

## Phenomenological aspects of the cognitive rumination construct

### Aspectos fenomenológicos relacionados ao construto de ruminação cognitiva

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#### Abstract

**Objective:** To evaluate the importance of phenomenological aspects of the cognitive rumination (CR) construct in current empirical psychiatric research.

**Method:** We searched SciELO, Scopus, ScienceDirect, MEDLINE, OneFile (GALE), SpringerLink, Cambridge Journals and Web of Science between February and March of 2014 for studies whose title and topic included the following keywords: cognitive rumination; rumination response scale; and self-reflection. The inclusion criteria were: empirical clinical study; CR as the main object of investigation; and study that included a conceptual definition of CR. The studies selected were published in English in biomedical journals in the last 10 years. Our phenomenological analysis was based on Karl Jaspers' General Psychopathology.

**Results:** Most current empirical studies adopt phenomenological cognitive elements in conceptual definitions. However, these elements do not seem to be carefully examined and are indistinctly understood as objective empirical factors that may be measured, which may contribute to misunderstandings about CR, erroneous interpretations of results and problematic theoretical models.

**Conclusion:** Empirical studies fail when evaluating phenomenological aspects of the cognitive elements of the CR construct. Psychopathology and phenomenology may help define the characteristics of CR elements and may contribute to their understanding and hierarchical organization as a construct. A review of the psychopathology principles established by Jasper may clarify some of these issues.

**Keywords:** Psychopathology, phenomenology, cognitive rumination.

#### Resumo

**Objetivo:** Verificar a importância de aspectos fenomenológicos relacionados ao construto de ruminação cognitiva (RC) nas pesquisas empíricas psiquiátricas atuais.

**Método:** Foram pesquisadas as bases de dados SciELO, Scopus, ScienceDirect, MEDLINE, OneFile (GALE), SpringerLink, Cambridge Journals e Web of Science, entre fevereiro e março de 2014, buscando artigos cujo tópico ou título contivessem os seguintes termos-chave: ruminação cognitiva; escala de resposta ruminativa; e autorreflexão. Os critérios de inclusão foram: estudos clínicos empíricos; RC como principal objeto de pesquisa; e estudos que incluíssem uma definição conceitual de RC. Foram considerados apenas artigos em inglês publicados em periódicos biomédicos nos últimos 10 anos. Nossa análise fenomenológica se fundamentou na Psicopatologia Geral de Jaspers.

**Resultados:** Os conceitos de RC atualmente encontrados nas pesquisas empíricas utilizam majoritariamente elementos fenomenológicos em suas definições. Entretanto, esses elementos cognitivos são indistintamente entendidos como elementos objetivos (empíricos), passíveis de mensuração, e não parecem ser cuidadosamente examinados. Este fato pode contribuir para uma compreensão enganosa sobre RC, além de favorecer a interpretação errônea de resultados e a elaboração de paradoxos teóricos problemáticos.

**Conclusão:** As pesquisas empíricas atuais sobre RC falham ao avaliar os aspectos fenomenológicos inerentes ao construto de RC. A psicopatologia e o método fenomenológico podem ajudar a definir características relacionadas aos elementos da RC, bem como contribuir para a sua compreensão e organização hierárquica enquanto construto. Um retorno aos princípios da psicopatologia, nos moldes de Jaspers, poderia trazer esclarecimentos ao tema.

**Descritores:** Psicopatologia, fenomenologia, ruminação cognitiva.

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Financial support: none.

Submitted Jun 20 2014, accepted for publication Nov 06 2014. No conflicts of interest declared concerning the publication of this article.

