current understanding of loneliness as well as data collected through interviews with clients (Fereday & Muir-Cochrane, 2006). The study design, materials and procedure were reviewed and approved by the ethics committee at the University of North Carolina at Chapel Hill (Institutional Review Board Study #18-3238) before participants were recruited for and consented to participate in the study. Author 1, a clinical psychology doctoral student conducted each interview.

Participants

Any psychiatrically stable client (i.e. no inpatient hospitalizations in the past 3 months) between the ages of 30–50 and currently receiving care for a psychotic disorder at the STEP clinics were considered eligible for participation. Participants were precluded from participation based on (1) presence/history of intellectual disability (IQ < 70), (2) presence/history of traumatic brain injury, (3) evidence of severe substance use disorder in the past 6-months, and/or (4) overall rating <6 on the Three-Item Loneliness Scale (Hughes et al., 2004).

Most participants were approached for participation by providers at STEP whereas others reviewed the information in research flyers and contacted the study coordinator to determine eligibility. Participants provided signed informed consent before being interviewed in a private room at STEP or the Department of Psychology at the University of North Carolina at Chapel Hill. All interviews were audio-recorded and uploaded to secure drives.

To guide recruitment targets, we used a combination of "informational redundancy" and "information power" during the data analysis process (Vasileiou et al., 2018). Informational redundancy refers to the repetition of themes and the non-discovery of new themes. Information power reflects the potency of an interview or the depth/poignancy of responses.

Topic guide and data analysis

The initial interview guide was informed by literature on loneliness in psychosis (Lim et al., 2018; Ludwig et al., 2020). Topics covered included opinions about the origin of loneliness, personal accounts of occasions during which these feelings were the most salient, and symptoms that may exacerbate loneliness. A qualitative research specialist at the Odum Institute (Author 4) advised the organization and framing of initial question categories.

After developing the topic guide, we elicited feedback about interview items from an expert loneliness researcher (Author 3). Author 1 interviewed volunteer research assistants ($n = 2$) to ensure clarity, conciseness, and flow. After completing preliminary interviews, the guide was reviewed and refined, with greater focus given to emerging themes.

Authors 1 and 4 began constructing the coding framework using NVivo10 (QSR International, 2014) through the process of multiple coding (Barbour, 2008). Authors 1 and 2 coded interviews independently to generate a list of preliminary codes, which were a combination of a priori and inductive. Coders reviewed transcripts with a focus on identifying patterns in responses across interviews (i.e. inductive). Select responses were coded with a focus on patterns that corresponded with correlates of loneliness proposed in the literature (i.e. deductive) (e.g. internalized stigma; Chrostek et al., 2016). The two coders discussed which codes required merging/deletion before finalizing the list and applying codes. Codes were then sorted into candidate themes and refined with the aim of maximizing coherence within each distinct theme (Braun & Clarke, 2006). Author 5 examined the content before the main themes and analytic narrative were considered finalized.

Results

Participants

Sixteen participants completed the qualitative interview on loneliness. The average interview duration was 54:50 min

Table 1. Participant demographic and clinical characteristics.

Characteristic	Participants ($n=16$) n	(%)
Gender		
Male	10	62.5
Female	6	37.5
Race		
Caucasian	12	75.0
African American	3	18.7
Other	1	6.3
Ethnicity		
Hispanic	2	12.5
Non-Hispanic	14	87.5
Diagnosis		
Schizophrenia	7	43.7
Schizoaffective	9	56.3
Medication type		
Atypical	13	81.1
Typical	1	6.3
Combination	1	6.3
Unmedicated	1	6.3
Living Situation		
Alone in house/apt	5	31.3
With partner in house/apt	5	31.3
With family in house/apt	2	12.5
With roommate(s) in house/apt	2	12.5
In a residential facility	2	12.5
Alcohol/drug use		
None	4	25.0
Current use (Alcohol)	5	31.3
Current use (Cocaine)	1	6.2
In recovery from SUD	6	37.5
	Mean	SD
Age (years)	39.0	7.15
Education (years)	14.0	2.37
Maternal Education (years)	14.6	3.61
*Paternal Education (years)	14.7	5.36
Average DUP (years)	2.24	3.08
Average Psychiatric Hosp	9.63	10.83
3-Item Loneliness Scale	7.06	0.99

Note: Substance Use Disorder (SUD); Duration of Untreated Psychosis (DUP); Number of Inpatient Hospitalizations for Psychiatric Reasons (Psychiatric Hosp).
*Paternal education for two participants was unknown, whereas one participant stated that her father never received any formal education in their country of origin. As such, this statistic was calculated based on responses from a smaller subset of the sample ($n=14$) and included one uncommon response of 0 years.

