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Themes of unfulfilled agency and communion in life stories of patients with schizophrenia

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Abstract

We examined themes of agency and communion in life stories of individuals with schizophrenia. Twenty-four individuals diagnosed with schizophrenia and 24 control participants matched on age, gender, and education described their life stories in a free format. The life stories were coded for the presence of agency and communion themes and whether or not the themes captured fulfillment of agency and communion needs. In addition, the temporal macrostructure was coded. Individuals with schizophrenia described their life stories with similar levels of temporal macrostructure as controls, but they expressed more themes focusing on unfulfilled agency and communion needs. We suggest possible avenues for using these insights to improve recovery in schizophrenia.

Keywords: schizophrenia, life story themes, agency, communion

1. Introduction

Individuals with schizophrenia struggle with narrating their lives (Lysaker, Wickett, & Davis, 2005) and how they tell their stories is related to recovery and well-being (Lysaker et al., 2010). Much recent research on associations between narratives and schizophrenia has focused on coherence, meaning-making, and integration (Allé et al., 2015; Berna et al., 2011; Lysaker et al., 2015; Raffard et al., 2009; 2010; Tas et. al., 2014). In the present study, we examined whether themes of agency and communion were present in the life stories of individuals with schizophrenia and whether the themes centered around fulfillment or thwarting of needs. Life stories provide a first-person perspective on living with schizophrenia and may contribute to understanding their difficulties with social and occupational functioning as well as low quality of life (Lysaker et al., 2010).

Researchers distinguish between structural elements of life stories and the content of life stories (Adler et al., 2016; McAdams, 1996). Although structure and content are related, structural elements include coherence, self-event connections (such as meaning-making), and complexity (Habermas & Bluck, 2000; Pasupathi et al., 2007; Thorne et al., 2004). Content, on the other hand, refers to what “the story is all about”, for example the themes emphasized in the story. Several studies suggest that schizophrenia is associated with difficulties in structuring narratives. For example, individuals suffering from schizophrenia are less likely to include meaning-making in self-defining memories compared to non-clinical controls (Berna et al., 2011; Raffard et al., 2009; 2010). Other studies have shown that life stories of individuals with schizophrenia are less temporally, causally, and thematically coherent compared to non-clinical controls (Allé et al., 2015; Allé, D'Argembeau et al., 2016, Allé, Gandolphe et al., 2016).

Lysaker and his colleagues have also shown that individuals with schizophrenia narrate their lives with less integration and complexity compared to individuals with HIV or bipolar disorder (Lysaker et al., 2014; Tas et al., 2014).

Structural aspects of life stories such as coherence and integration help maintain unity in the self across time, space, and roles (McAdams, 1996). However the thematic content of life stories also matters. Whether an individual tells a story focusing on defeat, rejection, and lost opportunities or a story about growth, affiliation, and unexpected openings could impact understanding of current events, plans for the future, and well-being. Consistent with this idea, a recent review on life stories in non-clinical samples concluded that individuals who described their life stories with a focus on being agentic and connected to other people experienced higher well-being (Adler et al., 2016). However, few studies have examined themes of agency and communion in life stories of individuals with schizophrenia.

Agency and communion have been argued to be fundamental human needs (Deci & Ryan, 2000) and as individuals strive towards fulfillment of these needs they appear as universal themes in life stories (McAdams, 1996). When life stories focus on agency themes, they include events and interpretations concerned with being autonomous, self-sufficient, and mastering challenges. A life story high on agency themes could emphasize being independent and successful in work life and taking responsibility for important decisions. Life stories featuring communion themes would highlight connections to significant others and communities, nurturance, intimacy, and belonging. The events selected to express this theme could include relationship to family and friends, participating in group activities, and caring for others.

