

INSTRUCTION MANUAL

The VAGUS measures the core dimensions of clinical insight into psychosis, including general illness awareness, symptom attribution, awareness of need for treatment, and awareness of negative consequences attributable to the illness. The VAGUS was designed to assess clinical insight in schizophrenia spectrum disorders, namely schizophrenia and schizoaffective disorder. The scale, however, can be used to assess clinical insight in any psychotic disorder, e.g. mood disorders with psychotic features, such as bipolar disorder or depression.

The VAGUS is the first insight into psychosis scale with both self-report and clinician-rated versions. It is easy to administer. The 10-item self-report (VAGUS-SR) and 5-item clinician-rated (VAGUS-CR) can be completed in less than 5 minutes. Both the VAGUS-SR and VAGUS-CR show good internal consistency, reliability and validity. Using a 10-point Likert scale for each item, the VAGUS has the capacity to detect small, temporally sensitive changes in insight, which is essential for intervention studies with neurostimulation or other rapidly acting interventions.

The VAGUS-SR and VAGUS-CR are available for download. Please see the terms of use at www.vagusonline.com.

Below you will find instructions on how to use and score the VAGUS-CR and the VAGUS-SR. The VAGUS-SR and VAGUS-CR can be administered either together or independently. Although not mandatory, it is recommended that the VAGUS-SR be administered prior to the VAGUS-CR if administered together to avoid biasing the self-report nature of the VAGUS-SR.

If after reading this instruction manual you have further questions, please contact Dr. Philip Gerretsen at info@vagusonline.com.

VAGUS-CR (CLINICIAN RATED)

The VAGUS-CR consists of the following:

- 1) Structured Interview (page 1);
- 2) Insight Scale (page 2); and
- 3) Scoring Sheet (page 3)

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STRUCTURED INTERVIEW (Page 1)

The STRUCTURED INTERVIEW (page 1) is to be used as a guide to complete the INSIGHT SCALE (page 2).

The clinician should read the italicised statement at the top of the STRUCTURED INTERVIEW (page 1) to the participant and then ask the subsequent questions in order to gather information to complete the INSIGHT SCALE (page 2):

*“I am interested in your own understanding of your unusual or unique experiences **at the present moment**. I am **NOT** interested in what others may wish you to believe about your experiences.”*

The intent of the VAGUS-CR is to assess the participant’s current illness awareness, and current understanding or explanation of current or past psychotic symptoms even if the participant is not actively psychotic at present.

Item 1 is for the purposes of identifying the participant’s history of psychosis in a categorical fashion, i.e. by marking ‘Yes’ or ‘No’ beside the listed symptoms. The aim is to identify *any* psychotic symptoms the participant has ever had.

Item 2 specifically assesses the participant’s *Symptom Attribution*, i.e. the participant’s understanding or explanation for his/her psychotic symptoms (current or past) at the present moment. The aim is to determine the degree to which the participant is able or unable to attribute his/her psychotic symptoms to a psychotic disorder, such as schizophrenia, schizoaffective disorder or a mood disorder with psychotic features.

Item 3 specifically assesses the participant’s *Illness Awareness*, i.e. the participant’s awareness that he/she has a severe mental illness or psychiatric disorder, such as schizophrenia, schizoaffective disorder or a mood disorder with psychotic features.

Item 4 specifically assesses the participant’s *Need for Treatment Awareness*, i.e. the participant’s awareness of the need for treatment with an **antipsychotic medication** or other intervention, such as electroconvulsive therapy (ECT), indicated for the treatment

or prevention of psychosis. The intervention *must* be widely accepted and as clinically efficacious as antipsychotic medication for the management of psychotic disorders.

Item 5 specifically assesses the participant's *Awareness of Negative Consequences* attributable to the mental illness or psychotic disorder, including hospitalization, occupational or social dysfunction.

INSIGHT SCALE (Page 2)

The INSIGHT SCALE consists of 5 items. To complete the VAGUS-CR the clinician should read the STRUCTURED INTERVIEW (page 1), which is a guide to rating the INSIGHT SCALE (page 2).

Each item consists of a statement. The clinician is to rate each item based on how much he/she either agrees or disagrees with that statement. Each item uses a 10-point Likert scale, ranging from '0' Strongly Disagree to '10' Strongly Agree. A score of '5' Unsure indicates the clinician is uncertain if they either agree or disagree with the statement. One technique to determine the participant's conviction about his/her belief is to ask specifically, "How certain, as a percentage, are you of your belief (e.g. that the telepathic messages you receive are REAL or imaginary)?" If the participant says, "fifty-fifty", then this would correspond with a rating of '5' Unsure. If the participant says, "80 percent certain", then this would correspond with a rating of either '8' Moderately Agree or '2' Moderately Disagree, depending on the direction of the statement.

