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# Psychometric Properties of the Verbal and Social Interaction Questionnaire for Psychiatric Outpatient Care (VSI-OP), Staff and Patient Versions

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#### ABSTRACT

The aim of this paper is to investigate the psychometric properties of the Verbal and Social Interaction questionnaire for psychiatric outpatient care (VSI-OP) by using a confirmatory factor analysis. A further aim is to present the patient and staff perceptions of the frequency of these interactions in this context. The factor structure of the VSI-OP could be explained by three factors for both the staff and the patient versions. The three factors are: 'Inviting the patient to establish a relationship', 'Showing interest in the patients' feelings, experiences and behaviour' and 'Helping the patients to establish structure and routines in their everyday life'. The two first factors were the most frequently occurring actions according to the staff and the patients.

#### Background

The interactions between patients and nursing staff and other healthcare workers constitute a significant element of the caring relationships that occur in all inpatient and outpatient psychiatric care services (Brunt & Rask, 2018; Buchanan-Barker & Barker, 2004; Johansson & Eklund, 2003; Luther et al., 2019; Peplau, 1988; Rask & Brunt, 2007; Topor, 2001; Welch, 2005). The nurse-patient relationship has been described as a cornerstone in psychiatric care (Buchanan-Barker & Barker, 2004; Peplau, 1952, 1988), and establishing this relationship is fundamental for nurses to be able to help the patient (Rask & Brunt, 2007). Moreover, Hem and Pettersen (2011) have maintained that it is important to strive for mutuality even though the professional relationship is asymmetrical. The therapeutic nurse-patient relationship was described in a study by Shattell et al. (2007) in terms of three themes 'relate to me', 'know me as a person' and 'get to the solution'. Furthermore, when staff can create a helping relationship, outpatients in psychiatric care experience the care as good (Luther et al., 2019). These authors found that patients in community mental health settings perceived a high quality of care when the staff/clinician-patient relationship had a high level of therapeutic alliance, satisfaction with services, and autonomy support.

Talking with the patients about their feelings and previous experiences has been found to be important for outpatients in psychiatric care in a number of studies (Lakdawala, 2015; Molin et al., 2016; Shattell et al., 2007). The caring staff in supported housing mainly focussed on 'To build a relationship with a supportive quality' followed by 'To participate in joint social activities', 'To talk to the resident about his/ her inner world, memories and experiences' as well as 'To develop the residents' practical skills' when using a questionnaire designed to capture the staff-patient relationship (Brunt & Rask, 2018). The same authors have also previously found that nursing staff in forensic psychiatric care focussed on 'Supportive/encouraging interactions' and the 'Practical skills training' followed by 'Social skills training' and 'Interpretative interactions' according to the nurses themselves (Rask & Brunt, 2006).

In order to more systematically assess the quality of patient-staff relationships, valid measures are needed from the perspectives of both patients and staff. The present article presents a validation of the VSI questionnaire for staff and patients, developed to measure aspects of the care relationship between nursing staff and patients in outpatient clinical care, the VSI-OP. The care relationship in the original 50-item version of the VSI was described as consisting of six categories of interactions: 'Building and sustaining relationships', 'Supportive and encouraging interactions', 'Reality orientation', 'Reflective interactions', 'Social skills training', and 'Practical skills training' (Rask & Brunt, 2007). The VSI has since been developed and adjusted for use in several different psychiatric settings; in inpatient care such as forensic psychiatry and general psychiatric care and also community settings such as supported housing for people with

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Sex (n) (%)	
Female	116 (80.6)
Male	22 (15.3)
No information	6 (4.1)
Age (years, mean) (r)	
Female	47.1 (24–64)
Male	42.9 (23–61)
No information	9
Professional category (n) (%)	
Occupational therapist	12 (8.3)
Counsellor	15 (10.4)
Doctor	6 (4.2)
Psychologist/trainee psychologist	28 (19.4)
Physiotherapist	2 (1.4)
Registered nurse	42 (29.2)
Auxiliary nurse/caregiver	26 (18.1)
Outpatient care assistant	3 (2.0)
Psychotherapist	4 (2.8)
Care and support coordinator	1 (0.7)
No information	5 (3.5)
Number of years working at the clinic (years, mean) (r)	
Female	6.7 (1–32)
Male	4.4 (1–15)
No information	9

psychiatric disabilities (Rask & Brunt, 2010). These questionnaires have been constructed for measuring the perceptions of patients and staff of what staff in psychiatric care do.