There are several reasons to expect that individuals with schizophrenia may construct life stories characterized by lower levels of agency. First, many authors describe schizophrenia as

associated with a lower sense of agency (e.g. Gallagher, 2000; Lysaker et al., 2003; Roe & Davidson, 2005). Second, studies have shown that patients with schizophrenia describe themselves and their life stories with less agency compared to control groups (Lysaker et al., 2005; Moe & Docherty, 2014). Individuals with schizophrenia may struggle to see themselves as agents due to negative symptoms such as avolition and apathy or due to self-stigmatization and their role in a paternalistic health care system. Self-stigmatization, which refers to incorporating negative stereotypes about schizophrenia, such as incompetence, into the self-concept, may lead individuals to feel less confident in their abilities to succeed or cope effectively (Corrigan et al., 2006). The paternalistic nature of traditional mental health services and the socialization into the patient role may also compromise the experience of agency and instead promote feelings of helplessness and dependence (Newman et al., 2015).

Likewise, there are several reasons to expect that life stories of individuals with schizophrenia may be lower on community. First, schizophrenia is characterized by deficits in social cognition (Green et al., 2008; Bliksted et al., 2017), which interfere with social interactions and may reduce experiences of closeness. Second, individuals may struggle in developing social connections because they feel alienated from society as a result of having a mental illness or they may withdraw socially out of concerns about stigma or due to negative symptoms such as emotional blunting and asociality (Andreasen, 1984b; Davidson et al., 2004). Research shows that individuals with schizophrenia have smaller social networks that tend to be less reciprocal and find social contacts less helpful and supportive (Albert et al., 1998; Meeks & Murrell, 1994; Perese & Wolf, 2005). Finally, the studies mentioned above also found that the life stories and self-descriptions of individuals with schizophrenia were lower on different social

themes that would seem to overlap with communion (Lysaker et al., 2005; Moe & Docherty, 2014).

Agency and communion have also been highlighted as central to recovery in severe mental illness. While recovery has been described as a deeply subjective process that is unique to each individual many definitions emphasize increased ability to successfully cope with life challenges (agency) and connectedness to others (communion) (e.g. Anthony, 1993; Leonhardt et al., 2017). For individuals with schizophrenia to recover in meaningful ways, they must see themselves as agents and experience social worth (Lysaker & Leonhardt, 2012). We suggest that these aspects of recovery are bound within the stories individuals tell about themselves. For example, a person may construct a narrative explaining how a previous action, e.g. buying a car, is the reason that he can now help others with shopping making him feel useful and caring. Constructing the narrative, where events and feelings are connected across time and space, may thus support experiencing oneself as agentic and worthy. Based on this rationale, focusing on themes of agency and communion in life stories is important to gain a first person perspective on processes important to recovery in schizophrenia.

In the present study, we compared the life stories of 24 individuals with schizophrenia with 24 age, gender, and education matched controls. The life stories were coded for themes of agency and communion. We reasoned that individuals with schizophrenia could show *lower presence* of the themes, that is, they would tell life stories where needs of agency and communion simply played little role; but they could also show *lower fulfillment* of agency and communion needs, that is, the themes being present, but in a way where the needs were not fulfilled (for this distinction, see Adler et al., 2012). In addition to themes of agency and communion, we were interested in examining the temporal coherence of patients' life stories.

Difficulties in establishing narrative coherence has been identified as one of the key deficits in schizophrenia (Allé et al., 2015; Allé, D'Argembeau et al., 2016, Allé, Gandolphe et al., 2016; Berna et al., 2011; Raffard et al., 2009; 2010). Examining both structure (temporal coherence) and content (themes of agency and communion) would give us information about whether changes in these life story characteristics necessarily occur together in individuals with schizophrenia. Hence, we coded the temporal macrostructure of life stories, that is, whether the stories include elaboration of beginnings and endings (Habermas et al., 2009). Finally, associations between symptoms of psychopathology and the life story measures were explored.

2. Method

The study was part of a project examining life stories and autobiographical memory in individuals diagnosed with schizophrenia and a non-clinical control group matched on age, gender, and education. During a life story interview participants were 1) asked to freely narrate their life story; 2) identify chapters and self-defining memories from their lives. This article will focus on part 1 (i.e., the freely narrated life stories; see Holm et al., 2016 and Holm et al., 2017 for findings concerning chapters and self-defining memories).