Suggested citation: Meyer LF, Taborda JG, da Costa FA, Soares AL, Mecler K, Valença AM. Phenomenological aspects of the cognitive rumination construct. Trends Psychiatry Psychother. 2015;37(1):20-26. <http://dx.doi.org/10.1590/2237-6089-2014-0025>

## Introduction

Cognitive rumination (CR) is generally defined as recurrent and repetitive thoughts about one's feelings and quests that intrude consciousness.<sup>1-3</sup> The associations of CR with psychiatric disease and psychopathological symptoms have been the focus of an increasing number of empirical studies.<sup>1-4</sup> Their findings have led to the development of psychometric scales, such as the Ruminative Response Scale (RRS). These instruments provide data for statistical analyses in studies about CR and for the exploration of possible correlations with specific psychiatric symptoms.<sup>5,6</sup>

CR should be examined rigorously to limit and define it unambiguously as an object of scientific study. Current concepts adopt phenomenological descriptions of cognitive elements, more adequate for clinical investigations than for empirical study settings.<sup>1,2,6-9</sup>

Karl Jaspers' efforts to study psychopathology played a major role in the development of diagnostic classifications and in clinical (psychic) examination techniques.<sup>10-15</sup> According to Jaspers, psychopathology is the science of abnormal conscious psychological phenomena, and phenomenology, the method to investigate these phenomena, which are experienced by the examinee and presented to the examiner through the examinee's narratives and behavior.<sup>10-12</sup> Psychic phenomena are presented to and understood by the examiner as cognitive performances. For teaching purposes, they are divided into objective performances, such as attention, formal logic, thought patterns, memory, speech disturbances and psychomotor function, and subjective performances, such as affect and mood, thought content, volition and self-awareness.<sup>10-16</sup> In this sense, they are ongoing aspects of empathy and

intuition that allow patients and examiners to share common aspects of reality.<sup>10-16</sup>

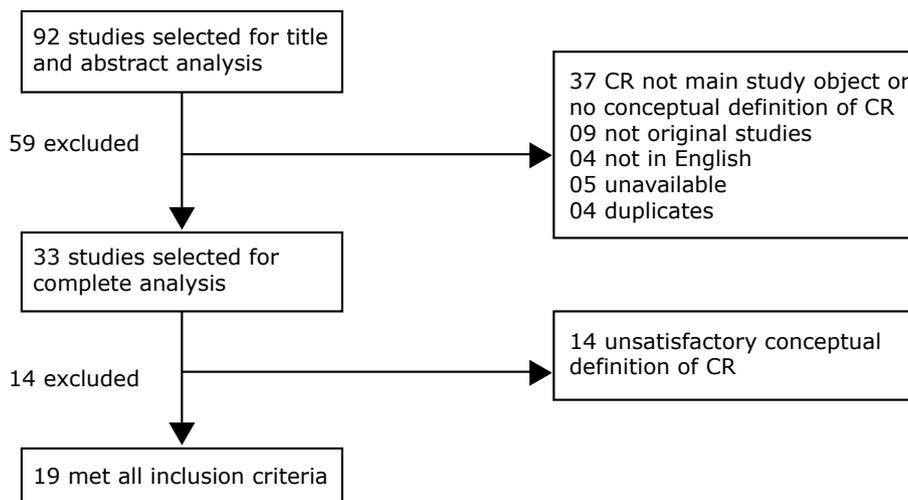
This study evaluated the extent to which the phenomenological aspects of the CR construct have been used in current empirical psychiatric studies. It also analyzed findings using the phenomenological approach developed by Jaspers.

## Method

Figure 1 summarizes the steps of our literature review of studies about CR. We searched SciELO, Scopus, ScienceDirect, MEDLINE, OneFile (GALE), SpringerLink, Cambridge Journals and Web of Science between February and March of 2014 for studies whose title or topic had the following terms: ((cognitive rumination) AND (rumination response scale)) or ((cognitive rumination) AND (self-reflection)).

Inclusion criteria were: original clinical studies; CR as their main object of investigation; clear conceptual definition of CR; written in English; and published in a biomedical journal in the last 10 years. Because of the pioneering nature of the studies about CR conducted by Nolen-Hoeksema et al., we selected their studies despite their publication date whenever all the other inclusion criteria were met. We excluded articles not in English, editor comments, letters, case reports and literature reviews about CR. We also excluded clinical empirical studies in which the main object of study was not CR or that did not provide a clear conceptual definition of CR.

