

# SPARQL

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# 1 General Questions

Question
1. What type of thought does the person experience?
2. What type of mental image dose the person experience?
3. What type of urge dose the person experience?
4. What are the types of activities and what are the types of obsessions that lead to such activities?
5. What pattern of activities do a person with aggressive thought has?
6. What pattern of behavior do people with morbid thought has ?
7. In case of contamination thought, what activities/ behavior associate with such thought?
8. What type of obsession in which avoidance behavior is the frequent occurrence?
9. Do the obsessions in OCD lead to aggressive or violent behavior? What type of behaviour dose person with aggressive obsession or aggressive thought has ? Do you try to get rid of these thoughts and, if so, what do you do?
10. What type of emotions that are associated with aggressive thought?
11.How people interpret their thought / or What are the thought appraisal that experienced ?
12. What kind of thought that people feel important to control it?
13. What are the risk factor for someone with OCD? What causes OCD? Is OCD a brain disease?
14. What are the various obsession types for which risk factors become genetic?
15. Do you have rituals or repetitive behaviours that take a lot of time in a day? Do you ever feel driven to repeat certain acts over and over?For example, repeatedly washing your hands?
16. Do you have frequent unwanted thoughts that cause interference with social or other activities ?
17. Do you have frequent unwanted thoughts that seem uncontrollable?
18. Do you worry excessively about dirt, germs, or chemicals?
19.How long dose compulsion last?
20. Do you have frequent unwanted thoughts that seem irresistible?
21. Whether it is considered obsession if someone is a "neat freak"? What about if someone is a "germaphobe"?
22. Have persons with OCD experienced changes in sleeping or eating habits?
23. Is OCD treatable? Can I get better?

Table 1: Caption

Questions	Keywords
Q1. What type of thought does the person experience?	<b>Thought</b>
Q2. What type of mental image dose the person experience?	<b>Mental image</b>
Q3. What type of <b>urge</b> dose the person experience?	<b>Urge</b>
Q4. What are the types of <b>activities</b> and what are the types of <b>obsessions</b> that lead to such activities?	<b>Obsession, Activity</b>
Q5. What pattern of activities do a person with aggressive thought has?	<b>aggressive thought , activities</b>
Q6. What pattern of <b>behavior</b> do people with <b>morbid thought</b> has?	<b>morbid thought , behavior</b>
Q7. In case of <b>contamination thought</b> , what <b>activities/ behavior</b> associate with such thought?	<b>contamination thought, activities/ behavior</b>
Q8. What <b>type of obsession</b> in which <b>avoidance behavior</b> is the frequent occurrence?	<b>type of obsession , avoidance behavior</b>
Q9. Do the <b>obsessions</b> in OCD lead to <b>aggressive or violent behavior</b> ? What <b>type of behaviour</b> dose person with <b>aggressive obsession or aggressive thought</b> has ? Do you try to get rid of these thoughts and, if so, what do you do?	<b>obsessions, aggressive or violent behavior, aggressive obsession or aggressive thought</b>
Q10. What type of emotions that are associated with aggressive thought?	<b>emotions, aggressive thought</b>
Q11. How people <b>interpret their thought</b> / or What are the <b>thought appraisal</b> that experienced ?	<b>Thought appraisal</b>
Q12. What <b>kind of thought</b> that people with OCD feel important to <b>control</b> it?	<b>kind of thought, Criteia</b>
Q13. What are the <b>risk factor</b> for someone with OCD? What <b>causes OCD</b> ? Is OCD a <b>brain diseases</b> ?	<b>risk factor, causes OCD, brain diseases</b>
Q14. What are the various <b>obsession types</b> for which <b>risk factors</b> become <b>genetic</b> ?	<b>obsession types, risk factors, genetic</b>
Q15. Do you have <b>rituals or repetitive behaviours</b> that take a lot of <b>time</b> in a day? Do you ever feel driven to repeat certain acts over and over?For example, <b>repeatedly washing your hands</b> ?	<b>rituals or repetitive behaviours, Duration, repeatedly washing your hands</b>
Q16. Do you have <b>frequent unwanted thoughts</b> that <b>cause interference</b> with social or other activities ?	<b>frequent unwanted thoughts, Criteria</b>

