

Social Perception: An Overlooked Aspect of Social Cognition.

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Abstract

This Mini-review discusses the need for a more precise definition of Social Perception and presents the results of an investigation showing a deficit in recognizing social interactions, possibly specific to schizophrenia. Partly based on this finding, a proposal is made to use the term Social Perception to refer to low-level, pre-reflective processes underlying the awareness of interpersonal interactions with and between others. An effort is made to link this definition to terms with a longer phenomenological and philosophical tradition, such as social affordances, common sense, and inter subjectivity, as well as empirical studies that explore the importance of personal space and interpersonal distance.

Keywords: Social perception • Social cognition • Intersubjectivity • Common sense • Social affordances • Schizophrenia

Introduction

Social Cognition is defined as the ability to perceive, interpret, and process social information in real-world settings or to construct representations of the relationship between self and others and flexibly use these representations to guide social behavior [1]. Some aspects of social cognition, such as emotion perception, theory of mind, and attributional style, have been well defined and studied, but the same is not true of Social Perception. In the context of the MATRICS initiative, Green and Leitman defined Social Perception as "A person's ability to identify social roles, social rules, and social context," including "Relationship perception, which refers to the perception of the nature of relationships between people" [2]. However, this partially overlaps with social knowledge, which, in turn, is defined as "Awareness of the roles, rules, and goals that characterize specific social situations and guide social interactions." On the other hand, Pinkham ignores this difference and considers social perception as "the decoding and interpretation of social cues in others" [3]. It includes the ability to integrate contextual information and social knowledge into judgments about the behaviors of others."

This lack of a precise and unitary definition of the concept, and its confusion with other areas of social cognition, may have led to this aspect being significantly under-studied. Relying on resources coming from the ecological approach to psychology and the phenomenological tradition in psychiatry, as well as the neurobiology of social information processing, we have proposed that the term Social perception should be used to refer to low-level, pre-reflective processes underlying the awareness of interpersonal interactions with and between others [4]. This domain should be assessed independently from the ability to recognize facial expressions and mind reading but also from the comprehension of the explicit rules of social interactions.

We have recently published the results of an investigation that suggest that people with schizophrenia do indeed have problems perceiving other people interacting with each other [5]. We used scenes depicting social situations to compare responses from 90 volunteers (Healthy Controls (HC), Schizophrenia (SZ), and Bipolar Disorder (BD) outpatients from the Hospital del Salvador in Valparaíso, Chile) to the question: "What do you think is happening in the scene?" An independent blind jury rated their

description depending on their ability to identify a) the social context, b) the participants c) the interaction. For the items related to people and interactions, participants with schizophrenia showed significant differences compared to participants with bipolar disorder, who did not show any significant differences from the control group. This finding may imply the existence of a social perception deficit specific to schizophrenia that may be related to the poorer psychosocial functioning of individuals with this diagnosis.

Our proposal of a more precise definition of Social Perception raises several interesting questions, which we will briefly review below. Specifically, we will examine the connection with other related constructs such as social affordances and intersubjectivity, the interdependence with the perception of interpersonal space in people with schizophrenia, and finally, some possible clinical implications.

Social Perception or Perception of Social Affordances?

According to Gibson, affordances are properties of the environment providing the observer with practical opportunities which he or she is able to perceive and use [6]. These should not be attributed exclusively to the environment or the observer but rather to the interplay between both; likewise, affordances are not just objective or subjective properties or purely physical or psychical in nature since they transcend dichotomies of this kind [6].

These propositions may have several important implications for schizophrenia. Kim and Effken have criticized the incompleteness of the explanation of schizophrenia as a disturbance of the minimal self [7]. Instead, they put forward the notion of an ecological self that depends on affordances to make sense and inhabit the environment, which in turn, is a requisite to maintaining a healthy sense of ownership and agency. On the contrary, when an adequate perception of affordances is perturbed, the ecological niche of the individual becomes meaningless, retreating into the hyper-reflexivity and diminished self-presence characteristics of the pathology.

To test this hypothesis, Kim and Kim, published the results of three experiments that investigated schizophrenia patients' affordance perception

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[8]. Participants were presented with a photo of a common object and then asked to judge its secondary affordance (a non-designed function) in a two-choice reaction time task in Experiment 1 and in a yes/no task in Experiment 2. Schizophrenia participants performed less accurately and more slowly than controls. In Experiment 3, participants identified the objects' physical properties to rule out visual impairment as a contributing factor. Schizophrenia participants were as accurate as controls and responded faster than in the previous experiments. Results suggest that the capacity to perceive affordances is likely impaired in people with schizophrenia, although the capacity to detect the object's physical properties is kept intact.

Adapting Gibson's definition of the term, social affordances refer to the combination of a subject's features and possibilities for action that people in the environment offer to someone else [6]. In this context, affordances can be either ego-centric when the agent of the potential joint action is the perceiver or allocentric when it concerns another agent. The latter type does not require mind-reading abilities; all that is needed is the ability to represent other people and their bodily movements. According to Dokic, joint action with other people depends on mind reading but also involves the participants' non-mentalizing perceptions of social affordances [9].