A shorter version of the original VSI with 21 items was created from the six aforementioned categories of verbal and social interactions as part of its instrument development and these were described in the three subscales; 'Inviting the patient to establish a relationship, 'Showing interest in the patients' feelings, experiences and behaviour' and 'Helping the patients to establish structure and routines in their everyday life'. This 21-item version has shown good psychometric properties in terms of reliability and construct validity using exploratory factor analysis of the staffs' perceptions with parts of the six original categories in the VSI model still represented (Rask et al., 2008). The concept of the original VSI has its theoretical foundation in caring science (Rask & Brunt, 2007) and as mentioned previously the caring relationship between staff and patients is a significant element in both psychiatric inpatient and outpatient care. To be able to compare the content of the verbal and social interaction between psychiatric inpatient and outpatient care, a new version of the VSI questionnaire, which was adjusted to suit the psychiatric outpatient context (VSI-OP), has been developed for both staff and patients. The specific aim of this study is thus to investigate the psychometric properties and dimensionality of the VSI-OP staff and patient versions for clinical care in order to determine whether the model of VSI that is applicable to forensic psychiatric care also is applicable to the outpatient clinic setting. Furthermore, the aim is also to briefly describe and compare the perceptions of staff and patients concerning the frequency of verbal and social interactions.

#### Method

#### Participants and data collection

The data used in the present study were the responses of nursing staff and other health professionals working in

clinical outpatient settings as well as patients visiting these settings in three regions in southern Sweden. A total of 144 staff participants completed the VSI-OP staff version, of which the majority (80%) were female. The mean age for the women was 47 years and 43 years for the men. The mean length of employment was 3.9 years and 3.7 years, respectively. The largest groups of respondents were nursing staff, such as registered nurses, auxiliary nurses and the other healthcare professionals were psychologists/trainee psychologists, counsellors and occupational therapists (Table 1). The data were collected using the VSI-OP staff version questionnaire together with background data such as sex, age, profession and number of years working at the clinic. The patient data in the clinical outpatient settings were from the same three regions in southern Sweden as the responses of the staff. A total of 621 patients completed the VSI-OP patient version, of which the majority (68%) were female. The mean age for the women was 36 years and 38 years for the men. The largest group of respondents reported an Anxiety Disorder diagnosis, closely followed by Neuropsychiatric Disorder and Depression (Table 2). The data were collected using the VSI-OP patient version questionnaire together with background data such as age, sex, and self-reported diagnosis. The study was approved by the Regional Ethical Board in Uppsala, Sweden (Dnr 2018/186).

#### Development of the VSI-OP staff version questionnaire

The Verbal and Social Interactions (VSI) consisting of 50 items was developed for studying the perceptions of patients and nursing staff on the frequency and importance of nursing interactions in forensic psychiatric settings and the concept has previously been described (Rask & Brunt, 2007). The original six categories in the questionnaire, as presented above, covered features of the work by nurses and caregivers that is relevant in many psychiatric settings. The VSI has been used in forensic psychiatric settings (VSI-FP) and in supported housing (VSI-SH) for people with

Table 2. Characteristi	ics of the patients ( $n = 621$ ).	
Age in years	Mean (sd and range)	36.3 (18–87)
	Women	35.76 (18–78)
	Men	37.66 (18–87)
	Other	
	Missing	
Sex n (%)	Women	424 (68)
	Men	192 (31)
	Other	4 (0.6)
	Missing	1 (0.2)
Diagnosis*		
	Neuropsychiatric disorder	169 (23.9)
	Anxiety disorder	202 (28.6)
	Bipolar disorder	72 (10.2)
	Depression	145 (20.5)
	Personality disorder	57 (8.1)
	Psychosis	43 (6.1)
	Eating disorder	28 (4.0)
	Dependency disorder	5 (0.7)
	Missing data	174 (24.6)

\*Patients could have more than one diagnosis.

psychiatric disabilities (Brunt & Rask, 2018; Rask & Brunt, 2006). It was found in a previous validation study (Rask et al., 2008) with the additional aim of reducing the number of items that the original VSI could be reduced to a 21-item version for use in forensic psychiatric care (VSI-FP) and that the questionnaire could be described in three subscales. These three subscales still contained items from all the previous six categories of interactions. The present VSI-OP versions for staff and patients have been adjusted for the present study to suit the specific context of psychiatric outpatient care. This has been performed by two of the authors of this manuscript who are also the originators of the VSI-questionnaire. The wording of the items differs slightly between the two versions to reflect which of the two groups is the responder, for example 'You show the patients that you are honest' in the staff version and 'Staff show you that they are honest' in the patient version. Item adjustments have also been made in terms of the exact expression of each item based on the relevance for the care in the specific context. Furthermore, two items from the aforementioned 21-item version were excluded due to their inherent inpatient care nature, and the VSI-OP staff and patient versions thus used for this study contained 19 items. The response formats of the items ranged from not at all (1) to a very high degree (4) in a Likert-like scale.