Table 2: Competency Questions

Question	Answer
Q17. Do you have <b>frequent unwanted thoughts</b> that seem <b>uncontrollable</b> ?	<b>frequent unwanted thoughts, Criteria</b>
Q18. Do you <b>worry excessively about dirt, germs, or chemicals</b> ?	<b>Contamination obsession</b>
Q19. How long dose <b>compulsion</b> last ?	<b>compulsion Duration</b>
Q20. Do you have <b>frequent unwanted thoughts</b> that seem <b>irresistible</b> ?	<b>frequent unwanted thoughts, Criteria</b>
21. Whether it is considered <b>obsession</b> if someone is a <b>"neatfreak"</b> ? What about if someone is a <b>"germaphobe"</b> ?	<b>contamination obsession, contamination thought</b>
22. Have persons with OCD experienced <b>changes in sleeping or eating habits</b> ?	<b>Symptoms</b>
23. Is <b>OCD treatable</b> ? Can I get better?	<b>OCD, treatment</b>
24. What is the difference between <b>normal checking</b> and <b>compulsive checking</b> ?	The associations of behaviour or activity can show differences between these two concepts. Normal checking can be an activity, but if this activity has associated impairment, distress and takes time, then the activity becomes compulsive behaviour.

Table 3: Competency Questions

#### query answering

Q1, Q2 and Q3 are general questions that concern the type of thought, urge and image that people experience. Identifying type of thought, image or urge is crucial to determine the type of obsession. Identification of obsession's type help in treatment plan. For example, Exposure and Response Prevention (ERP) treatment starts with confronting items and situations that cause anxiety, if person has contamination thought, he will confront contamination items/ situations as stated in the process of (ERP).

Q4, Q5, Q6, Q7 concern the way people with obsession may found to git ride of thought, image or urge. These questions describe the behavior or activities that are the responses of obsession. People with contamination thought may have cleaning behavior, and with aggressive thought, they may have checking activity. Determination of associated activity or behavior with thoughts are important in the domain of mental disorder, particularly OCD.

While Q8, Q9 and Q10 concerns the emotions and behavior that associated with obsession.

Q11 and Q12 concerns the meaning that person place in thought/image or urge. As stated in cognitive theory of OCD, a person with intrusive thought is normal person unless, he interprets that thought and gives meaning.

Q13 and Q14 cover the the risk factors/causes of OCD. The risk factors represent general categories in this field that reflect the potential causes of OCD based on the literature study.

Q15 to Q20. concern the criteria identify the severity of thought/image/urge or behavior/activity. These criteria are the level of control over thought or behavior, the level of resistance of thought or behavior, the level of interference that are caused by engaging in thought or behavior and the level of distress.

Q21 refers to the difference between someone with contamination intrusive thought and someone with contamination obsession. The answer of the question will show that, a person with contamination thought, associated emotion, kind of impairment and if the person has a particular meaning of that thought or not.

Q22 concerns the symptoms that person with OCD may experience. While Q23. concern the treatment of OCD.

The questions are written in SPARQL language. This language are able to retrieve answers from the ontology. To answers those questions, we used this PREFIX:

```
PREFIX java: <http://evolizer.org/ontologies/seon/2009/06/java.owl#>
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>
PREFIX obo: <http://purl.obolibrary.org/obo#>
PREFIX ocd: <http://www.semanticweb.org/OCD#>
```

1. What type of thought does the person experience?

```
select *
{
  ?cl rdfs:subClassOf ocd:Thought.
  ?i a owl:NamedIndividual.
  ?i a ?cl.
}
```

2. What type of mental image dose the person experience?

```
select *
{
  ?cl rdfs:subClassOf ocd:Mental_Image.
  ?i a owl:NamedIndividual.
  ?i a ?cl.
}
```

3. What type of urge dose the person experience?

```
select *
{
  ?cl rdfs:subClassOf ocd:Urge.
  ?i a owl:NamedIndividual.
  ?i a ?cl.
}
```