(SD = 11.43 min; Range: 39:03–79:33). Most participants identified as male ($n=10$, 62.5%) and Caucasian ($n=12$, 75%), with an average age of 39 years (SD = 7.15). Participants were clinically stable and had a diagnosis of schizophrenia ($n=7$, 43.7%) or schizoaffective disorder ($n=9$, 56.3%). Approximately a third ($n=6$, 37.5%) identified as being "in recovery" from substance use. See Table 1 for the demographic and clinical characteristics of the sample.

Key themes

Primary topic areas that arose during the coding procedure included: Physical Barriers to Adequate Social Engagement or Community Involvement, Patterns of Social Contact that Contribute to Lonely Feelings, Psychological Variables, and Coping Strategies to Manage Loneliness. Figure 1 includes a graphical display of the codes generated across interviews.

Physical barriers to adequate social engagement or community involvement

Physical barriers were conceptualized as structural obstacles that contributed to loneliness. These characteristics can be tangible (e.g. access to transportation) or intangible (e.g. financial stability), social (e.g. precluding opportunities for social interaction) or nonsocial (e.g. providing a sense of purpose or meaning).

Constrained resources (inductive). Participants described feeling unable to connect with new people or adequately engage in social activities due to financial limitations and issues with transportation. Furthermore, many interviewees were economically inactive at the time of the interview and described their primary source of income as disability payments and/or financial support from family.

> 8015: I didn't drive. It did add to my isolation and my loneliness… I just spent more time in my room, but I drive now, and it adds to my freedom and ability to be around people… I'm broke and don't have money to do things… I mean I have disability to pay my bills, but I don't have money to do extra stuff. I don't want to bring up [hanging out with my best friend] because I don't have money to go out and I feel like I would only be able to say, 'Hey, do you want to just come hang out and sit around my apartment.

Recreation and work as protective activities (deductive). In contrast, participants described having a place to go away from home as helpful at alleviating loneliness and providing a sense of purpose. Participants described running errands, completing work-related activities, or engaging in recreation to protect against or diminish loneliness severity. For economically active participants, the primary types of employment included unskilled labour positions (e.g. delivering produce) or specialized positions with limited social contact (e.g. repairing machines).

Economically inactive participants described feeling a sense of loss related to reduced structure and yearned for the sense of accomplishment from working independently. One participant explains loneliness arising from recently losing his position as an educator:

> 8016: I hate not working. That's why I wanted to get off disability and work full-time. It would give me purpose, drive. It'd feel good to make money, and I would have money to do stuff. I'd be around people… People see you and know that you're okay and you do something meaningful… I would feel like I'm contributing to our household because right now I feel like I'm not.

Patterns of social contact that contribute to lonely feelings

This category reflects any features of one's social context, including interpersonal relationships and relational milieu. Generally, this category refers to the quantity, quality, type and stability of social connections.