#### Data analysis

Descriptive statistics and Confirmatory Factor Analysis (CFA) were performed using JAMOVI 1.2 (The Jamovi Project 2020). CFA can be performed based on the same assumptions on sample size as for exploratory factor analysis (Rattray & Jones, 2007) such as at least five respondents per item (Hair et al., 1998). The CFA was used to test whether the previous proposed factor structure of VSI-FP for inpatient care in a forensic setting (Rask et al., 2008) could be replicated in a psychiatric outpatient context. The homogeneity of the factors was measured with Cronbach's a and a score of 0.70 and above was considered acceptable (Rattray & Jones, 2007). Imputation was performed prior to analysis by replacing missing data points with the mean

of that item in the staff (missing 0% - 2.1%) as well as the patient (missing 5.9-9.1%) sample, separately. The CFA was initially performed on the 19-item version of the VSI-OP staff version. Items 7 (Show that you want to get to know the patient) and 12 (Explain to the patient why they have contact with the out-patient clinic) were excluded due to insufficient model fit, thus, the CFA presented in this paper represents the 17-item version of the VSI-OP staff version. The CFA of the VSI-OP patient version was based on the 17-item version of the VSI-OP staff version to facilitate a comparison of the results at factor level, as well as, at item level between staff and patients. Chi-square was used for testing the adequacy of the model but the results of  $X^2$ should be interpreted with caution since it is sensitive to sample size and small misspecifications can lead to a significant  $X^2$ . We used comparative fit index (CFI), standardised root mean square residual (SRMR) as well as the root mean square of approximation (RMSEA) for fit measures. The CFI with values of  $\geq 0.90$  and  $\geq 0.95$ , SRMR with values of  $\leq 0.10$  and  $\leq 0.08$  and RMSEA with values of  $\leq 0.08$ and  $\leq 0.05$  are considered as adequate and excellent level of goodness of fit, respectively (Hu & Bentler, 1999). The Mann-Whitney U test was used for the comparison between the perceptions of staff and patients.

#### Results

#### VSI-OP staff version psychometric evaluation

The CFA of the staff version showed significant chi-square  $(x^2 = 220, df = 147, p < .001)$ , a CFI = 0.92, an SRMR = 0.076, and an RMSEA = 0.059 (CI = 0.042–0.074) indicating adequate level of goodness of fit. When inspecting modification indices, it was found that there were two items in the subscale 'Showing interest in the patients' feelings, experiences and behaviour' that showed large error covariance (items 10 and 14) and two items in the subscale 'Helping the patients to establish structure and routines in their everyday life', which also showed large error covariance (items 17 and 19). Given that model specification that forces

Table 3. Summar	y statistics of confiri	natory factor analysis	of the VSI-OP staff version	n (frequency of actions).
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/SI-OP items by factor	Loadings	α
Fotal VSI-OP (17 items)		0.81
1. Inviting the patient to establish a relationship (6 items)		0.85
1. Show the patients that you are honest.	0.554	
2. Show the patients that they can believe in you.	0.787	
3. Show the patients that they can trust you.	0.855	
4. Show the patients that you care about them.	0.662	
5. Show the patients that they can feel safe with you	0.729	
6. Show the patients that you are true to your word.	0.607	
2. Showing interest in the patients' feelings, experiences and behaviour (6 items)		0.81
8. Talk to the patients about their feelings about other people.	0.791	
9. Describe to the patients how you perceive their behaviour.	0.511	
0. Talk to the patients about their feelings.	0.719	
1. Talk to the patients about how they think about other people.	0.818	
3. Remind the patients about earlier negative experiences they have had.	0.374	
4. Talk to the patients about their behaviour when they are with other people.	0.739	
3. Helping the patients to establish structure and routines in their everyday life (5 items)		0.84
5. Describe to the patients why it is important for them to keep their things in good order.	0.753	
6. Encourage the patients to maintain their personal hygiene.	0.735	
7. Describe to the patients why it is important for them to keep regular sleeping hours.	0.645	
8. Encourage the patients to take care of their finances.	0.767	
9. Describe to the patients why it is important to eat regular meals.	0.619	

n = 144.  $\alpha =$  Cronbach's alpha. VSI-OP = Verbal and Social Interactions – out patient, staff version.

all error terms to be uncorrelated is rarely appropriate with real data, these correlated error terms were incorporated into the CFA model since it does not weaken the factorial validity (Bentler & Chou, 1987).