2.1. Participants

Originally, 25 patients and 25 controls participated in the study. But the life stories of two participants were lost due to technical problems with recording. Hence, the present study included 24 participants in each group. Exclusion criteria for both groups were neurological disorder, a history of traumatic brain injury, drug- or alcohol dependency or not speaking Danish fluently.

Twenty-four patients (11 women) with an ICD-10 confirmed diagnosis of schizophrenia participated in the study. On average patients had lived with their diagnosis for 12.04 years (*SD*

= 7.70) and twenty-two individuals were receiving neuroleptic treatment at the time of the interview. Mean level of positive and negative symptoms as assessed with the Scale for the Assessment of Positive/Negative Symptoms (Andreasen, 1984a,b) was 6.63 ($SD = 3.94$) and 10.29 ($SD = 3.21$), respectively. Furthermore, mean level of depression as evaluated by the Common Mental Disorder Questionnaire (Christensen et al., 2005) was 6.46 ($SD = 5.42$).

A control group of twenty-four individuals (11 women) with no history of mental disorder or relatives with a history of schizophrenia, were included to match the patient group on age (patients: $M = 36.42$ years, $SD = 9.85$ vs. controls: $M = 37.88$ years, $SD = 10.75$) and years of education (patients: $M = 15.79$ years, $SD = 3.07$ vs. controls $M = 16.17$, $SD = 1.97$). Mean level of depression in controls as evaluated by the Common Mental Disorder Questionnaire (Christensen et al., 2005) was 1.96 ($SD = 1.92$). Patients performed on average around 0.6 standard deviation below the control group on the Brief Assessment of Cognition in Schizophrenia (BACS-composite score: patients: $M = -0.57$, $SD = 1.46$) (see Holm et al., 2016 for further details) indicating that the patients were cognitively well-functioning as the expected performance of individuals with schizophrenia is 1-2 SD below non-clinical controls (Keefe et al., 2008).

2.2. Measures

Depression. Depression was evaluated using six questions (e.g. feeling worthless) from the Common Mental Disorder Questionnaire (CMDQ; Christensen et al., 2005). The CMDQ is a brief screening instrument that has shown excellent external validity (Christensen et al., 2005.) Symptoms are rated on 5 point scales (0 = not at all, 4 =extremely) with higher scores reflecting more severe symptomatology.

Positive and Negative symptoms. Positive and negative symptoms were evaluated using the Scales for the Assessment of Positive/Negative Symptoms (SAPS/SANS: Andreasen 1984 a, b). The scales are reliable and valid measures of symptomatology in schizophrenia utilized frequently in clinical and research settings (e.g. Andreasen, 1982; Blanchard & Cohen, 2006; Norman et al., 1996; van Erp et al., 2014). The SAPS includes four subscales: hallucinations, delusions, bizarre behavior, and formal thought disorder whereas the SANS consist of five subscales: Affective flattening, alogia, apathy, asociality, and inattention. The inattention subscale was excluded in the present study because attentional difficulties in schizophrenia are no longer considered conceptually related to the negative symptom construct (Blanchard & Cohen, 2006), but rather to neurocognitive deficits (Kern et al., 2004). Each of the SAPS and SANS subscales consists of a number of items assessing specific symptoms such as auditory hallucinations, paranoid delusions, poor eye contact, and inability to feel intimacy. The severity of each symptom is rated on six point scales (0-5) with higher scores reflecting more severe psychopathology. A global score (range 0-5) of each subscale was estimated and a total score for both positive and negative symptoms (range 0-20) was calculated.