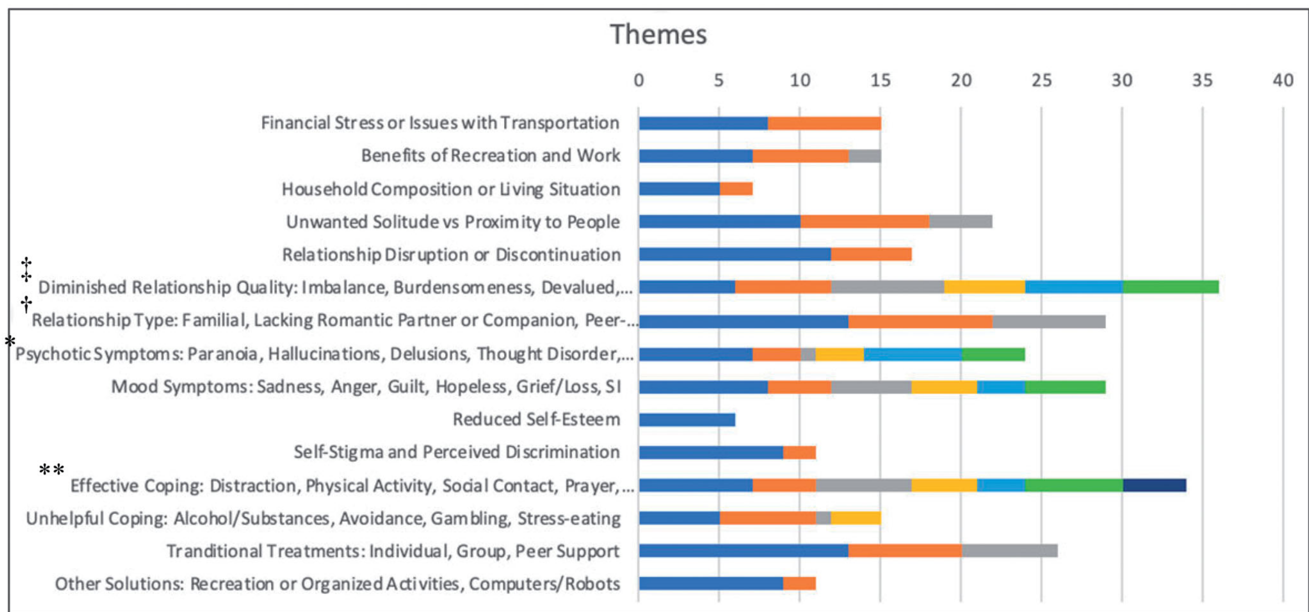

Figure 1. Thematic codes generated across interviews. *Note*. Each bar reflects a set of related codes that comprise themes that arose during the analysis process. Labels on the left include the name of the overarching theme as well as its individual constituent codes. Each individual code is displayed in a unique color (i.e. blue, orange, gray, yellow, cerulean, green, and navy). *Note*. Due to constraints on space, certain codes were omitted from the above graphic, including: ‡ feeling misunderstood, conflict, lacking; † peer-based relationships; * anhedonia, amotivation; ** mindfulness/meditation, positive psychology, pets. *Note*: The *x*-axis reflects the frequency with which each concept appeared in an interview (e.g. 9 participants described the lack of and desire for having a companion or romantic partner as a contributor to loneliness whereas only 3 participants noted that hallucinatory experiences impact their lonely feelings).

Relationship quality (deductive). Our findings suggest that perceived relationship quality was associated with feelings of loneliness. Not surprisingly, participants expressed increased loneliness when they perceived contact with friends and relatives as inadequate in frequency, connectedness, depth, or encouragement.

> 8007: We may go out and there are these women talking chitter-chatter about something I didn't really care about, or their problems. I just felt like … there was some stuff they would talk about that was serious, but I did feel alone, a little bit, because I didn't feel like I was connecting.

Several participants commented that feeling misunderstood, disconnected, and/or underappreciated by loved ones triggered loneliness. These feelings were particularly impactful when participants endorsed feeling overwhelmed by others' demands. Situational and contextual influences such as a recent argument also significantly impact someone's current level of relationship satisfaction.

> 8009: Loneliness for me is when I feel like I can't tell anybody that I have an issue, I can't confide in anyone … Like nobody cares, that's what loneliness is to me. Like nobody understands or cares that I'm going through a rough time.

Relationship disruption or discontinuation (inductive). Most indicated that relationships with friends and family had significantly changed over time, often in ways that participants described as a source of distress. Participants noted that perceived relationship imbalances and acute episodes of psychosis may also contribute to relationship termination. As one participant described:

> 8009: I was going through a rough time with my illness and sort of scared them off. I had bad depression and paranoia and accusing them of not being my true friend. I just put them thought a lot and I don't really want friends anyways. [I treated them] like crap. [Now] it seems like too much work.

Solitude versus proximity to others (inductive). *Unwanted* solitude appears to instigate or exacerbate lonely feelings. Interviews revealed a tendency for persons with psychosis to self-isolate when not doing well. Some reported a general sense of "overwhelm" or perceiving social interactions as too stressful and effortful. Several participants indicated that proximity to others may help alleviate lonely feelings. One participant explained:

> 8013: [Loneliness] is more intense when I am physically alone … even more so at night because I am not around people and unable to reach out to people. Sometimes I'll go to church or read in a coffee shop just so that people are there. Being around people definitely helps.

