

**FRAME-BASED ANALYSIS OF MENTAL DISORDERS:  
REPRESENTATION OF SPECIFIC PHOBIAS IN FRAMES**

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**Introduction**

Contemporary classification systems for mental disorders ICD-10 (WHO, 2004) and DSM-IV (APA, 2000) rely on clinical symptoms as the essential elements of classification. However provides the recent research the increasing evidence that cognitive dysfunctions play an important role in the pathophysiology of mental disorders like schizophrenia, specific phobia etc. Hence the research field of cognitive psychopathology is gaining more attention and new proposals for including cognitive impairment in classification of mental disorders are being put forward. The including of cognitive processes in the classification systems requires the development of new concepts to bridge the gap between neuroscience and psychopathology. Such a new approach to defining and classifying mental disorders is the *frame-based representation of mental disorders* according to Barsalou Frame-Theory (Barsalou, 1992).

Frame theory is a general format of representation of concepts in human cognition using the frame-structures, which represent their contents in terms of attributes and the values they take. The attributes are the general properties, by which the concept is described. The values are concrete specifications of the attributes (Barsalou, 1992).

After some theoretical considerations we chose the specific phobia as an appropriate example of mental disorder for representing in frames because of its fixed stimulus-reaction relation and comparably well-known pathomechanisms. Specific phobias are defined as a marked fear of a specific object or situation during the actual contact with or during imagining the threat-related stimulus. As a result emotional distress is experienced, which causes significant impairment in daily life (ICD-10, WHO, 2004). Specific phobias are among the most common anxiety disorders with a lifetime prevalence of 12.5% (Kessler et al., 2005).

**Methods**

The frame for specific phobia is a representation of the stimulus-reaction-relation, its possible etiological causes, and its pathological consequences. For the development of frame-representation we used the manner for representation of attributes-values –sets (see example below) proposed by Barsalou (1992).