Cognitive function. Cognitive function was evaluated using the Brief Assessment of Cognition in Schizophrenia (BACS; Keefe et al., 2004). BACS is a reliable and valid battery of test that assesses the aspects of neuro-cognition most impaired in patients with schizophrenia (Keefe et al., 2004, 2006) BACS consist of six tests measuring verbal memory, working memory, motor speed, verbal fluency, speed of information processing, and reasoning and problem solving. A weighted composite score was created by calculating the weighted mean of z-scores, separately computed for each subtest relative to the mean and standard deviation of the control group (Keefe et al., 2004).

2.3. Ethics

All the participants received oral and written information about the study and gave informed consent. The study was approved by The Central Region Ethics Committee in Denmark (reference number: 1 10 72 107 14).

2.4. Procedure

The first author conducted the interviews and the procedure was identical for patients and controls. Patients were recruited and interviewed at Aarhus University Hospital Risskov outpatient unit. Most patients had learned about the study through their therapist and a few patients had seen flyers in the waiting room. Controls were recruited by advertising the study on flyers and by word-of-mouth and were interviewed at the Department of Psychology and Behavioural Sciences, Aarhus University. The interviewer had no clinical or research related contact with the participants before the interviews.

In the first part of the interview, participants self-reported levels of depression. Then positive/negative symptoms and cognitive function were evaluated. In the second part of the interview, participants were asked to freely narrate their life stories and given the following instructions: *"In this interview I would like you to tell me your life story. There is no right or wrong way to tell your life story and it can concern all areas of your life. It may include information about what has happened in your past that has shaped who you have become as a person. For example, experiences you have had, your living conditions, or people who have influenced you and your life. It is up to you where to start, what to include and how to organize the story "*. Participants were instructed to try to make the story last for approximately 15 minutes and that the interviewer would not comment or ask questions. They were given 5 minutes to consider what they wished to include in the story and a blank sheet of paper to take

notes. If participants finished the story before the 15 minute time limit, they were given the following prompt "*there is still some time left, is there anything you would like to add to the story that you have not already described?*"

2.5. Coding of life stories

The life stories were recorded and transcribed verbatim. The first author then segmented the life stories into chapters, which refer to extended time periods in one's life that include information about the people, places, and activities typical of that period (Thomsen, 2009). An equal portion of life stories from patients and controls were read in order to identify categories of chapters that could be used to segment the life stories. By examining chapters that were systematically mentioned by participants the following categories were identified:

work/education (e.g. university, first job), relationships (e.g. family members, romantic partners), recreational activities (e.g. hobbies, sports), stages in development (e.g. childhood, teenage years, adulthood), and adverse life periods (e.g. illness, hospitalizations). The first author then used these categories to segment all the life stories into chapters. Residential relocation and changes in school/workplace was often mentioned to mark the end/beginning of chapters. Therefore, these events were used as indicators of when to segment life stories into chapters. Previous studies have shown that individuals frequently refer to chapters when asked to narrate their life stories freely (Steiner et al., 2009) and segmenting the life stories into chapters allowed more nuanced coding of themes of agency and communion.

The first author trained a co-rater (who was blind to the hypotheses) in the use of the coding criteria. Based on current recommendations, the co-rater served as a reliability check on the first author and they independently coded 20% of the life stories to check agreement (Syed & Nelson, 2015). There was a good level of agreement between the two raters across all coding

categories: elaboration of life story beginnings, kappa = .85 (agreement = 90%), elaboration of life story endings, kappa = .73 (agreement = 80%), agency, kappa = .62 (agreement = 83%), agency fulfillment, kappa = .90, (agreement = 98%), agency lack of fulfillment, kappa = .69 (agreement = 86%), communion, kappa = .84 (agreement = 92%), communion fulfillment, kappa = .91 (agreement = 96%), communion lack of fulfillment, kappa = .74 (agreement = 90%). Since the agreement between raters was good, the first author coded the remaining interviews.

