



ELSEVIER

Available online at
ScienceDirect
www.sciencedirect.com

Elsevier Masson France
EM|consulte
www.em-consulte.com



Frontiers between neurology and psychiatry

Impairment of social cognition in neurological diseases

H. Duclos, B. Desgranges, F. Eustache, M. Laisney*

Inserm, U1077, EPHE, neuropsychologie et imagerie de la mémoire humaine, UNICAEN, PSL Research University, Normandie université, CHU de Caen, 14000 Caen, France

INFO ARTICLE

Article history:

Received 12 September 2017

Received in revised form

13 December 2017

Accepted 2 March 2018

Available online xxx

Keywords:

Social cognition

Empathy

Theory of mind

Frontotemporal lobar degeneration

Dementia

Behavioral disturbances

ABSTRACT

Social cognition is impaired in a large number of neurological afflictions, including neurodegenerative diseases, neuropsychiatric disorders and neurodevelopmental syndromes, and has become a significant element in differential diagnoses. This report describes the different processes involved in social cognition and the way in which they work together to allow adapted behaviors. This is then followed by the numerous clinical symptoms of social behavioral disturbances and social cognition performance in different neurological afflictions such as frontotemporal lobar degeneration, Alzheimer's disease and schizophrenia. In addition, the available tasks allowing social cognition assessment in routine clinical practice are also presented.

© 2018 Elsevier Masson SAS. All rights reserved.

1. Introduction

Living in communities, individuals must continually maintain social relationships. To ensure good social interactions, it is therefore necessary to adapt behaviors according to those of others and the social context. Disturbances of social behavior emerge in various neurological and psychiatric afflictions, and contribute to their diagnosis. Social cognition is the ability to identify, perceive and interpret socially relevant information. It plays a significant role in interpersonal functioning and allows an individual's behavior to be adapted to the social

situation [1]. Specifically, social cognition includes information processing about people in general, including oneself, and the norms and procedures of the social world [2]. The concept covers a wide range of abilities that include, among others, emotion recognition, empathy, Theory of Mind (ToM), and social knowledge and reasoning. Social cognition was mainly studied, at least initially, within the developmental framework of autism in particular [3], whereas studies dealing with social cognition in neurological afflictions are more recent. As relationships between behavioral disturbances and executive dysfunction are not always observed, it suggests that social cognition examination might contribute to a better unders-

* Corresponding author. Unité, Inserm, U1077, EPHE, neuropsychologie et imagerie de la mémoire humaine, UNICAEN, pôle des formations et de recherche en santé, 2, rue des Rochambelles, 14032 Caen cedex France.

E-mail address: mickael.laisney@inserm.fr (M. Laisney).

<https://doi.org/10.1016/j.neurol.2018.03.003>

0035-3787/© 2018 Elsevier Masson SAS. All rights reserved.

tanding of social behavioral disorders. Studies of neurological disorders and, more particularly, those that give rise to behavioral disturbances have largely contributed to our current knowledge of social cognition [4]. The complex interactions between executive functions and the specific abilities of social cognition that eventually produce appropriate social behaviors are, however, still not fully understood. Disruption of social cognition might be expressed in different ways according to the neurological disease affecting the brain, but it may also be a core feature of the clinical picture of some patients [5]. Social cognition disturbances may also be more disabling than other cognitive disturbances because it directly affects social relationships.

2. Social cognition

There is significant interest in the different processes of social cognition, yet there is little agreement concerning the taxonomy and architecture of social cognition, most likely due to the overlap between different concepts [6]. Most studies have focused on ToM, considered as the central process of social cognition as it is connected to different abilities such as social-perception processes, emotional processes, empathy and social awareness [7]. Such abilities are also related to executive function and memory.