Our analysis followed the phenomenological approach described by Jaspers.<sup>10-16</sup> We used both English and Portuguese translations of *Allgemeine Psychopathologie* to avoid misinterpretations of the original.<sup>10-12</sup>



**Figure 1** - Flowchart of review of literature about cognitive rumination (CR)

We applied the cross-sectional phenomenological method, including its positive and negative perspectives. The positive perspective represents the conscious expressions of CR that uncover its ontic aspects, gathered through direct observation of psychic phenomena.<sup>10-16</sup> The negative perspective refers to delimitations of rumination in finite totalities, to its correlation with another psychic totality and to its organization in the context of the psychic whole.<sup>10-16</sup>

According to Jaspers, phenomenological understanding may be static and genetic.<sup>10-12,16</sup> Static understanding is restricted to present observation and objective description of the psychic phenomena as presented to and understood by the examiner's perception. Psychic phenomena may, therefore, be identified using three approaches: behavior observations, interviews and self-report.<sup>10-12</sup> Additional empirical elements include neurochemical and neuroanatomical factors, whenever observed.<sup>10-12</sup>

Genetic understanding, described in the second part of Jaspers' book, concerns the comprehension of motivation or causation that is associated with the sequence of psychic events. Our analysis of CR did not take into consideration the psychological (genetic) explanations and was limited to its static phenomenological elements.

## Results

Our results are presented in two sections. First, we describe the phenomenological aspects of the main CR concepts used in current empirical studies. After that, we analyze the phenomenological aspects inherent to the CR construct, according to Jaspers' phenomenology.

We chose this presentation pattern because of the complexity of the theme and the impossibility of presenting results simultaneously. The results are discussed and interrelated below.

### **Rumination in current research and phenomenology**

Our final sample had 19 studies about CR. Table 1 summarizes the main CR concepts used in the studies selected and their phenomenological aspects. All definitions were close to the original: persistent and recurring thoughts that unintentionally enter consciousness.<sup>5</sup> One author proposed a slightly different definition in the RRS: the process of thinking perseveringly about one's feelings and problems, and not the specific contents of thoughts.<sup>1</sup> Both definitions include characteristically phenomenological elements: persistent and recurring thoughts, process of thinking perseveringly, feelings and thought contents. They refer to transient cognitive states, such as thought, affect and volition.

In another study, CR was defined as the style of thinking repetitively about negative emotions, focusing on symptoms of distress and worrying about meanings of distress.<sup>7</sup> Here, CR was described identically and simultaneously as a pattern of response (default response) to depressive mood, as a predisposing factor to mental disorders and as a sign of phenomenological elements of specific clinical symptoms.

For the CR definitions used in psychometric scales, appropriate terms were carefully chosen to respond to the needs of empirical studies.<sup>1-9, 17-26</sup> This approach reduces CR to an object of empirical investigation exclusively.

CR was also associated with other psychopathological constructs: maladaptive cognitive styles, dysfunctional attitudes, hopelessness, pessimism, self-criticism and depression.<sup>1-3</sup> Phenomenological dissimilarities between these constructs were not analyzed, and they were not classified hierarchically.<sup>3-7</sup> All were ontologically identical, equivalent and horizontally distributed, and there was no definition of hierarchical differences between them.<sup>1-9</sup> These characteristics may have resulted in misconceptions that, in turn, led to theoretical disagreement, erroneous theoretical models and flawed interpretations of results.<sup>3-7,17,20,21,23-25</sup>