After modifying the model including these correlated errors, the CFA showed significant chi-square ( $x^2 = 167$ , df = 114, p = .001), a CFI = 0.95, an SRMR = 0.063, and an RMSEA = 0.057 (CI = 0.037-0.075) indicating a better and an almost excellent level of goodness of fit. This supports the hypothesis that VSI-OP staff version consists of three subscales and has a factor structure that corresponds to a previous psychometric study of a short version of VSI-FP used on a sample of nursing staff working in a forensic psychiatric setting (Rask et al., 2008). The factor loadings for the first factor varied between .855 to .554, for the second factor between .818 and .374 and for the third factor between .767 and .619. The internal consistency of the three subscales in the 17-item version of the VSI-OP staff version, measured with Cronbach's a, varied between .85 and .81 and could thus be seen to be good (Rattray & Jones, 2007). The internal consistency for the total scale (with 17 items) was .81 (Table 3).

#### VSI-OP patient version psychometric evaluation

The CFA of the patient version indicated an almost excellent level of goodness of fit with a significant chi-square ( $x^2 = 531$ , df = 114, p < .001), a CFI = 0.95, an SRMR = 0.054 and an RMSEA = 0.074 (CI = 0.068–0.081) using the same conditions as for the staff version. The VSI-OP patient version thus also consists of three subscales and has a factor structure that corresponds to VSI-OP staff version, presented above. The factor loadings for the first factor varied between .915 to .785, for the second factor between .850 and .554 and for the third factor between .846 and .706. The internal consistency of the three subscales in the 17-item version of the VSI-OP patient version, measured with Cronbach's  $\alpha$ ,

varied between .94 and .89 and could thus be seen to be good (Rattray & Jones, 2007). The internal consistency for the total scale (with 17 items) was .93 (Table 4).

#### Frequency of verbal and social interactions

The group of interactions that the nursing staff and other healthcare workers stated that they performed most frequently (Table 5) was 'Inviting the patient to establish a relationship', followed by 'Showing interest in the patients' feelings, experiences and behaviour'. The least frequently performed group of interactions was 'Focussing on helping the patients to establish structure and routines in their everyday life'. A closer inspection of the items in the staff version reveals that focussing on showing the patients that they can trust you, you care about them, believe in you and can feel safe with you are the most prominent actions in 'Inviting the patient to establish a relationship'. The items 'Talk to the patients about their feelings' and 'how they think about other people' closely followed by 'talk to the patients about their feelings about other people' were the most frequent actions in 'Showing interest in the patients' feelings, experiences and behaviour'. In 'Helping the patients to establish structure and routines in their everyday life, the nursing staff and other health care workers mainly focussed on why it is important for the patients to keep regular sleeping hours and to eat regular meals.

The group of interactions that the patients stated that nursing staff and other healthcare workers performed most frequently (Table 5) was 'Inviting the patient to establish a relationship', followed by 'Showing interest in the patients' feelings, experiences and behaviour'. The least frequently performed group of interactions was 'Focussing on helping the patients to establish structure and routines in their everyday life'. A closer inspection of the items in the patient version reveals that focussing on showing the patient that they can trust the staff, believe in the staff, feel safe with