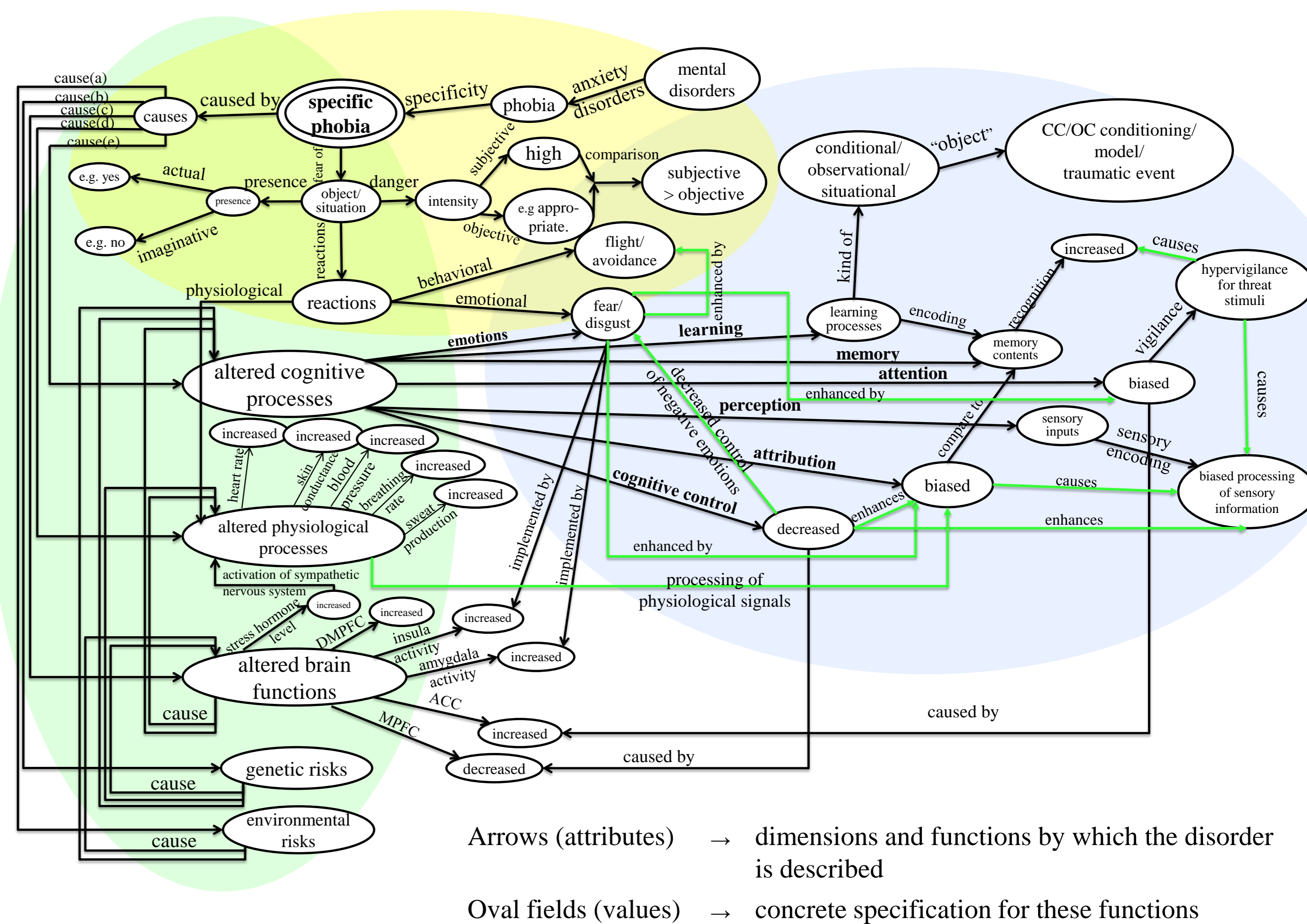


In this frame representation the *attributes* represent the aspects of a described *concept* and the *values* indicate the subordinate concepts of attributes.

The associations, which are represented in frame using attributes-values-structures were elaborated through a systematic analysis of research literature.

**Results**

The frame-based analysis of specific phobias is represented in the figure below. The complete frame-based representation of specific phobia includes the definition of the disorder (yellow field), its pathogenesis (green field), involved cognitive processes (blue field), and cognitive pathomechanisms (green arrows).



**Discussion**

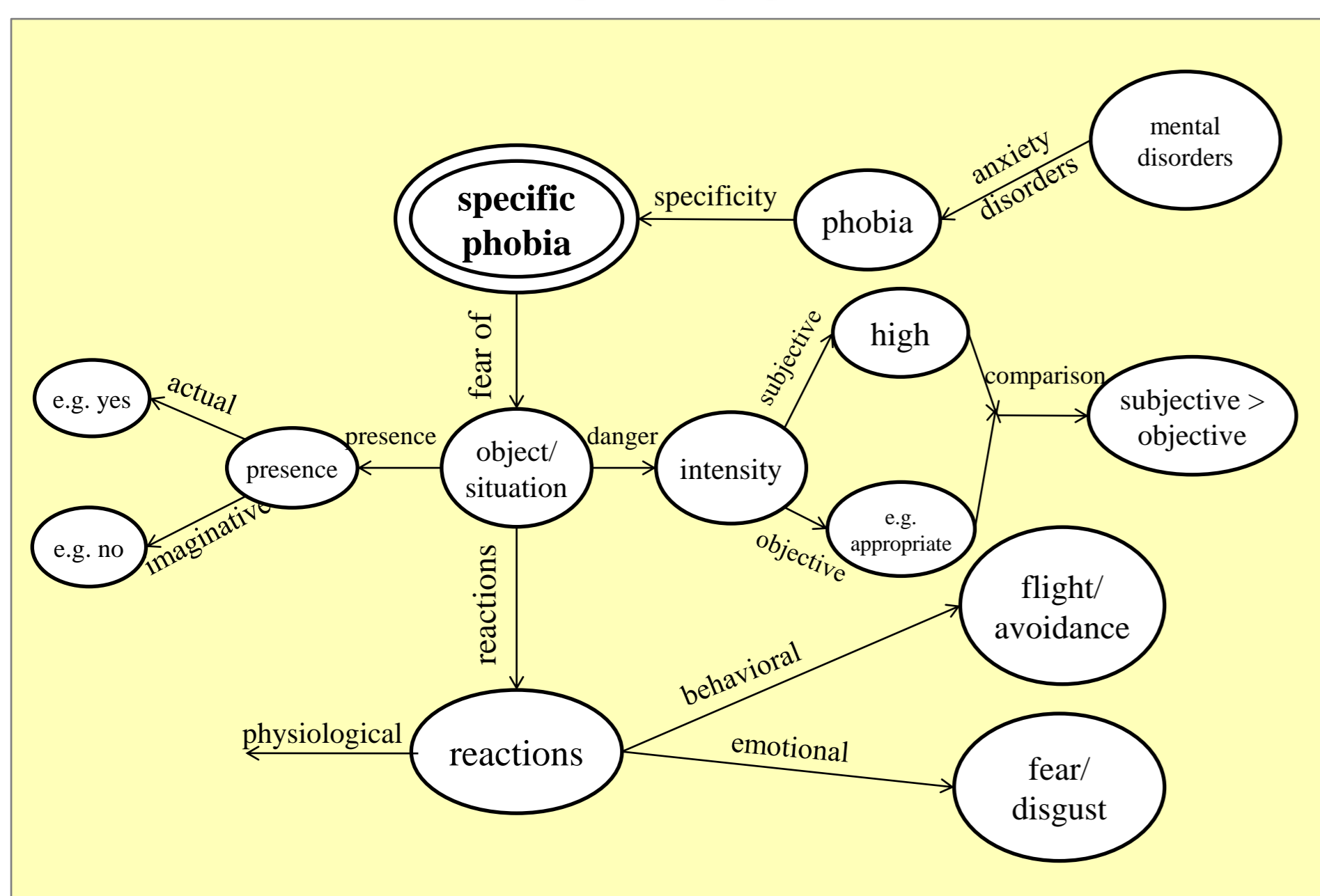
To our knowledge this is the first structured representation of a mental disorder, which is constructed using the attributes-values-sets according to Barsalou Frame-Theory.