The analysis of studies in our final sample suggested the existence of causal links between neurophysiological and neuroanatomical findings and CR.<sup>17,20,22</sup> These findings are based on the existence of hypothetical cerebral systems that may be responsible for activating and inhibiting specific types of human behaviors (response styles). Electroencephalographic findings showed hippocampus augmentation and neocortex activation during CR activity.<sup>17</sup> Functional magnetic resonance results showed hyperactivity in anterior medial cortex in patients with CR activity when compared to controls.<sup>20</sup> Decreases of cortisol response levels were less frequently found among depressive patients.<sup>22</sup>

Phenomenology contemplates and situates of all these empirical findings within psychopathology, as they are indispensable phenomenological elements and must be analyzed whenever found.<sup>10-14,16</sup> Misconceptions arise when they are interpreted as the full representation of their object of study (CR).<sup>10-12</sup> This may be explained by the nature of psychopathological objects, which rejects their reduction to exclusively objective or natural concepts, as further stated in the next section.

Our results also revealed hypothetical paradoxes between theoretical models of CR, such as the self-absorption paradox.<sup>27</sup> In this case, CR and self-reflective activity are compared as similar mental processes, but outcomes are ambiguous. This issue will be elaborated further in the Discussion section.

**Table 1** - Main definitions of cognitive rumination and their phenomenological aspects

Author	Definitions of cognitive rumination	Phenomenological aspects
Andersen et al. <sup>17</sup>	The class of conscious thoughts that revolve around an instrumental theme.	Thought content disturbance (instrumental theme); formal logic thought disturbance (circular thinking); neurobiological findings (electroencephalographic changes).
Arney et al. <sup>8</sup>	Characteristic manner in which individuals respond to their own symptoms of distress or depressed mood.	Pattern of psychopathological behavioral response.
Bagby et al. <sup>4</sup>	Repetitive focus on the fact that one is depressed, on one's symptoms of depression, and sometimes on meanings and consequences of depression symptoms.	Mood disturbance (depression); thought content disturbance (meanings and consequences).
Brinker & Dozois <sup>18</sup>	Self-focused thoughts on depressed mood and possible causes and consequences of that mood.	Mood disturbance (depressed mood) thought content disturbance (self-focused thoughts), possible causes and consequences of depression.
Hasegawa et al. <sup>19</sup>	Repetitive and passive thinking about one's symptoms of depression and possible causes and consequences of these symptoms.	Mood disturbance (depression); formal logic thought disturbance (repetitive and passive thinking); thought content disturbance (causes and consequences of depression).
Johnson et al. <sup>20</sup>	Type of self-referential processing.	Neurobiological findings (medial cortex activation); formal logic thought disturbance (pattern of mental processing); thought content disturbance (self-referential).
Joormann et al. <sup>2</sup>	Trait-like response style that perpetuates depressive symptoms.	Pattern of psychopathological behavior response (response style).
Kocovski & Rector <sup>21</sup>	Element of post-event processing that follows anxiety-provoking situations.	Cognitive pattern of response that occurs in stressful situations.
Kuehner et al. <sup>22</sup>	Passive focus of one's attention on one's mood, which includes passive focus of one's attention on one's dysphoric symptoms and aspects of self and repetitive thinking about possible causes and consequences of one's symptoms and negative self-aspects.	Attention disturbance (hyperprosexia); mood disturbance (dysphoric symptoms, negative self-aspects); formal logic thought disturbance (repetitive thinking); thought content disturbance (repetitive thinking about possible causes).
McLaughlin & Nolen-Hoeksema <sup>23</sup>	Response to distress in which individual passively and perseveringly thinks about upsetting symptoms and causes and consequences of these symptoms.	Pattern of behavior response (pattern of response to distress); formal logic thought disturbance (passive and persevering thoughts); thought content disturbance (thinking about upsetting symptoms).
Miranda & Nolen-Hoeksema <sup>9</sup>	Repetitive focus on causes, meanings and consequences of one's depressed mood.	Mood disturbance (depression); formal logic thought disturbance (repetitive focus); thought content disturbance (causes, meanings and consequences).
Moberly & Watkins <sup>6</sup>	Repetitive focus on the fact that one is depressed, on one's symptoms of depression, and on causes, meanings and consequences of depression symptoms.	Mood disturbance (depression); formal logic thought disturbance (repetitive focus); thought content disturbance (meanings and consequences).
Nolen-Hoeksema & Morrow <sup>5</sup>	Repetitive focus on the fact that one is depressed, on one's symptoms of depression, and on causes, meanings and consequences of depression symptoms.	Mood disturbance (depression); formal logic thought disturbance (repetitive focus); thought content disturbance (meanings and consequences).
Nolen-Hoeksema <sup>7</sup>	Response to distress that involves repetitive and passive focus on symptoms of distress and on possible causes and consequences of these symptoms.	Pattern of behavior response (mode of response to distress); formal logic thought disturbance (repetitive and passive focus).
Nolen-Hoeksema et al. <sup>1</sup>	Response style of repetitive and passive thoughts about negative emotions, and focus on symptoms of distress and worry about meaning of distress.	Pattern of behavior response (response style); formal logic thought disturbance (repetitive and passive thinking); thought content disturbance (focus on symptoms of distress and worry about meaning of distress).
Schoofs et al. <sup>24</sup>	Response or coping style involving repetitive self-focused thought on one's negative feelings, their antecedents or consequences.	Pattern of behavior response (response and coping style); mood disturbance (negative feelings); formal logic thought disturbance (repetitive thought); thought content disturbance (self-focused).
Thomsen et al. <sup>25</sup>	Self-focused repetitive thoughts associated with negative outcomes.	Formal logic thought disturbance (repetitive thoughts); thought content disturbance (self-focus).