Of note, **Item 2**, which is designed to assess participant's ability to attribute auditory hallucinations to mental illness has the option of marking 'Not applicable as the participant has never had auditory hallucinations'.

2) The subject is aware the auditory hallucinations (past or present) are due to his/her mental illness.

Not applicable as the participant has never had auditory hallucinations.

0-----1-----2-----3-----4-----5-----6-----7-----8-----9-----10

Strongly Disagree Moderately Disagree Slightly Disagree Unsure Slightly Agree Moderately Agree Strongly Agree

In rare cases, a participant may deny ever having had any of the delusional experiences outlined in item 1 of the STRUCTURED INTERVIEW (page 1), which may leave the clinician unable to rate **item 3** of the INSIGHT SCALE (page 2). If this is the case, although there is no 'Not applicable' option, the clinician should leave item 3 unrated as though it were 'Not applicable', which will allow for proper scoring of VAGUS-CR (See SCORING SHEET).

SCORING SHEET (Page 3)

The SCORING SHEET (page 3) allows for the proper scoring of the VAGUS-CR's Awareness Categories and Total Score. Step-by-step instructions are provided below.

- 1) Calculate each Awareness Category score by copying the rating from each item of the INSIGHT SCALE (page 2) to the corresponding blank space on the SCORING SHEET (page 3), e.g. if the rating for Item 4 of the INSIGHT SCALE (page 2) is '8' Moderately Agree then '8' should be copied to the Q4 blank space of the Need for Treatment Awareness category of the SCORING SHEET (page 3).

Awareness Category	Calculation	Score ¹
Illness Awareness	Q1__	
Symptom Attribution	$\frac{Q2_ + Q3_}{\div \text{total \# of responses}_ *}$ <small>*Exclude questions indicated as N/A</small>	
Need for Treatment Awareness	$10 - Q4_8$	

- 2) The calculations in the Calculation column of the SCORING SHEET (page 3) should be performed to generate the Awareness Category scores in the Score column.

Awareness Category	Calculation	Score ¹
Illness Awareness	Q1__	
Symptom Attribution	$\frac{Q2_ + Q3_}{\div \text{total \# of responses}_ *}$ <small>*Exclude questions indicated as N/A</small>	
Need for Treatment Awareness	$10 - Q4_8$	2

*Note that for the Symptom Attribution Calculation, the clinician should only divide by the number of items for which a rating could be determined. For example, if the participant has never had auditory hallucinations then a rating for item 2 of the INSIGHT SCALE (page 2) cannot be determined and should be marked 'Not applicable' on the INSIGHT SCALE (page 2). In this instance, the total number of responses is only '1' indicating only a rating for the Symptom Attribution item 3 of the INSIGHT SCALE (page 2) could be determined.

Awareness Category	Calculation	Score ¹
Illness Awareness	Q1__	
Symptom Attribution	$\frac{Q2 \text{ n/a} + Q3 \text{ 8}}{\div \text{ total \# of responses } \text{ 1} *}$ <small>*Exclude questions indicated as N/A</small>	8
Need for Treatment Awareness	10 - Q4__	

*Also note that the score for each Awareness Category should be left blank if NO items were rated for that category.

- 3) Once calculated, the Awareness Category Scores should be summed to determine the Subtotal.
- 4) The VAGUS-CR Total Score is calculated by dividing the Subtotal by the number of Awareness Categories for which a score could be determined. Typically, the VAGUS-SR Total Score is calculated by dividing the Subtotal by four, unless an Awareness Category was not scored due to unanswered items or missing data.

VAGUS-SR (Self-report)

The VAGUS-SR consists of the following:

- 1) Assessment of Insight into Delusions (page 1);
- 2) Assessment of Insight into Hallucinations (page 2);
- 3) Assessment of Insight into Illness Awareness, Need for Treatment Awareness, and Awareness of Negative Consequences of the Psychotic Disorder (page 3);
- 4) SCORING SHEET (page 4)

The participant should read all content of the VAGUS-SR in order to accurately self-report his/her understanding of his/her mental illness, symptoms, need for treatment and negative consequences of the illness.