Peer-based versus normative relationships (inductive). Several individuals reported that their social network consisted primarily of family or persons with mental illness and/or substance use disorders. Although having a peer community involves many benefits, including increased structure (e.g. visiting Club Houses) and regularity of social contact, many participants endorsed wanting to engage with individuals *outside* of their peer community. For example:

> 8007: You know it feels really good to be around 'normal' people … someone that's a non-alcoholic or whatever. When you're out there in the real world, working, you're not in this protective meeting where everyone's like you. You're not in group therapy and everyone has the same mental health diagnosis. You're out mixing in the community and being human … You're just you, no label.

In addition to hoping that developing friendships with persons without mental health issues may facilitate deeper conversations and more meaningful connections, participants also expressed nervousness about the prospect. It appears that establishing new relationships often seems difficult due to worries about disclosing mental health issues and the impact of symptoms on successfully connecting with others.

Absence of a companion or romantic partner (inductive). Notably, nearly all men who completed the interview identified the lack of a romantic partner as a significant contributor to loneliness.

> 8008: I would like companionship with a woman. I just like the idea of being close and people being nice to you. And you share your life with that person. There's a bond there… I always see boys and girls, girls and boys holding hands places… That kind of makes me feel lonely. I just thought, 'if he can get a girl, I can get a girl. What's wrong with me?' I mean it's pretty much every day that this makes me feel lonely.

Although many participants indicated that being physically intimate is a unique and desirable aspect of romantic relationships, they posited that the emotional intimacy and social support aspects were of great importance. Several barriers to finding a partner were identified, including inexperience or insecurity around dating.

Psychological variables

This category is expansive and includes any aspects of a participant's internal experience, including mental health symptoms, personality traits, and attitudes. These characteristics can be acute/temporary (e.g. specific thoughts/emotions) or chronic/persistent (e.g. sequelae of trauma, internalized stigma).

Mood symptoms (deductive). Participants' descriptions of loneliness were associated with the concurrent experience of negative emotional states commonly featured in mood disorders, including depression, hopelessness, and guilt.

Psychotic symptoms (inductive). Several participants described instances of loneliness that stemmed from or were exacerbated by psychotic symptoms. Paranoia was the most frequently reported psychotic symptom associated with loneliness across interviews.

> 8003: Well, some of it could be paranoia and thinking people are talking about me. Stuff like that. I try to tell myself; I can't really hear what they're saying so why should I worry about that? It's not interesting to talk about. I feel lonely, but it helps when I test reality.

Social anxiety (inductive) and social anhedonia (deductive). Other participants noticed that social anhedonia and social anxiety served as barriers to connecting. Although participants commented on the aversive experience of loneliness, many endorsed some disinterest in engaging socially and a preference for spending time alone. Relatedly, interviewees commented that social anxiety contributed to loneliness, oftentimes preventing or reducing the pleasure gleaned during social interactions.

> 8001: I'm a very solitary person. I don't have many friends. I just enjoy being alone sometimes or having time to myself… The anxiety I usually have doesn't help so I was isolating and stewing and stuff… It makes me feel less connected. Well, it was just kind of like loneliness. I pull away from the plans and I feel bad about, I feel anxiety about making the plans and anticipating the plans and sort of pull back from my family.

Internalized stigma (deductive). Self-stigma, specifically the perception of oneself as "abnormal" or different/distant from others emerged as an important psychological variable related to loneliness. This pattern reflects "existential loneliness," or the sense that others cannot understand their experience or take their perspective on important issues.

> 8001: I think [loneliness] comes from the society telling me what's normal. I have a problem with, I think I'm a very weird person… I sort of, I label myself and it really puts myself down… I have a lot of, uh, that's a word that's like stigma on myself.

> 8004: I wouldn't want to talk to someone [without a mental illness]. They wouldn't understand. They may be afraid of me. Some don't treat me like a normal person.

Coping strategies

Coping strategies entail anything participants described as ways to manage lonely feelings. This category includes any actions/behaviors or thoughts/self-talk, even if underutilized at the time of the interview.