2.5.1. Temporal macrostructure

Temporal macrostructure was assessed by examining elaborations of beginnings and endings of life stories using the coding criteria described by Habermas and colleagues (2009). In the present study, the temporal macrostructure was evaluated based on the content of the first and the last chapter in the life stories. Elaboration of beginnings was evaluated based on a 5-point scale (0 = temporal location of beginning is unclear, 1 = beginning any time after birth, 2 = beginning at birth, 3 = beginning at birth and including biographical data (e.g. name, place, or date of birth), 4 = beginning at birth and including biographical data and additional circumstances or events (e.g. "I came one week early"). Elaboration of endings was measured on a 4 point scale (0 = arbitrary ending not in the present, 1 = ending at present time, 2 = ending at present with either a global evaluation or prospect, 3 = ending at present with both global evaluation and prospect. The following quotes demonstrate story beginnings and endings that received low and high scores:

Beginning (score = 1): *"As far as I can tell my childhood was pretty normal. My earliest memory is from the preschool years where I had a fight with one of my friends about a toy".*

Beginning (score = 4): *"My name is Anne Mortensen. I was born on the 5th of December 1974, at a hospital here in Aarhus". I was the firstborn and approximately 20 minutes after I was born my twin sister, Kirsten, was born"*.

Ending (score = 0): *"My aunt has meant a lot to me, she has been like a mother to me when my own mum wasn't around. I guess that was about it"*.

Ending (score = 3): *"They were ready to give me an early retirement when I was 18 years old and I have to say that I have come a long way since then. I think one reason is that I continue to set goals for myself and I have dreams about education and work and I am trying to figure out where to go from here. Of course I have had to come to terms with the fact that my life did not end up the way I thought it would when I was younger"*.

2.5.2. Agency and Communion

Each chapter was coded for themes of agency and communion inspired by previous studies (e.g. Adler et al., 2012). However, because we were interested in both 1) whether the themes would be present and 2) whether the themes reflected fulfillment of the needs and previous studies did not take this distinction into account, we developed our own coding system. Hence, in the present study, themes were first rated as being either present (1) or absent (0). If a theme was present, it was evaluated whether it was fulfilled (1 = yes, 0 = no) and/or unfulfilled (1 = yes, 0 = no). Note that the same chapter could include both fulfilled and unfulfilled agency and communion, yielding six possible scores for each chapter: presence of agency, agency fulfillment, unfulfilled agency, presence of communion, communion fulfillment, and unfulfilled communion. We calculated means for each of these by adding scores and dividing by total number of chapters (note that means for agency and communion fulfillment/lack of fulfillment

derived by dividing by number of chapters where agency/communion was present yielded a very similar pattern of results).

Agency was coded if the chapters were related to the need to be in control of one's life, to initiate change, to achieve personal goals, and to feel motivated (Adler et al., 2012; McAdams, 2002). The following quote demonstrate the presence of the agency theme, which is fulfilled:

"Then I applied for university, the film production program, which was a dream for me and I got accepted which was a very big deal ... At that time I had sort of made a decision that I needed to do something in order to regain my self-worth and independence and the fact that I got accepted was huge because I was recognized for something that I really liked and had dreamt about doing".

In contrast, the following two quotes illustrate the theme of agency, which was not fulfilled:

"It has been a while since I have pursued an education because so many things have gone wrong for me. Every time I start something new, then after 6 months or so, things start to go astray". And: *"In many ways it has been a hard life. I have been a victim of circumstances".*

The first example illustrates a satisfied need for agency as the story protagonist takes initiative and strives to make positive changes and pursue personal goals. In the second and third examples, the story protagonist does not seem to be in charge of his/her life, but rather resigned, passive, and subject to external forces.

Communion was coded as the need for intimate relationships (e.g. friendship, romance, sharing, nurturance, and belonging) (Adler et al., 2012; McAdams, 2002). The following quote illustrates the presence of communion, which is fulfilled:

"While I was attending boarding school I talked a lot with my brothers about different things, like how I was feeling. In general, I shared a lot with my brothers. They were the people I

felt most close to, at the time, and they helped me through a lot of things for example all the worries I had."