Table 4. Summary statistics of confirmatory factor analysis of the VSI-OP patient version (frequency of actio	Table 4. Sum	mmary statistics of	f confirmatory	factor ana	lysis of the	VSI-OP	patient version	(frequency	y of action
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VSI-OP items by factor	Loadings	а
Total VSI-OP (17 items)		0.93
1. Inviting the patient to establish a relationship (6 items)		0.94
1. Staff show you that they are honest.	0.854	
2. Staff show you that you can believe in them.	0.915	
3. Staff show you that you can trust them.	0.907	
4. Staff show you that they care about you.	0.800	
5. Staff show you that you can feel safe with them.	0.860	
6. Staff show you that you they are true to their word.	0.785	
2. Showing interest in the patients' feelings, experiences and behaviour (6 items)		0.89
8. Staff talk to you about your feelings about other people.	0.821	
9. Staff describe to you how they perceive your behaviour.	0.782	
10. Staff talk to you about your feelings.	0.836	
11. Staff talk to you about how you think about other people.	0.850	
13. Staff remind you about earlier negative experiences you have had.	0.554	
14. Staff talk to you about your behaviour when you are with other people.	0.764	
3. Helping the patients to establish structure and routines in their everyday life (5 items)		0.89
15. Staff describe to you why it is important for you to keep your things in good order.	0.811	
16. Staff encourage you to maintain your personal hygiene.	0.837	
17. Staff describe to you why it is important for you to keep regular sleeping hours.	0.715	
18. Staff encourage you to take care of your finances.	0.846	
19. Staff describe to you why it is important to eat regular meals.	0.706	

n = 621.  $\alpha =$  Cronbach's alpha. VSI-OP=Verbal and Social Interactions – out patient, patient version.

Table 5. Comparison betwee	en patient and staff	perceptions of the frequence	v of factors of verbal and social interactions	, mean and standard deviation.

	Staff	Patients	
VSI-OP items by factor	m (SD)	<i>m</i> (SD)	<i>p</i> -value
Total VSI-OP (17 items)	3.14 (.3)	2.82 (.6)	<.001
1. Inviting the patient to establish a relationship (6 items)	3.71 (.4)	3.48 (.6)	.006
1. Show the patients that you are honest.	3.65 (.5)	3.51 (.7)	
2. Show the patients that they can believe in you.	3.72 (.5)	3.52 (.7)	
3. Show the patients that they can trust you.	3.78 (.4)	3.51 (.7)	
4. Show the patients that you care about them.	3.72 (.5)	3.39 (.8)	
5. Show the patients that they can feel safe with you	3.71 (.5)	3.49 (.7)	
6. Show the patients that you are true to your word.	3.67 (.5)	3.46 (.7)	
<ol> <li>Showing interest in the patients' feelings, experiences and behaviour (6 items)</li> </ol>	3.00 (.5)	2.82 (.6)	.065
8. Talk to the patients about their feelings about other people.	3.16 (.8)	3.11 (.9)	
9. Describe to the patients how you perceive their behaviour.	2.80 (.8)	2.81 (1.0)	
10. Talk to the patients about their feelings.	3.50 (.6)	3.25 (.9)	
11. Talk to the patients about how they think about other people.	3.25 (.7)	3.00 (1.0)	
13. Remind the patients about earlier negative experiences they have had.	2.29 (.8)	2.17 (1.0)	
<ol> <li>Talk to the patients about their behaviour when they are with other people.</li> </ol>	3.01 (.7)	2.60 (1.0)	
<ol> <li>Helping the patients to establish structure and routines in their everyday life (5 items)</li> </ol>	2.62 (.7)	2.02 (0.9)	<.001
15. Describe to the patients why it is important for them to keep their things in good order.	2.28 (.8)	1.94 (1.0)	
16. Encourage the patients to maintain their personal hygiene.	2.22 (.9)	1.72 (1.0)	
17. Describe to the patients why it is important for them to keep regular sleeping hours.	3.11 (.8)	2.33 (1.1)	
18. Encourage the patients to take care of their finances.	2.59 (.9)	1.92 (1.1)	
19. Describe to the patients why it is important to eat regular meals.	2.88 (.8)	2.21 (1.2)	

the staff and that the staff are honest, are the most prominent actions in 'Inviting the patient to establish a relationship'. The item 'Talking about the patient's feelings' and 'how they think about other people' were the most frequent actions in 'Showing interest in the patients' feelings, experiences and behaviour'. In 'Helping the patients to establish structure and routines in their everyday life', the nursing staff and other health care workers mainly focussed on why it is important for the patients to keep regular sleeping hours and to eat regular meals.

#### Discussion

The specific aim of this study was to investigate the psychometric properties and dimensionality of the VSI-OP staff and patient versions for clinical care in order to determine whether the model of VSI that is applicable for forensic psychiatric care is also applicable for the outpatient clinic setting. A second aim was to briefly describe the perceptions of staff and patient of the frequency of verbal and social interactions. The subscales in the 17-item version of VSI-OP staff and patient versions resemble the three subscales found in a previous psychometric study of VSI-FP (staff version) (Rask et al., 2008) for use in forensic psychiatric care based on nursing staff' perceptions of the frequency of staff-patient care interactions. The content in the three subscales in VSI-OP staff version is also reflected in several other studies where it is pointed out that establishing a good relationship is fundamental as well as talking about feelings and previous experiences and supporting structure and routines in everyday life (Hem & Pettersen, 2011; Lakdawala, 2015; Luther et al., 2019; Molin et al., 2016; Shattell et al., 2007).