Frame-based representation of mental disorders provides a systematic basis for representation of pathophysiology of a mental disorder in a descriptive way. Furthermore this novel kind of representation has some additional benefits compared to traditional flow charts and diagrams. These benefits are the representation of i) pathophysiology, ii) etiological factors, and iii) cognitive dysfunctions, which can be translated into diagnostic algorithms and classification operationalizations based on cognitive and other factors involved in the pathophysiology of respective mental disorder.

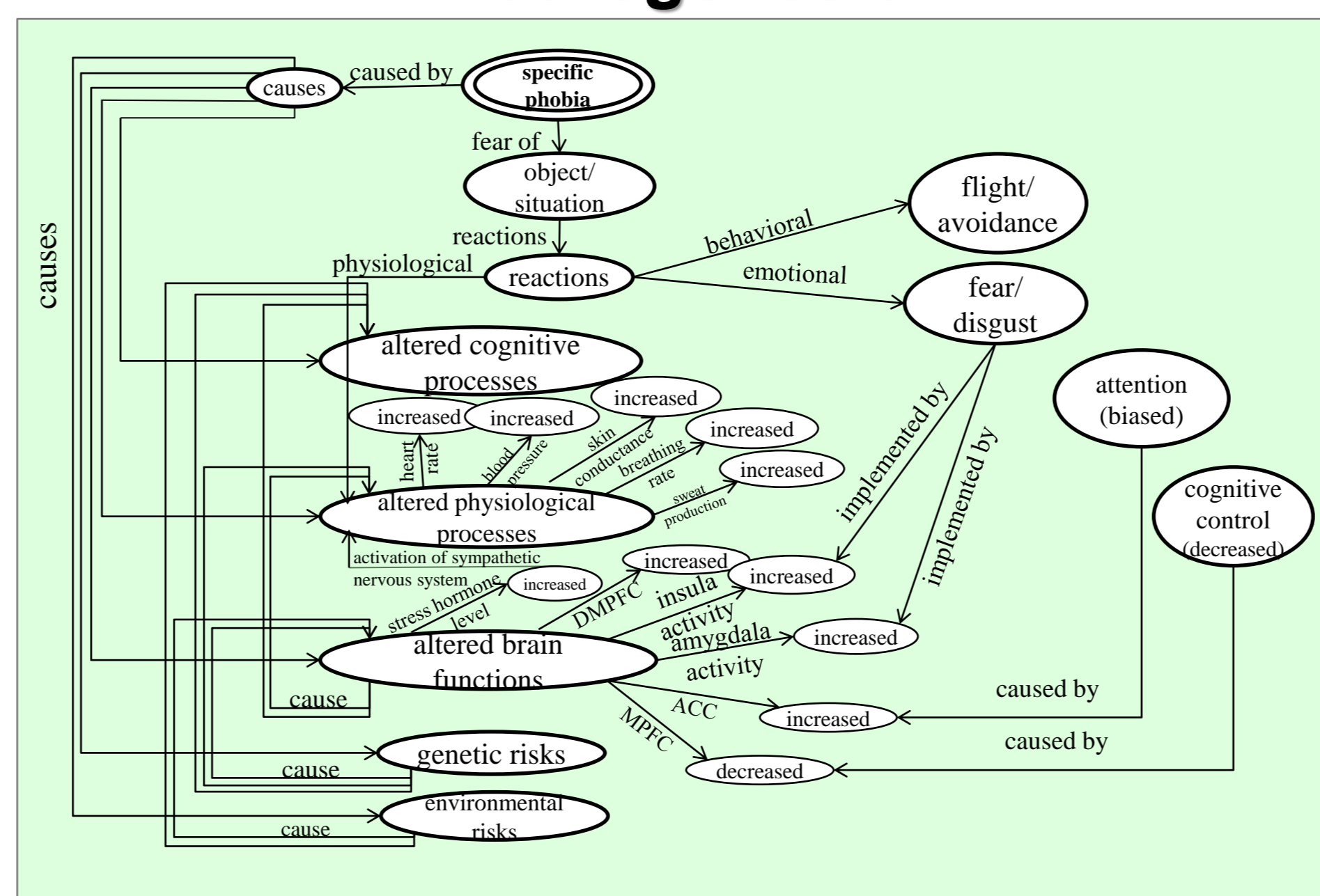
In conclusion, Frame-Theory promises to provide the scaffold for a more systematic and structured conception and representation of mental disorders.