4. What are the types of activities and what are the types of obsessions that lead to such activities?

```
SELECT *
WHERE {
  ?person rdf:type ocd:MFOMD_0000109.
  ocd:MFOMD_0000109 rdfs:subClassOf ocd:MF_0000008.
  ?person rdf:type ocd:ID_0000001.
  ocd:ID_0000001 rdfs:subClassOf ocd:BF0_0000015.
}
```

```
SELECT *
WHERE {
  ?person rdf:type ocd:MFOMD_0000109.
  ?person ocd:accompaniedBy ?activity.
  ?activity rdf:type ocd:ID_0000001.
}
```

5. What pattern of activities do a person with aggressive thought has?

```
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>
PREFIX obo: <http://purl.obolibrary.org/obo#>
PREFIX ocd: <http://www.semanticweb.org/OCD#>
select ?i ?cl ?bh ?lbl
{
    ?i a ?bh.
    ?bh rdfs:subClassOf* <http://purl.obolibrary.org/obo/ID_0000001>.
    ?i a ?cl. ?cl rdfs:subClassOf ocd:Aggressive_Thought.

    ?bh rdfs:label ?lbl
}
```

6. What pattern of behaviour do people with morbid thought has?

```
select ?i ?cl ?bh
{
    ?i a ?bh.
    ?bh rdfs:subClassOf* <http://purl.obolibrary.org/obo/G0_0007610>.
    ?i a ?cl. ?cl rdfs:subClassOf* ocd:Morbid_Thought.
}
```

7. In case of contamination thought, what activities/ behavior associate with such thought?

```
PREFIX obo: <http://purl.obolibrary.org/obo#>

select ?i ?cl ?bh
{{
    ?i a ?bh.
    ?bh rdfs:subClassOf* <http://purl.obolibrary.org/obo/G0_0007610>.
    #?bh rdfs:subClassOf* <http://purl.obolibrary.org/obo/ID_0000001>.
    ?i a ?cl. ?cl rdfs:subClassOf ocd:Contamination_Thought.

}
union{
    ?i a ?bh.
    #?bh rdfs:subClassOf* <http://purl.obolibrary.org/obo/G0_0007610>.
    ?bh rdfs:subClassOf* <http://purl.obolibrary.org/obo/ID_0000001>.
    ?i a ?cl. ?cl rdfs:subClassOf ocd:Contamination_Thought.
}
}
```

8. What type of obsession in which avoidance behavior is the frequent occurrence?

```
select *
{
    ?bh rdfs:subClassOf* ocd:OCD_Avoidance_Behavior.
    ?i a ?bh.
}

select*
```

```
{
  ?i a ?bh.
  ?bh rdfs:subClassOf* obo:MFOMD_0000109.
  ?i ocd:accompaniedBy ?cl.
  ?cl rdfs:subClassOf* obo:behavior
}
```

9. What type of behaviour dose person with aggressive obsession or aggressive thought has ?

```
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
prefix ocd: <http://www.semanticweb.org/OCD#>
select ?i ?cl ?bh ?lbl
{{
  ?i a ?bh.
  ?bh rdfs:subClassOf* <http://purl.obolibrary.org/obo/G0_0007610>.
  ?i a ?cl. ?cl rdfs:subClassOf ocd:Aggressive_Obsession.

  ?bh rdfs:label ?lbl
}
  union{
    ?i a ?bh.
    ?bh rdfs:subClassOf* <http://purl.obolibrary.org/obo/G0_0007610>.
    #?bh rdfs:subClassOf* <http://purl.obolibrary.org/obo/ID_0000001>.
    ?i a ?cl. ?cl rdfs:subClassOf ocd:Aggressive_Thought.

    ?bh rdfs:label ?lbl
  }
}
```

10. What type of emotions that are associated with aggressive obsession?

```
select *
{
  ?i ocd:hasAssociatedEmotion ?em.
  ?i a ocd:Aggressive_Obsession.
}
```