The content of the two excluded items in the first 19 item version were originally included in the subscales 'Inviting the patient to establish a relationship' (item 7 Show that you want to get to know the patient) and the subscale 'Showing interest in the patients' feelings, experiences and behaviour' (item 12 Explain to the patient why he/she has contact with the outpatient clinic). A possible explanation for the insufficient model fit for item 12 could be that the original item was formulated to suit the forensic psychiatry context where such an explanation to the patient was relevant. The content of item 12 in an outpatient clinic context may be less relevant as some patients may seek help from the clinic themselves thus rendering the need for an explanation for their contact with the clinic to be less relevant. Similarly, the origin from a forensic psychiatric context may also influence the responses concerning item 7 but this is perhaps a less discernible explanation than for item 12.

The CFA showed that the factor structure of VSI-FP (for forensic psychiatric inpatient care) was replicated in the 17-item version of VSI-OP staff version consisting of three subscales and that the CFA factor structure of the VSI-OP staff version was found in the patient version. This supports the assumption that the concept of staff-patient interactions in psychiatric outpatient care is similar to that in forensic psychiatric inpatient care. This could also be taken as an indication that VSI-OP staff version and patient version could be used for identifying similarities and differences between different psychiatric care settings.

The associations between the items in the questionnaire are stronger in the patient sample than in the staff sample based on the factor loadings. The goodness of fit for the staff and patient versions shows that CFI of the staff version and the patient version are the same and excellent and SRMR is slightly better in the patient version but both can still be seen as excellent. On the other hand, the fit of the model measured with RMSEA shows that both versions are adequate, while the staff version is closer to being excellent. Despite the minor inconsistencies in the CFA of the staff and patient versions both could thus be considered to be psychometrically adequate for measuring staff-patient interactions in psychiatric outpatient care.

The nursing staff in the present study focussed foremost on inviting the patient to establish a relationship and secondly showing interest in the patients' feelings, experiences, and behaviour, according to the responses from both the staff and the patients. The least frequently occurring subscale of interaction was to help the patient to establish structure and routines in their everyday life, according to the two groups. Previous studies (using VSI-SH) have shown that focussing on the staff-patient relationship is the most frequently occurring and important category of interactions according to caring staff and residents in supported housing (Brunt & Rask, 2018) as well as among nurses and patients in forensic psychiatric inpatient care (Rask & Brunt, 2010). Furthermore, other studies have also demonstrated the importance of establishing a good nurse-patient relationship in different psychiatric settings (Andersson, 2016; Borg & Kristiansen, 2004; Johansson & Eklund, 2003; Pejlert et al., 2000; Shattell et al., 2007; Welch, 2005). The verbal and social interaction concept, especially in terms of establishing a relationship, thus seems to be valid in several different psychiatric care contexts.

It has been shown in several studies that talking about feelings and previous experiences is important for outpatients in psychiatric care (Lakdawala, 2015; Molin et al., 2016; Shattell et al., 2007). To focus on patients' feelings, experiences and behaviour can help patients to understand and to cope with their inner difficulties and behaviour. This part of staff's conversation with the patients appears in our study to occur less frequently than focussing on the relationship for the staff in psychiatric outpatient care. These findings corroborate those in the study in the Supported Housing setting, where caring staff and patients rated this group of interactions less frequently occurring than focussing on the relationship (Brunt & Rask, 2018). 'To talk with the patients about their feelings' was the most frequently performed action in the present study according to staff and patients in this subscale and residents and staff in Supported Housing also rated this item quite highly and it was almost the most important item in this subscale (Brunt & Rask, 2018). Talking about feelings, experiences and behaviour with the patient is thus common in different psychiatric care contexts, not the least in psychiatric outpatient care.