Therapeutic coping strategies – currently employed (inductive). Many participants commented on the benefits of therapy and indicated that they have learned coping strategies to help manage negative emotions, including loneliness. Participants described labeling/accepting emotions, journaling, mindfulness/meditation, distraction techniques, prayer/spirituality, and informal cognitive restructuring to reduce loneliness. Nearly all participants reported that sharing their experience with a trusted person was the most effective coping strategy.

> 8012: I'll try to get on the phone and talk to somebody. There's my aunt who I talk to everyday. She has a way of putting me back, grounding me in reality. And there's my cousin. She tries to remind me of my positive traits.

Participant-generated solutions – potentially useful (inductive). Participants were asked to generate ideas for solutions that could help them feel less lonely. Responses covered a range of potential intervention targets, including working closely with an individual therapist or peer to create a "safe space" to discuss these experiences, process lonely feelings, and acquire/practice coping skills. Several individuals also considered the potential benefits of group-based psychotherapy, especially those focused on setting and making progress toward specific social goals. Many expressed

interest in participating in organized recreational activities and attending support/skills groups for dating.

> 8001: I think challenge therapy helps… like a dating group or something that pushes you out of your comfort zone and [helps you] realize that other people have insecurities, too.

During conversations about the utility of different approaches, participants described some apprehension about talking to friends/family about loneliness. Some noted concerns about being perceived as a burden or appearing too "needy." One participant expressed that he would feel more comfortable speaking with a robot to avoid feeling guilty or shameful about sharing.

> 8016: I guess robots that you could have conversations with that you would talk about interesting and funny things. Not a human. Robots so that you wouldn't feel guilty about taking their time.

Discussion

The purpose of the current study was to examine ways in which persons with psychotic disorders experience loneliness. The primary aim was to "give voice," or provide a platform for participants to share narratives and personal experiences of lonely feelings. We strived to improve our understanding at the level of the individual, including a discussion of the various factors that appear to exacerbate or protect against lonely feelings. As such, we used a qualitative interview framework to critically examine which aspects of participants' lives influence loneliness, including psychotic symptoms, isolation, community engagement, and the desired quantity, quality and types of relationships.

Results from the current study suggest several aspects of the physical environment, social context, and psychological experience contribute to loneliness. Situational factors appearing to exacerbate loneliness in psychosis include limited finances, transportation issues, and reduced economic activity. In contrast, participants described having a routine or "something to do" during the day as protective against loneliness. Individuals frequently reported reaching out to a loved one or mental health professional for support was an effective coping strategy to manage loneliness. When this was not a viable option, participants described engaging in distraction or seeking opportunities to be physically close to others in a public setting.

This study supports prior research suggesting loneliness is related to objective social isolation, such that lonelier persons with psychosis tend to operate within a smaller social network, have fewer friends, and lack a confidant (Degnan et al., 2018; Sündermann et al., 2014). Although reducing objective social isolation through the expansion of opportunities for social engagement has been shown to be effective with normative groups, interventions targeting loneliness in this manner may need to be adapted to address issues specific to psychosis. For instance, loneliness interventions should incorporate cognitive behavioral therapy techniques such as cognitive restructuring and exposure to improve comfort with and satisfaction gleaned from in-person social situations.

These considerations may be particularly important considering loneliness was associated with negative cognitions and unpleasant emotions in the current study. We found that these experiences were more intense in the presence of paranoid or anxious thoughts; especially related to believing others were talking about, judging, or devaluing them. Participants commented that moments activating a sense of stigma, shame or guilt were closely linked to loneliness. Loneliness may plausibly minimize opportunities for individuals to discuss alternative explanations or generate flexible solutions, thus increasing anxiety and leading to increased suspiciousness and distrust (Sündermann et al., 2014). Considering lonelier individuals with psychosis tend to have more paranoia (Sündermann et al., 2014), this may help explain why they have less satisfying relationship experiences, including viewing social relationships as less supportive and perceiving social situations as more threatening.

Furthermore, results from the present study revealed two novel and notable findings that have not been captured clearly in the extant literature on loneliness in psychosis. First, many persons with psychosis appear to be conflicted by the composition of their social network. Specifically, many individuals endorsed feeling both appreciative of and frustrated by the proportion of their relationships that were established because of shared mental health problems. Many explained that relationships with peers can be disrupted by suicide, relapse to substance use, hospitalizations, and acute psychosis. Persons with psychosis also reported trepidation about fostering friendships with "normal" people. In addition to past bad experiences disclosing their diagnosis, participants also cited concerns about being rejected, misunderstood, or appearing "strange" to new people. This finding is consistent with the model proposed by Lim et al. (2018) who noted internalized stigma and perceived discrimination may contribute to loneliness in psychosis.