In contrast, the following quote illustrates the theme of communion, which is not fulfilled:

"We never talked about feelings, or how things were going, or how I was doing, or what it was like to be a teenager, or what it was like to live in a different country. As long as you did well in school then there was nothing more to talk about and my dad was never around either."

In both examples, there is an orientation towards communion, specifically a need to share personal experiences with close others. However, while the narrator in the first example experiences satisfaction in his need for communion, the narrator in the second example describes an unfulfilled need.

3. Results

There were no significant difference between patients ($M = 2302.79$, $SD = 1051.32$) and controls ($M = 2708.96$, $SD = 1245.59$) with respect to length of life stories (number of words) $t(46) = -1.22$, $p = .23$, $d = .35$. Likewise, no differences were found between patients ($M = 11.42$, $SD = 4.24$) and controls ($M = 12.46$, $SD = 4.39$) in the number of chapters identified by the coder in the stories $t(46) = -.84$, $p = .41$, $d = .24$.

A series of independent t-test were conducted in order to examine differences between patients and controls on temporal macrostructure and themes of agency and communion (see Table 1). There were no differences between groups on the temporal macrostructure of life stories. Patients elaborated on life story beginnings and endings to the same extent as controls and in both groups beginnings were more elaborate than endings. While there were no differences between groups in the presence of agency themes in life stories, patients' life stories included significantly less agency fulfillment and significantly more unfulfilled agency in

comparison to controls. Furthermore, patients' life stories did not differ significantly from controls in how often themes of communion were present, and fulfilled. However, their life stories included significantly more unfulfilled communion themes in comparison to controls.

Finally, we examined relations between life story measures and symptoms in patients (see Table 2). In general, there were few significant correlations: A higher degree of negative symptoms were associated with producing shorter life stories and elaborating less on life story beginnings. Experiencing a higher degree of positive symptoms was associated with more chapters being identified in life stories. Surprisingly, there were no significant relations between the life story measures and symptoms of depression in patients or controls.

4. Discussion

The purpose of the present study was to examine themes of agency and communion and temporal structure of life stories in individuals with schizophrenia. We found no differences between groups when examining the temporal structure of stories. While patients described themes of agency and communion as often as controls, the themes reflected that agency and communion needs were unfulfilled.

We found that the life stories of individuals with schizophrenia were imbued with the same level of temporal macrostructure as the controls. This result diverges from other studies, which have found impaired temporal coherence in individuals with schizophrenia (Allé et al., 2015; Allé, Gandolphe et al., 2016). The present findings may reflect that our participants with schizophrenia were relatively highly educated compared to patient samples in the previous studies and were cognitively well-functioning when assessed on cognitive processes that are typically affected in schizophrenia (see Holm et al., 2016 for further details; Keefe et al., 2008). Cognitive function could be important for establishing temporal macrostructure because it is an

advanced cognitive skill (Köber et al., 2015) that requires the narrator to take the perspective of the listener (Habermas et al., 2009). However, given that higher level of negative symptoms was associated with shorter narratives and elaborating less on beginnings, negative symptoms may also interfere with establishing narrative coherence.

Individuals with schizophrenia included themes of agency and communion in their life stories to the same extent as controls. However, the themes reflected that agency and communion needs were unfulfilled, indicating that individuals with schizophrenia construct their life stories in ways that give them a sense of not being in control of their own lives and lacking closeness to other people. This is consistent with previous research using other methods (Lysaker et al., 2005; Moe & Docherty, 2014). Our findings on unfulfilled agency needs are also consistent with studies examining memories highly relevant to identity, where individuals with schizophrenia recall fewer memories where they played an active role in the progression of events (Bennouna-Greene et al., 2012) and fewer memories that related to achievement themes (Raffard et al., 2009, 2010). Our finding of more themes of unfulfilled agency and communion needs should be viewed in combination with the lack of differences in temporal macrostructure or presence of agency and communion themes. This suggest that a subset of individuals with schizophrenia, who are cognitively well-functioning, may construct life stories that are temporally coherent and focused on themes that capture central human needs, although these needs are storied as thwarted. The preserved narrative structure and themes indicate that psychotherapy focused on storying the self as more agentic and connected to others may appeal to this group.