ASSESSMENT OF INSIGHT INTO DELUSIONS (Page 1)

The ASSESSMENT OF INSIGHT INTO DELUSIONS (page 1) consists of an introductory statement indicating that the participant should self-report on his/her own beliefs about his/her psychotic experiences and NOT on what others may wish him/her to believe.

We are interested in your own beliefs about your unusual or unique experiences. We are NOT interested in what others may wish you to believe.

Indicate if you have ever had any of the following unusual or unique experiences by reading the questions and marking either Yes or No.

Following the introductory statement, the participant is to self-report on current or past psychotic symptoms in a categorical fashion, i.e. by marking 'Yes' or 'No' beside the listed symptoms. The aim is for the participant to indicate *any* psychotic symptoms he/she has ever had.

Next, the participant is to identify the most intense psychotic symptom from the list above by writing the corresponding letter in the blank space provided.

	Yes	No
A) Have you ever had visions or seen things that others can't see?	<input type="checkbox"/>	<input type="checkbox"/>
B) Have you ever feared that someone, some force or entity was after you or out to hurt you?	<input type="checkbox"/>	<input type="checkbox"/>
C) Have you ever received special messages just for you from the newspaper, TV, radio, or other device?	<input type="checkbox"/>	<input type="checkbox"/>
D) Have you ever received special messages just for you from strangers on the street?	<input type="checkbox"/>	<input type="checkbox"/>
E) Have you ever had any special gifts or abilities?	<input type="checkbox"/>	<input type="checkbox"/>
F) Could you ever read minds?	<input type="checkbox"/>	<input type="checkbox"/>
G) Have you ever felt that others could read your thoughts?	<input type="checkbox"/>	<input type="checkbox"/>
H) Have you ever felt that your thoughts were broadcast for others to hear?	<input type="checkbox"/>	<input type="checkbox"/>
I) Have you ever had a special relationship with God beyond the average person?	<input type="checkbox"/>	<input type="checkbox"/>
J) Have you ever communicated with spiritual beings, such as angels or demons?	<input type="checkbox"/>	<input type="checkbox"/>
K) Have you ever communicated with aliens?	<input type="checkbox"/>	<input type="checkbox"/>
L) Have you ever felt excessively guilty? Or that you had done something very bad?	<input type="checkbox"/>	<input type="checkbox"/>
M) Have you ever felt that your thoughts or actions were controlled by some outside force?	<input type="checkbox"/>	<input type="checkbox"/>
N) Have you ever felt that you were possessed?	<input type="checkbox"/>	<input type="checkbox"/>
O) Have you ever had the sense that something had changed about your body?	<input type="checkbox"/>	<input type="checkbox"/>
P) Have you ever felt that your body or some part of your body was diseased or dying?	<input type="checkbox"/>	<input type="checkbox"/>
Q) Other:	<input type="checkbox"/>	<input type="checkbox"/>

**Choose the most intense unusual or unique experience from above.
Write the corresponding letter here _____.**

Indicate the extent to which you agree or disagree at the present moment with each of the following statements by circling the appropriate number, keeping in mind your most intense experiences.

Item 1 and item 2 specifically assess the participant's delusional *Symptom Attribution*, i.e. the degree to which the participant is able or unable at the present moment to attribute his/her psychotic symptoms (current or past) to a psychotic disorder. The participant should rate the most intense psychotic symptom (see previous paragraph).

In rare cases, a participant may not self-report any delusional experiences, which may leave the participant unable to rate **item 1** or **item 2** of the Assessment of Insight into Delusions (page 1). If this is the case, although there is no 'Not applicable' option, the participant should leave item 1 and item 2 unrated as though it were 'Not applicable', which will allow for proper scoring of VAGUS-SR (See SCORING SHEET).

ASSESSMENT OF INSIGHT INTO HALLUCIATIONS (Page 2)

The ASSESSMENT OF INSIGHT INTO HALLUCIATIONS (page 2) consists of an introductory statement indicating that the participant should self-report on whether or not he/she has ever had auditory hallucinations. This is done in a categorical fashion, i.e. by marking 'Yes' or 'No' beside the listed symptom.

If the participant indicates they have never had auditory hallucinations by marking 'NO', he/she is to proceed to the next page, bypassing item 3 and item 4. If the participant marks 'YES', he/she is to indicate the extent to which he/she agrees or disagrees at the present moment with the statements from item 3 and item 4. Item 3 and item 4 specifically assess the participant's hallucinatory *Symptom Attribution*, i.e. the degree to which the participant is able or unable at the present moment to attribute his/her hallucinations (current or past) to a psychotic disorder.