**Frame-based analysis of specific phobia**

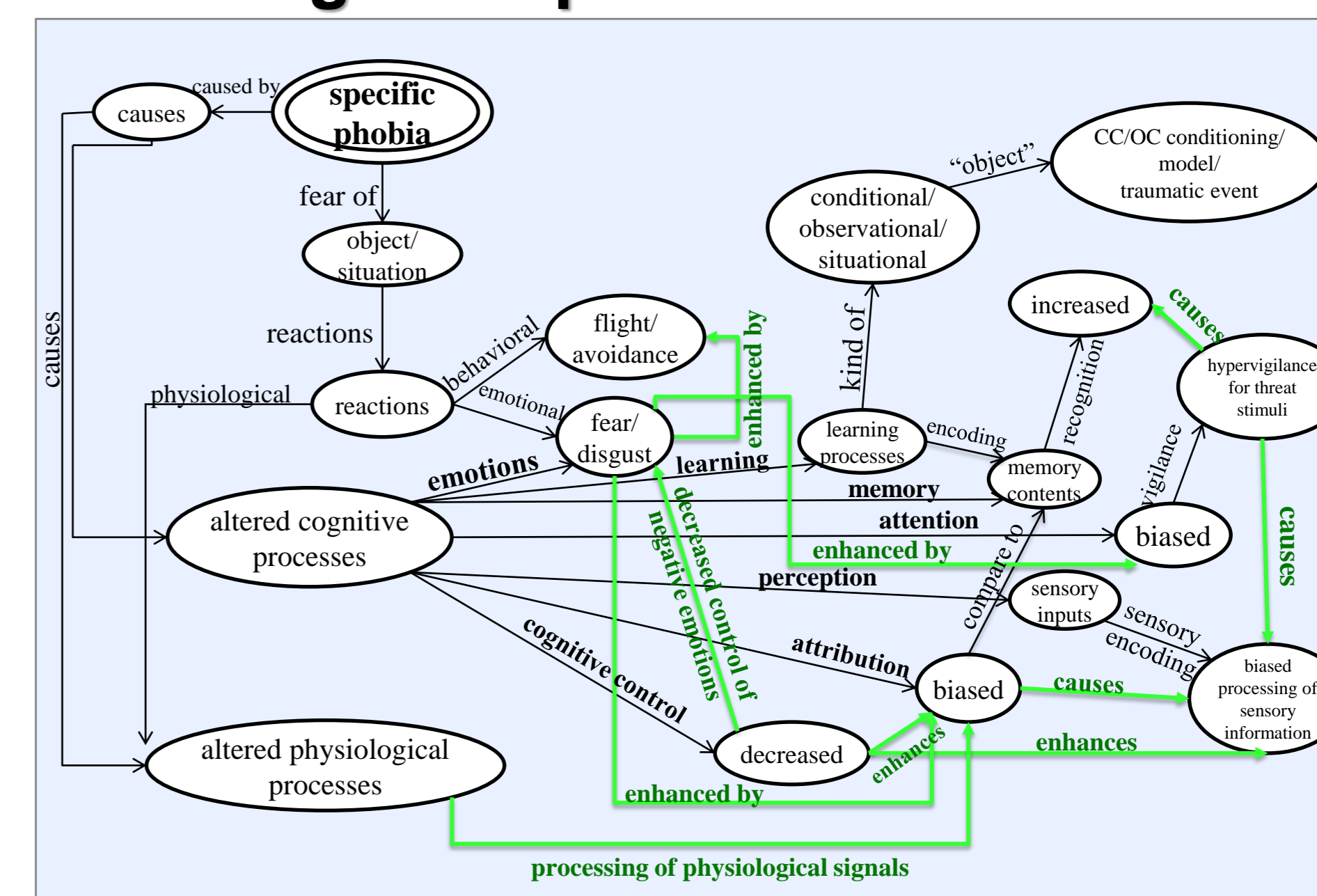
**Definition**



**Pathogenesis**



**Cognitive pathomechanisms**



**References:**

Barsalou, L.W. (1992). Frames, concepts, and conceptual fields. In E. Kittay & A. Lehrer (Eds.), *Frames, fields, and contrasts: New essays in semantic and lexical organization* (pp. 21-74). Hillsdale, NJ: Lawrence Erlbaum Associates.  
Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry*, 62, 593-602.

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