The present findings extend previous studies on the structural aspects of life stories (Allé et al., 2015; Allé, D'Argembeau et al., 2016, Allé, Gandolphe et al., 2016; Lysaker et al., 2015; Raffard et al., 2009; 2010). While focusing on structural aspects of life stories is in line with

ideas emphasizing fragmentation and discontinuity as central in schizophrenia (e.g. Freedman, 1974), the content of life stories may also help understand the difficulties faced by individuals with schizophrenia. The themes of unfulfilled agency and communion needs could just be a reflection of the problems individuals with schizophrenia face in terms of fewer relationships and occupational difficulties (Cohen et al., 2008; Juckel, & Morosini, 2008; Nasrallah et al., 2008; Reupert & Maybery, 2007). Indeed, the life stories of the patients were crowded with unsatisfied needs of agency and communion in relation to education, work, and family and this content may reflect very real consequence of living with schizophrenia. However, it is worth noting that themes emerge also from selection and interpretation processes and that part of the explanation for the themes of unfulfilled agency and communion needs may be that our participants selectively focused on these domains (e.g. career and romantic relationships) due to shared cultural knowledge, that they are important parts of life that should be included in life stories (Berntsen & Rubin, 2004). The implication of this is that focusing on other events may draw a somewhat different picture of agency and communion themes. For example, one of our participants with schizophrenia described a chapter of being a volunteer cashier in a hunting club and infused this chapter with a sense of achievement and belonging. Another possible reason for the focus on themes of unfulfilled agency and communion needs is that interpretations of events are negatively colored by self-stigmatization. Many individuals with schizophrenia adopt stigmatizing views of schizophrenia (e.g. incompetence; Lysaker, Roe, & Yanos, 2007) and this is linked to hopelessness and diminished self-esteem (Cavelti et al., 2012). Individuals who believe that having a diagnosis of schizophrenia means that they are not capable of achieving valued social roles or cope with life challenges may narrate their life story in a way that confirms those beliefs and this could constitute a major obstacle in recovery.

Examining how individuals with schizophrenia remember and reflect on past experiences in their life stories can give rich information about how they understand themselves and it would be useful to consider how this approach is linked to metacognition, which also focus on self-understanding and is more widely researched. Metacognition refers to a broad array of processes including both the identification of different aspects of experience (thought, affect), the integration of experiences to gain an understanding of oneself and other people, and using this array of information to adapt to circumstances (Lysaker et al., 2018). In our view, the construction of coherent life stories including themes of fulfilled agency and communion needs is one subset of metacognitive processes, because such construction requires integrating selected series of memories and different self-views. Thus, our finding could also be interpreted as indicating that this aspect of metacognition is affected in individuals with schizophrenia. One example of convergence between the two approaches is that we found negative symptoms to be related to shorter life narratives and less elaborated life story beginnings and other studies have established that negative symptoms are related to impaired metacognition (Hamm et al., 2012; Lysaker, France et al., 2005). Future research could provide a more detailed analysis of the relationship between narrative identity and metacognition and empirically investigate similarities and differences.

Our results may have clinical implications, although replications are needed to provide a firmer ground for therapeutic interventions aimed at changing narrative identity. Clinicians working with individuals suffering from schizophrenia could listen for and help elaborate parts of life stories that support a sense of agency and communion fulfillment (Lysaker et al., 2015; White & Epston, 1990). These parts of life stories may be found outside the culturally sanctioned areas of achievement (e.g. education and career) and communion (e.g. romantic relationships and