## Phenomenology and CR

Psychopathology is the science of the abnormal conscious manifestations of psychic life.<sup>10-12</sup> Its aim is not the absolute comprehension of human beings

or their psyche, but the investigation of abnormal conscious psychic phenomena.<sup>10-12</sup> One of its fundamental theoretical features is the analysis of psychic elements using different and complementary perspectives.<sup>10-14</sup>

Among these perspectives, we have the description of psychic phenomena, in the form of psychic examinations and self-narratives, as well as statistical analysis, case studies, genetic aspects, and neurochemical and neurobiological findings.<sup>10-12</sup> Each perspective has its own specificities, limitations and intercorrelations.<sup>10-12</sup> The foundation of phenomenology, as a research method, is the atheoretical description of psychic phenomena as they are presented to the examiner.<sup>10-12</sup> This method provides access to its object of investigation, abnormal conscious psychic phenomena, which may then be appropriately accessed and grasped as a psychopathological object to be further examined using complementary perspectives.<sup>10-14</sup>

Psychic capacities, or cognitive performances, may be distinguished only for teaching and analytical purposes.<sup>10-12</sup> The psyche may be defined as a totality, or a whole, that has multiple and indistinguishable intercorrelations between its parts, the psychic elements. The context of reality, where psyche belongs and in which it participates, also determines and contributes to its change and signification along time. The psychic whole is not the sum or articulation of its parts; in fact, psychic elements, together with other elements that go beyond the scope of this study, compose an individual's transient whole.<sup>10-12</sup>

In phenomenology, statistical analyses of psychic phenomena may be appropriately applied. Any statistical analysis implies a previous theoretical hypothesis and some objective knowledge about the object under study, which is, in this case, psychic phenomena.<sup>10-12</sup> The boundaries of statistics are its own limitations in measuring psychic phenomena as empirical elements and the impossibility of reaching causal associations based on statistic results only.<sup>10-12</sup>

Cognitive performances, such as memory and psychomotor functions, have characteristics that make them more suitable to the application of statistical methods than affect and thought.<sup>10-12</sup> In CR, only the formal logic aspects of thought disturbances are objective, as their contents are subjective phenomena. When investigating subjective performances, statistical analysis may lead to miscomprehensions because of inappropriate identification or appropriation of cognitive performance subtypes.