11.How people interpret their thought / or What are the thought appraisal that experienced ?

```
select *
{
  ?i a ?cl.
  ?cl rdfs:subClassOf ocd:Thought.
  ?i ocd:hasAssociatedAppraisal ?pl.
}
```

12. What kind of thought that people feel important to control it?

```
select *
{
  ?i a ?cl.
  ?cl rdfs:subClassOf ocd:Thought.
  ?i ocd:hasAssociatedAppraisal ?pl.

  filter(?pl="Over_Importance_Of_Thought").
}
```

13. What are the risk factors for someone with OCD?

```
SELECT *
WHERE {
  ?subject ocd:hasRiskFactor ?riskFactor.
  ?subject rdf:type <http://purl.obolibrary.org/obo/D0ID_10933>
}

}
```

14. What are the various obsession types for which risk factors become genetic?

```
select *
{
  ?i ocd:hasRiskFactor ?rf.
  ?rf rdfs:label ?lbl.
  filter(str(?lbl)="Genetic_Factor")
}

}
```

Q15. Do you have rituals or repetitive behaviours that take a lot of time in a day? Do you ever feel driven to repeat certain acts over and over? For example, repeatedly washing your hands?

```
select *
{
  ?i a ?cl. ?cl rdfs:subClassOf* <http://purl.obolibrary.org/obo/MFOMD_0000107>.
  ?i ocd:hasDuration ?d.
}

}
```

Q16. Do you have frequent unwanted thoughts that cause interference with social or other activities?

```
select *
{
  ?i a ?cl.
  ?cl rdfs:subClassOf* ocd:OCD_Intrusive_Thought.
  ?i ocd:hasInterference ?th.
  ?th ocd:hasInterferenceValue ?val.
}

}
```

Q17. Do you have frequent unwanted thoughts that seem uncontrollable?

```
select *
{
  ?i a ?cl. ?cl rdfs:subClassOf* ocd:OCD_Intrusive_Thought.
  ?i ocd:hasControl ?th.
  ?th ocd:hasControlValue ?val.
}

}
```

18. Do you worry excessively about dirt, germs, or chemicals?

```
select *
{{
  ?i a ?cl. ?cl rdfs:subClassOf* ocd:Contamination_Thought.
  ?i ocd:hasAssociatedEmotion ?th.
  ?i ocd:hasDuration ?d.
  #?d ocd:hasDurationValue ?val
}union{
  ?i a ?cl. ?cl rdfs:subClassOf* ocd:Contamination_Obsession_Thought.
  ?i ocd:hasAssociatedEmotion ?th.
  ?i ocd:hasDuration ?d.
}
}
```



19. How long dose compulsion last?

```
SELECT *
WHERE {
?subject rdf:type ocd:compulsion.
?subject ocd:hasDuration ?duration.
?duration ocd:hasDurationValue ?val
}
```

20. Do you have frequent unwanted thoughts that seem irresistible?

```
select *
{
?i a ?cl. ?cl rdfs:subClassOf* ocd:OCD_Intrusive_Thought.
    ?i ocd:hasResistance ?th.
    ?th ocd:hasResistanceValue ?val.
}
```

21. Is it considered obsession if someone is a "neat freak"? What about if someone is a "germaphobe"?

```
select *
{
?i a ?cl. ?cl rdfs:subClassOf* ocd:Contamination_Thought.
#filter not exists{?x rdfs:subClassOf ?cl. ?i a ?x.}
?i ocd:hasAssociatedEmotion ?emotion.
?i ocd:hasAssociatedImpairment ?impairment.
?i ocd:hasDuration ?duration.
OPTIONAL{?i ocd:hasAssociatedAppraisal ?appraisal}.
}
```

Q22. Have persons with OCD experienced changes in sleeping or eating habits?

```
select *
{
?i a ?cl.
?cl rdfs:subClassOf* <http://purl.obolibrary.org/obo/SYMP_0000462>.
}
```

23. Is OCD treatable? Can I get better?

```
select *
{
    ?i ocd:hasSeverity ?lv.
    ?lv ocd:hasTreatmentPlan ?pl.
}
```