Indicate if you have ever had the following unusual or unique experience by reading the question and marking either Yes or No.

	Yes	No
Have you ever heard voices or sounds that others can't hear?	<input type="checkbox"/>	<input type="checkbox"/>

If 'NO,' please go to the next page.

If 'YES' to the above indicate the extent to which you agree or disagree at the present moment with each of the following statements by circling the appropriate number.

ASSESSMENT OF INSIGHT INTO: Illness Awareness, Need for Treatment Awareness, Awareness of Negative Consequences of the Psychotic Disorder (Page 3)

The ASSESSMENT OF INSIGHT INTO: *Illness Awareness, Need for Treatment Awareness, Awareness of Negative Consequences of the Psychotic Disorder* (page 3) consists of an

introductory statement indicating that the participant should indicate the extent to which he/she agrees or disagrees at the present moment with the statements from item 5 to item 10.

Please indicate the extent to which you agree or disagree at the present moment with each of the following statements by circling the appropriate number.

Item 5 and item 7 specifically assesses the participant's *Illness Awareness*, i.e. the participant's awareness that he/she has a severe mental illness or psychiatric disorder, such as schizophrenia, schizoaffective disorder or a mood disorder with psychotic features.

Item 6, item 8 and item 10 specifically assess the participant's *Need for Treatment Awareness*, i.e. the participant's awareness of the need for treatment with an **antipsychotic medication**.

Item 9 specifically assesses the participant's *Awareness of Negative Consequences* attributable to the mental illness or psychotic disorder, including hospitalization, occupational or social dysfunction.

SCORING SHEET (Page 4)

The SCORING SHEET (page 4) allows for the proper scoring of the VAGUS-SR's Awareness Categories and Total Score. Step-by-step instructions are provided below.

- 1) Calculate each Awareness Category score by copying the rating from each item of the Assessment of Insight into Delusions (page 1), Assessment of Insight into Hallucinations (page 2), and Assessment of Insight into Illness Awareness, Need for Treatment Awareness, and Awareness of Negative Consequences of the Psychotic Disorder (page 3) to the corresponding blank space on the SCORING SHEET (page 4), e.g. if the rating for Item 2 of the Assessment of Insight into Delusions (page 1) is '8' Moderately Agree then '8' should be copied to the Q2 blank space of the Symptom Attribution Awareness category of the SCORING SHEET (page 4).

Awareness Category	Calculation	Score
Illness Awareness	$\frac{Q5__ + (10 - Q7__)}{\div \text{total \# of responses}__}$	
Symptom Attribution	$\frac{Q1__ + (10 - Q2\ 8) + (10 - Q3__) + Q4__}{\div \text{total \# of responses}__ *}$ <p><small>*Exclude questions indicated as N/A</small></p>	

- 2) The calculations in the Calculation column of the SCORING SHEET (page 4) should be performed to generate the Awareness Category scores in the Score column.

*Note that for the Symptom Attribution Calculation and the Awareness of Need for Treatment Calculation, the clinician should only divide by the number of items for which a rating could be determined. For example, if the participant has never had auditory hallucinations then a rating for item 3 and item 4 of the Assessment of Insight into Hallucinations (page 2) cannot be determined. In this instance, the total number of responses is only '2' indicating only ratings for the Symptom Attribution items (i.e. item 1 and item 2) of the Assessment of Insight into Delusions (page 1) could be determined.

Awareness Category	Calculation	Score
Illness Awareness	$Q5_ + (10 - Q7_)$ $\div \text{total \# of responses}_$	
Symptom Attribution	$Q1\ 3 + (10 - Q2\ 8) + (10 - Q3\ n/a) +$ $Q4\ n/a$ $\div \text{total \# of responses}_ *$ <p><small>*Exclude questions indicated as N/A</small></p>	

*Also note that the score for each Awareness Category should be left blank if NO items were rated for that category.

- 3) Once calculated, the Awareness Category Scores should be summed to determine the Subtotal.
- 4) The VAGUS-SR Total Score is calculated by dividing the Subtotal by the number of Awareness Categories for which a score could be determined. Typically, the VAGUS-SR Total Score is calculated by dividing the Subtotal by four, unless an Awareness Category was not scored due to unanswered items or missing data.