The result of the present study showed that focussing on helping the patient to gain a structure in their daily life was the least frequent subscale for staff and patients in outpatient care. This subscale contains talking about basic needs, for example, sleeping and eating habits. It has been pointed out that having sufficient sleep and having a healthy diet are important aspects, especially for patients with severe mental illness (Blomqvist, Sandgren, Carlsson & Jormfeldt, 2018). Furthermore, patients with schizophrenia also report having difficulties with their sleep (Kaskie et al., 2017; Reeve et al., 2015) as well for those with PTSD or depression (Britvić et al., 2016). In comparison, residents and caring staff in SH perceive that this group of interactions was not the most common group of actions (Brunt & Rask, 2018). On the other hand, staff in forensic psychiatric care perceive it as one of the more common group of actions while the patients ranked it as the least common and least important (Rask & Brunt, 2006).

A limitation of the questionnaire in terms of validity is that we have not studied its discriminant or convergent validity such as correlations with other questionnaires, addressing the similar construct. Another possible limitation is that the VSI-OP staff and patient versions may not cover all aspects of the staff-patient interactions in outpatient care, however the items in the VSI were developed from interviews with patients and staff thus covering the most common aspects of staff-patient interactions. Further studies, such as correlation studies with other theoretical or empirical concepts and interview studies, focussing on other aspects of what staff in psychiatric outpatient care do, are thus needed.

#### Implications for practice

Staff in psychiatric outpatient care could benefit from using the items in VSI-OP staff and patient versions as a guide to describe to caring staff and other healthcare professionals what they do in their verbal and social interactions with their patients. Furthermore, the VSI-OP staff and patient versions and the items in them could be used for educational purposes for healthcare professionals. It could also be possible to use these items in care planning together with the patients by asking them patients to what degree the items are important for them. The staff could then use their responses as a guide when interacting with the patients.

#### Conclusion

The VSI-OP staff and patient versions show satisfactory psychometric properties in terms of internal consistency and construct validity and the concept of verbal and social interactions, described with the three subscales 'inviting the patient to establish a relationship', 'showing interest in the patients' feelings, experiences and behaviour' and 'helping the patients to establish structure and routines in their everyday life', is present in psychiatric outpatient care. By confirming a previous three factor model of VSI in a data set of staff and patients in psychiatric outpatient care a satisfactory resemblance was found with the three subscales of VSI indicating that VSI-OP staff and patient versions could be used when comparing the perceptions in different psychiatric settings. Establishing a good relationship with the patients, being able to talk about the patients' feelings and memories as well as talking about the patients' sleeping habits appear to be the important aspects of psychiatric outpatient care from the health-care professional's perspective. By using the staff and patient versions of the VSI-OP questionnaire in psychiatric outpatient care, comparisons can be made that can provide a more nuanced picture of the content of verbal and social interactions, which in turn can give the staff new insights about their own work and about how the patients perceive these interactions.

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#### References

- Andersson, G. (2016). What makes supportive relationships supportive? The social climate in supported housing for people with psychiatric disabilities. Social Work in Mental Health, 14(5), 509–529. https:// doi.org/10.1080/15332985.2016.1148094
- Buchanan-Barker, P., & Barker, P. J. (2004). The tidal model. Taylor and Francis.
- Bentler, P. M., & Chou, C.-P. (1987). Practical issues in structural modeling. Sociological Methods & Research, 16(1), 78–117. https:// doi.org/10.1177/0049124187016001004
- Blomqvist, M., Sandgren, A., Carlsson, I., & Jormfeldt, H. (2018). Enabling healthy living: Experiences of people with severe mental illness in psychiatric outpatient services. *International Journal of Mental Health Nursing*, 27(1), 236–246.
- Borg, M., & Kristiansen, K. (2004). Recovery-oriented professionals: Helping relationships in mental health services. *Journal of Mental Health*, 13(5), 493–505. https://doi.org/10.1080/09638230400006809
- Britvić, D., Antičević, V., & Klepac, N. (2016). Comparison of sleep disturbances in post-traumatic stress disorder and depression patients. Acta Clinica Croatica, 55(3), 396–401. https://doi.org/10.20471/ acc.2016.55.03.07
- Brunt, D., & Rask, M. (2018). Resident and staff perceptions of the content of their relationship in supported housing facilities for people with psychiatric disabilities. *Journal of Multidisciplinary Healthcare*, 11, 673–681. https://doi.org/10.2147/JMDH.S179322
- Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). Multivariate data analysis (5th ed.) Prentice-Hall.
- Hem, M. H., & Pettersen, T. (2011). Mature care and nursing in psychiatry: Notions regarding reciprocity in asymmetric professional relationships. *Health Care Analysis: HCA: Journal of Health Philosophy and Policy*, 19(1), 65–76. https://doi.org/10.1007/ s10728-011-0167-y
- Hu, L., & Bentler, P. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), 1–55. https://doi.org/10.1080/10705519909540118
- Johansson, H., & Eklund, M. (2003). Patients' opinion on what constitutes good psychiatric care. Scandinavian Journal of Caring Sciences, 17(4), 339–346. https://doi.org/10.1046/j.0283-9318.2003.00233.x
- Kaskie, R. E., Graziano, B., & Ferrarelli, F. (2017). Schizophrenia and sleep disorders: Links, risks, and management challenges. *Nature* and Science of Sleep, 9, 227–239. https://doi.org/10.2147/NSS.S121076
- Lakdawala, P. D. (2015). Doctor-patient relationship in psychiatry. Mens Sana Monographs, 13(1), 82–90. https://doi.org/10.4103/0973-1229.153308
- Luther, L., Fukui, S., Garabrant, J., Rollins, A., Morse, G., Henry, N., Shimp, D., Gearhart, T., & Salyers, M. (2019). Measuring quality of care in community mental health: Validation of concordant clinician and client quality-of-care scales. *The Journal of Behavioral Health Services & Research*, 46(1), 64–79. https://doi.org/10.1007/s11414-018-9601-3
- Molin, J., Graneheim, U. H., & Lindgren, B.-M. (2016). Quality of interactions influences everyday life in psychiatric inpatient care-patients' perspectives. *International Journal of Qualitative Studies* on Health and Well-Being, 11(1), 29897–29811. https://doi. org/10.3402/qhw.v11.29897
- Pejlert, A., Norberg, A., & Asplund, K. (2000). From a psychiatric ward to a home-like setting: The meaning of caring as narrated by nurses. *Journal of Clinical Nursing*, 9(5), 689–700. https://doi. org/10.1046/j.1365-2702.2000.00417.x