Peripersonal Space: Minding the Distance

Interactions with elements of the environment occur. The PeriPersonal Space (PPS) is the space surrounding the body into which others cannot intrude without causing discomfort, and complementarily, Interpersonal Distance (IPD) is the space we maintain with others while interacting. Interpersonal distance is dynamic, reflecting changes in the disposition towards social interactions and varying perceptions of the intentions of the person with whom the individual interacts. IPD helps to establish interpersonal boundaries and private space but also allows for an appropriate space for social interactions conveying important information about the mental state of conspecific [10].

When surrounded by others, the estimation of appropriate interpersonal distances is not only determined by considering affective and social relationships and physical characteristics of the participants but is also influenced by the interoceptive sensitivity of the individual. Inversely, the inner representation of the peripersonal space depends not only on the physical proximity between interacting persons but also on the degree of familiarity, social proximity, and the interactions between them [11].

There is evidence of a smaller perceived PPS in people with schizophrenia, an increased uncertainty of self-other boundary, and a preference for larger PS [12]. Taken together, these findings may explain the tendency for people with schizophrenia to be more isolated and their greater difficulty in responding adaptively in situations involving social interactions.

We speculate that less precise limits of personal space and greater discomfort with the proximity of others may lead to difficulties perceiving cooperative intentions and reacting accordingly to approaching conspecifics. People with schizophrenia may also have difficulties judging the distance between others and fail to pick up an important clue to interpret interactions and detect opportunities for joint action such as those generated by the spatial alignment, where an object presented within the reaching space of another person may afford a suitable motor act, regardless of whether it falls within the observant own or the other's reaching space [13].

Intersubjectivity: The social interaction within ourselves

A long phenomenological tradition links schizophrenia to a loss of common sense. Stanghellini defined the concept as everything that members of a given society consider as obvious [14]. It involves both practical knowledge about social situations and a basic intuitive attunement (social perception) with the social world aimed at understanding these

situations. Whereas the concept of "social knowledge" refers to the background of constructs useful for organizing everyday experiences, the concept of "attunement" reflects the affective-conative capacity to get involved in others' lives and to pick up context-relevant cues to make sense of others and social situations. Fuchs also distinguishes between a faulty development or functioning of the ToM module "inside" the subject (which renders other persons' thoughts, feelings, and actions strange and inaccessible) from an immediate, pre-reflective disturbance in the relationship between self and others in an emergent bi-personal field [15]. What is more important from our point of view is that both authors propose the existence of a basic pre-reflexive perceptual mechanism that allows "tuning in" to a social environment.

According to Stanghellini [14], people with schizophrenia lose contact with this common sense through three mechanisms: (a) Sensory (aberrant perception of self, body and world), (b) typification disorders (disturbances of social knowledge network or lack of attunement) and (c) Attitudinal disorders (distrust toward common sense). For his part, Fuchs [15] characterizes schizophrenia as a disturbance of primary intersubjectivity where disconnection from the inter corporality with others leaves the patients without the practical knowledge of how to interact with others and understand their expressions and actions in a shared situation. This results in a fundamental alienation of intersubjectivity where a sense of detachment replaces the basic sense of being-with-others. These levels of vulnerability are coherently related to each other in a way that, when intuitive attunement is disordered, not only do the others appear enigmatic, and the social environment becomes uncanny, but also one's sense of the self and the boundaries between oneself and the others may become blurry. All these disruptions would lead to the onset of psychosis.

Discussion

However, in order to justify this proposed redefinition of social perception, some key aspects need to be clarified and its usefulness in clinical practice confirmed. For example, there will have to be empirical evidence, with appropriate operationalization, of deficits in Social Perception independent of, but in conjunction with, other domains of social cognition. It will also be necessary to determine their relationship with the main symptomatic domains of schizophrenia and their impact on the psychosocial functioning of patients. In terms of neurobiology, despite the overlap of perceptual-motor processes, it would be expected that the described impairment would be strongly related to failures at the visual perceptual level. Finally, in the context of psychosocial interventions, it would be interesting to investigate the feasibility and potential benefits for patients of Social Perception training, either directly or as a non-specific component of another intervention.

Conclusion

In contrast to other areas of social cognition, social perception has no clear definition and has been the subject of comparatively little research. Our proposal to use the term to refer to low-level, pre-reflective processes underlying awareness of interpersonal interactions with and between others is based in part on the results of our investigation showing a deficit in the recognition of social interactions that may be specific to schizophrenia, but may also be supported by other empirical studies exploring disturbances in peripersonal space and interpersonal distance in people with schizophrenia. The proposed definition is linked to a long phenomenological tradition that considers disturbances of common sense, intersubjectivity, and perceptions of social affordances as central aspects of illness.

Conflict of Interest

None.

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