Second, many people with psychotic disorders appear to lack and yearn for important types of relationships. A minority of interviewees reported having close interpersonal relationships, with most identifying the absence of a romantic partner as a primary contributor to loneliness. This finding underscores the importance of clarifying values and goals with clients, especially those related to social functioning and community integration (e.g. intimacy, dating). Although this study highlights the potential utility of treatments designed to increase clients' comfort with and confidence initiating and sustaining healthy romantic relationships, there are no empirically evaluated studies on the impact of dating skills interventions delivered individually and/or in a group format. It is plausible that maximizing opportunities to practice appropriate and values-consistent social behavior with supportive others may facilitate improvement in these areas and promote positive social interactions, thus reducing loneliness.

Considering the subjective and dynamic nature of loneliness, it may require creativity and flexibility to ensure each person receives the most effective treatments possible.

Depending on their style and goals for treatment, clients may benefit from a combination of individual and group therapies to improve outcomes. For instance, a younger client seeking companionship may be keen on working with an individual therapist to bolster their self-confidence and attending a social skills group geared toward establishing and maintaining new relationships. In contrast, an older client whose primary concern is loneliness stemming from objective social isolation may benefit from engaging with a supported employment specialist to obtain work or volunteer opportunities. We must keep in mind that "There are lots of ways to feel lonely and everybody is different" (8011). Regardless, learning strategies to manage distress and improve quality of life would likely benefit all clients experiencing frequent or intense loneliness.

There are several limitations to the current study. Specifically, we included a small sample of persons diagnosed with a schizophrenia spectrum disorder currently residing in the southern United States. This is notable considering the number of resources available to persons experiencing psychosis in the Triangle that may not be available elsewhere (e.g. non-profit organizations that provide housing, peer-to-peer supervision, and vocational rehabilitation services). As such, the findings may not generalize to persons living in other regions of the U.S. or cross-culturally. Relatedly, the themes generated are based on narratives provided by participants during individual, in-depth interviews completed over a relatively short period of time. As we excluded participants who endorsed infrequent experiences of loneliness and did not examine insight, we cannot assert with certainty that the features of loneliness or coping strategies described reflect the experience of all persons with psychosis who report lonely feelings, especially individuals who struggle with loneliness less consistently. Considering the sensitive nature of loneliness, it is possible that stories shared and information gleaned may be differentially impacted by participants' current mood states, recent events, situational factors, and relative (dis)comfort in disclosing thoughts/feelings with the interviewer.

In addition, we limited our sample to adults between the ages of 30 and 50 years. Although this constraint was applied in consideration of the fact that, regardless of psychiatric or mental health issues, the elderly tend to be increasingly lonely and isolated due to reduced mobility, physical health problems, sensory impairments, solitary living, and relationship instability (e.g. loss of a partner), it is unclear whether these findings apply to an older sample (Nicholson, 2012). While the current investigation sheds light on the experience of loneliness in chronic multi-episode psychosis, improving our understanding of perceptions of and responses to lonely feelings experienced by individuals earlier in the course of illness merits further attention. This is particularly important as younger people tend to experience significant shifts in their identity, relationships, and routine after an initial psychotic episode (Dunkley et al., 2007).

Finally, interviews were conducted during the 6-month period before the initial outbreak and ensuing surge of Covid-19 cases across the United States. The significant impact of the coronavirus pandemic on the frequency and intensity of loneliness is a notable consideration when reviewing and interpreting findings from the current study. This is particularly important given the impact of shelter in place orders and other public health guidelines and restrictions on daily life. Specifically, the Covid-19 pandemic may have unalterably shifted perceptions of safety and comfort with in-person social interactions as well as one's ability to engage in coping strategies to manage distress from loneliness.

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Ethical approval

The study design, materials and procedure were reviewed and approved by the Institutional Review Board at the University of North Carolina at Chapel Hill before participants were recruited for the study. IRB Study #18-3238.

Disclosure statement

The authors declare that they have no conflict of interest pertinent to this study.

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