- Peplau, H. E. (1988). The art and science of nursing: Similarities, differences, and relations. *Nursing Science Quarterly*, 1(1), 8–15. https://doi.org/10.1177/089431848800100105
- Peplau, H. E. (1952). Interpersonal relations in nursing. Macmillan Education Ltd.
- Rask, M., & Brunt, D. (2007). Verbal and social interactions in the nurse-patient relationship in forensic psychiatric nursing care: A model and its philosophical and theoretical foundation. *Nursing Inquiry*, 14(2), 169–176. https://doi.org/10.1111/j.1440-1800.2007.00364.x
- Rask, M., & Brunt, D. (2010). Vårdande och stödjande handlingar inom psykiatriska vård-och boendeformer [Caring and supportive interactions in psychiatric care and residential settings]. Studentlitteratur.
- Rask, M., & Brunt, D. (2006). Verbal and social interactions (VSI) in Swedish forensic psychiatric nursing care as perceived by the patients and nurses. *International Journal of Mental Health Nursing*, 15(2), 100–110. https://doi.org/10.1111/j.1447-0349.2006.00409.x
- Rask, M., Brunt, D., & Fridlund, B. (2008). Validation of the verbal and social Interaction questionnaire: Nurses' focus in the nurse-patient relationship in forensic nursing care. *Journal of*

*Psychiatric and Mental Health Nursing*, 15(9), 710–716. https://doi. org/10.1111/j.1365-2850.2008.01292.x

- Rattray, J., & Jones, M. C. (2007). Essential elements of questionnaire design and development. *Journal of Clinical Nursing*, 16(2), 234–243. https://doi.org/10.1111/j.1365-2702.2006.01573.x
- Reeve, S., Sheaves, B., & Freeman, D. (2015). The role of sleep dysfunction in the occurrence of delusions and hallucinations: A systematic review. *Clinical Psychology Review*, 42, 96–115. https://doi. org/10.1016/j.cpr.2015.09.001
- Shattell, M. M., Starr, S. S., & Thomas, S. P. (2007). 'Take my hand, help me out': Mental health service recipients' experience of the therapeutic relationship. *International Journal of Mental Health Nursing*, 16(4), 274–284. https://doi.org/10.1111/j.1447-0349.2007.00477.x
- The Jamovi Project. (2020). *jamovi* (Version 1.2) [Computer Software]. https://www.jamovi.org/
- Topor, A. (2001). Managing the contradictions: Recovery from severe mental disorders [Doctoral dissertation, Stockholm University].
- Welch, M. (2005). Pivotal moments in the therapeutic relationship. International Journal of Mental Health Nursing, 14(3), 161–165. https://doi.org/10.1111/j.1440-0979.2005.00376.x