ToM refers to the mental capacity that allows understanding and inferring mental states in others as well as ourselves, and being aware that our mental states can differ from those of others [5]. Functionally speaking, cognitive and affective mental states can be distinguished [8]. Cognitive ToM refers to cognitive mental states such as thoughts, beliefs and intentions, whereas affective ToM concerns feelings, affects and emotions [9,10]. Empathy is a natural socioemotional ability that allows sharing and understanding affective states thanks to intersubjective processes. Empathy is divided in two components: a cognitive component, defined as the ability to recognize and understand the emotional states of others; and an affective component, which may be seen as emotional resonance [11,12]. A conceptual overlap between affective ToM and the cognitive component of empathy has been suggested [6], but is not commonly accepted [11].

Samson et al. [13] proposed that different processes are required to infer a mental state. According to their model, during social interactions, attention is directed towards the relevant social environmental stimuli, which involves perceptual processes (facial emotions, action recognition ...). On the basis of such information, temporary mental representations of mental states are created that take into account the context, including episodic memories of similar past events and the people involved, but also semantic memories about these people and the relevant social awareness, including knowledge of interpersonal relationships.

Our own perception of the mental states of others is also dependent on our Self, as there is a tendency to project our own beliefs onto others [14]. According to sociocognitive models, the Self could be defined as people's beliefs about themselves – what sort of person they are, and their personal characteristics, abilities, experiences and emotions [15]. More broadly speaking, the Self includes all the knowledge that

individuals have about themselves [16]. The Self could be considered as a social object that has to be understood [17] because only self-knowledge drives behaviors and affects towards others [15]. The perception of others involves similar processes to those involved in understanding oneself. Memories of personal experiences are used, with or without conscious awareness, to make inferences (based on our own beliefs) that are projected onto others [14,18]. Other people may then be perceived only in the light of the Self.

To infer mental states, both declarative and procedural processes are required, which may be used either implicitly or explicitly [2]. On the one hand, declarative social knowledge comprises a large stock of concepts and facts about acquired social schemes (way to achieve social interactions), and interpersonal relationships and situations [2,19]. This represents the whole of our knowledge of the social world. On the other hand, procedural knowledge includes all the rules, skills and strategies used to adapt behavior. All this knowledge is acquired thanks to our past experiences, which are stored in our memory [1]. Although social procedural awareness is used on a daily basis in social relationships, it is seldom verbalized concretely, as these abilities are by nature not conscious. In social life, procedural knowledge is required rather often and therefore becomes heuristic, which could lead to mistakes if all the elements of social situations are not taken into account. Furthermore, behavior depends on the way situations are analyzed, including reasoning about mental states, personal motivations or goals and social knowledge, and on the ability to be flexible where appropriate.

A schematic representation of the processes involved in understanding, predicting and/or producing behaviors from the social context is shown in Fig. 1. Further studies are as yet needed to identify these processes, and to clarify the relationships they have with each other and with other cognitive abilities, such as executive function and memory.

3. Social cognition and neurological diseases

Social cognition disturbances arise in numerous neurological and psychiatric disorders and are sometimes part of the diagnostic criteria. In the latest edition of the American Psychiatric Association's Diagnostic and Statistical Manual for Mental Disorders, Fifth Edition (DSM-5), social cognition is described as a core component of neurocognitive functioning (along with attention, executive functions, memory, language and visuo-perceptual or visuospatial abilities). Social cognition has also been deemed a cognitive domain in the next edition of the International Statistical Classification of Diseases and Related Health Problems (ICD-11). The inclusion of social cognition in the diagnostic criteria of some neurocognitive disorders is especially relevant, as it is well recognized that socially inappropriate behaviors can arise in those diseases.

In the DSM-5, social cognition is divided into three subdomains: recognition of emotions; ToM; and insight, which describes conscious awareness of the changes related to the disease. Indeed, identifying the subdomains affected in a given patient can help to determine the etiology and severity of the neurocognitive disorder. Frontotemporal lobar degeneration, Alzheimer's disease, Lewy body disease, Parkinson's

Download English Version:

<https://daneshyari.com/en/article/8690690>

Download Persian Version:

<https://daneshyari.com/article/8690690>

[Daneshyari.com](https://daneshyari.com)