Meaningful objective phenomena are sensitive phenomena and manifestations of psychic life.<sup>10-12</sup> Objective performances can be assessed directly by the examiner's sensory perception. CR objective performances correspond to: 1) formal logic thought disturbance - repetitive, perseveration; 2) concentration and vigilance disturbances - diminished concentration; lack of attention to secondary themes not related to

the main subject; 3) psychomotor activity - agitation; 4) speech disturbances; and 5) memory disturbances - paramnesias.<sup>10,12</sup> Except for the first item (formal logic thought disturbances), none of these elements are necessary for CR identification, and all can be signs of and randomly found in other clinical presentations, depending on the disorder and the moment when the examination is performed.<sup>10-12</sup>

The assessment of subjective performances must rely on empathy and intuition elements primarily.<sup>10-16</sup> Subjective and objective performances do not share the same characteristics; the former are exclusively expressed through "as if" descriptions that will only be understood if the examinee's psyche is interpreted.<sup>10-12</sup> In CR, subjective performances correspond to: 1) thought content - monothematic, persevering, overvalued, delirious or delusional ideas; 2) affect or mood - sadness, pessimism, apprehension; and 3) volition - will inhibition.<sup>10-14</sup> These are similar to objective performances, when present. Thought content is the main subjective characteristic of the CR construct.<sup>10-12</sup>

The correct understanding of data obtained by means of clinical examinations must be analyzed according to the hierarchy inherent to the psychic whole, which is defined by psychopathology.<sup>10-12</sup> The phenomenology of formal logic thought in CR is similar to that found in other psychopathological phenomena, and includes thought persevering, speech stereotypes and mummification. In all, repetitive thoughts lead to dysfunction of other cognitive performances.<sup>10-12</sup> Speech disturbances may be present. The limited variability of themes associated with CR may be associated with experiences, affective and volitional states and intellectual capacity, as in other psychiatric disorders.<sup>13-15</sup>

Semiology indicates that repetitive thoughts, which may have different presentations, are found in cases of several psychiatry disorders.<sup>10-14</sup> Verbigeration, defined as the repetition of short sentences, embolalia, which is the repetition of short sentences lacking lexical meaning, and mummification, the soundless repetition of sentences using lip movements only, are examples found in early stages of psychotic disorders.<sup>10-12</sup> Repetitive thoughts occur in severe dementia, when the cognitive repertoire is limited, and in psychoactive substance intoxication.<sup>10-12</sup> A restricted repertoire is a common characteristic of obsessive-compulsive, developmental, mood and psychotic disorders.<sup>10-12</sup>

The analysis of phenomenological specificities reveals that CR shares its main characteristics with the psychiatric disorders listed in the paragraph above. The psychic whole has a variable presentation, which confirms the plasticity and the countless possible articulations of psychic phenomena.<sup>10-12</sup> This finding

disproves the idea that cognitive comprehension is the result of a prior combination of supposedly basic neuropsychiatric mechanisms.<sup>10-12</sup>

CR may be better defined as a psychopathological construct that refers to phenomenological elements understood in their context of presentation.<sup>10-14</sup> This characteristic is also present in other psychopathological constructs.<sup>10-15</sup> Psychopathological understanding demands the elaboration of ideal types to organize and shape all the meaningful psychic phenomena grasped.<sup>11-14</sup> These characteristics are useful for clinical and psychic examinations, for use in manuals of diagnostic classification and for empirical studies.<sup>10-12,28,29</sup>

## Discussion

Current trends of research about CR prioritize suitable conceptual definitions that respond to the empirical need of natural sciences. They disregard, however, the psychopathological specificities of CR, which leads to miscomprehension and misconceptions about the object of study about CR.