children) as illustrated in the example above of our participant who narrated agency and communion into his task as volunteer cashier in a hunting club. This idea is in line with proponents of the recovery movement, who have stressed the importance of facilitating the person's effort to move from withdrawal to engagement, and from resignation to active coping (e.g. Andreasen et al., 2003; Ridgway, 2001; Roe & Davidson, 2005). Helping individuals to elaborate on and emphasize agency and communion fulfillment in their life stories may support them in taking control of their lives and establish social connections thus assisting recovery. Our results, and narrative identity research more generally, may also inform new treatment approaches such as metacognitive reflection and insight therapy (MERIT), which focuses on stimulating metacognition through in-session practice of this set of skills (Lysaker et al., 2018). Inviting participants to describe chapters and memories in their life stories and elaborate on chapters and memories that evidence themes of fulfilled agency and communion needs may further scaffold recovery and effects of this could be researched in future studies.

The present study suffers from some limitations. First, the sample size was small and the sample consisted of patients who were relatively high on education and cognitive function (see Holm et al., 2016) and in a stable phase of their illness. Future studies should examine larger and more diverse samples. In addition, the sample represented individuals who had suffered from schizophrenia for an extended period. Future studies could sample recently diagnosed individuals to examine whether themes of reduced fulfillment of agency and communion needs are present in life stories from diagnosis or only develop over time as effects of self-stigmatization and socialization to the patient role may appear. Relatedly, future studies could examine whether themes of reduced fulfillment of agency and communion needs are specifically tied to parts of the life story after diagnosis. Second, only 20% of the life stories were coded by two raters and

blinding of the status of the participant could not be achieved, which may have affected results.

Third, the study is cross-sectional and all interpretations regarding causal relations between life stories and outcomes such as recovery remain speculative. Lastly, we only included a non-clinical control group and cannot assess the specificity of the findings. Research on individuals with borderline personality disorder suggest that other psychiatric groups may show a similar pattern (Adler et al., 2012; Lind et al., 2018).

In conclusion, individuals with schizophrenia construct their life stories in ways that depict them as less able to influence the course of their lives and with less closeness to other people compared to non-clinical controls. To some degree this may reflect the reality of living with a severe mental illness, but the stories may also overemphasize powerlessness and social isolation and become self-fulfilling prophecies that can block the route to recovery. Clinicians may explicitly invite individuals with schizophrenia to describe their life stories and ask for elaboration of stories that could support feelings of agency and communion as a part of scaffolding recovery.

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Table 1

Group differences on temporal macrostructure and themes of agency and communion

Variables	Patients		Controls		<i>t</i>	<i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Temporal structure (beginning)	2.21	1.28	2.17	1.09	.12	.03
Temporal structure (ending)	.71	1.00	.88	.99	-.58	.17
Agency	.64	.18	.61	.14	.69	.19
Agency fulfillment	.48	.16	.58	.16	-2.14*	.63
Unfulfilled agency	.48	.20	.27	.16	3.89**	1.16
Communion	.55	.23	.49	.19	.97	.28
Communion fulfillment	.28	.23	.35	.15	-1.21	.36
Unfulfilled communion	.45	.20	.29	.21	2.71**	.78

Note. * $p < .05$; ** $p < .001$

Table 2

Correlations between life story measures, cognitive function, and symptoms

Variables	BACS Composite score		Depression		SAPS	SANS
	Patients	Controls	Patients	Controls	Patients	Patients
Number of words	.38	-.08	-.08	.08	.19	-.40*
Number of chapters	.32	-.17	.17	.09	.45*	-.15
Temporal structure (beginning)	.31	-.13	-.25	-.29	-.25	-.53**
Temporal structure (ending)	-.10	.07	-.17	-.23	-.05	.05
Agency	.22	-.12	-.08	.03	.06	-.18
Agency fulfillment	.06	-.19	.03	-.03	-.03	-.02
Unfulfilled agency	-.36	-.04	.06	.02	.25	.18
Communion	-.32	.14	-.14	.08	.06	.15
Communion fulfillment	-.22	.05	-.25	-.06	-.02	-.07
Unfulfilled communion	-.20	.08	-.05	.03	-.03	.23

Note. * $p < .05$, ** $p < .01$.