The focus of this study is phenomenology and CR.<sup>10-12</sup> Phenomenology classifies and situates empirical psychic elements within the field of comprehension of the psychic totality, including statistical analysis.<sup>10-12</sup> Its appropriate application demands the identification of objective performances of the psychic phenomena under analysis, whenever available. The formulation of a theoretical model of psychopathology depends on the meaningful comprehension, or genetic understanding, that should be acquired from subjective phenomena and that cannot be statistically analyzed as objective phenomena.<sup>10-12</sup>

Phenomenology offers a safe methodological perspective to avoid these misconceptions. In the use of its positive perspective, the elements of psychic phenomena are uncovered through identification, description, experimentation and analysis of the participant's cognitive functions.<sup>10-12</sup> The negative perspective carries the intrinsic limitations of phenomenology and ensures that knowledge will be reliable.<sup>10-12</sup> It marks the borders and limits of the psychic phenomena under analysis for the identification and investigation of totalities.<sup>10-12</sup> Current advances in neuroscience, such as topographic, encephalographic, neurochemical and statistical analyses, have produced new fundamental data, which should be analyzed in light of psychopathological foundations to assure that meaningful connections will be established.

Empirical studies about CR may benefit from phenomenological analysis. The positive perspective may identify objective psychic elements of CR by

examining descriptions of the phenomena presented, considering their specificities and avoiding the indistinct naturalization of all its elements. The negative perspective may set limits to the CR construct and define its hierarchical position in psychopathology. This analysis defines an important task for neuroscience: to formulate appropriate scientific criteria to investigate the subjective performance of psychic phenomena, considering their nature and specificities.

A starting point for this investigation may be the foundations of psychopathology hermeneutics.<sup>10-12,30</sup> This analysis may enable the formulation of appropriate theoretical models using appropriate concepts, which would result in the definition of the objects of empirical research. The self-absorption paradox is an example of misunderstanding of identical cognitive processes, supposedly present in both CR and in self-reflective mental activity.<sup>26,27</sup> The distinction is usually made by analyzing outcomes, which are classified as favorable in self-reflective activity and unfavorable in CR.<sup>26,27</sup>

This issue does not apply when the psychopathological approach is adopted.<sup>10-12</sup> As mentioned above, the shared characteristic of CR and self-reflective activity is formal logic thought disturbance, seen in repetitive behaviors and perseveration. The perspective of polarities, as described by Jaspers, may be useful to understand an array of psychic phenomena, as it affects, for example, mood, in the case of polarity between sadness and happiness, and memory, in the case of polarity between amnesia and normal memory.<sup>10-12</sup> In this sense, CR and self-reflectivity may be understood as a continuum, that shares the same type of basic cognitive process, that is, formal logic thought disturbance, but that holds differences in other cognitive elements distinctly associated with each other.

As psychopathology studies abnormal conscious psychological phenomena, it may only explore CR, and not self-reflective activity. The latter is a natural human existential activity, better addressed by philosophy.<sup>10-12</sup> The characteristics of both phenomena may be compared, but never without seriously considering the specificities of each one.

## Limitations

Jaspers' definition of phenomenology represents one type of phenomenological method to access psychic phenomena. Other phenomenologists may suggest different and complementary methodological approaches and knowledge perspectives of psychic phenomena.<sup>30,31</sup>

We have only searched for and analyzed empirical clinical studies about CR. Reviews and case reports may offer a more detailed analysis. As only the studies in

English were included, some current scientific data about CR may have been missed.

## Conclusion

Phenomenology may contribute to the analysis of CR and improve conceptual definitions and the identification of cognitive elements of CR to be applied in empirical research. It may also benefit empirical psychiatric and psychopathological studies, including those that investigate CR. It may establish more adequate and accurate conceptual definitions to be used in the identification of psychic phenomena and of theoretical and methodological issues associated with them.<sup>16</sup> Further studies about psychopathology and phenomenology should focus on the review of classical methods and theoretical models used in current psychiatric and psychological research.<sup>32</sup>

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