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Attachment in Schizophrenia—Implications for Research, Prevention, and Treatment

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Attachment is a promising area for elucidating psychosocial mechanisms important for development, prevention, and treatment of schizophrenia. This report gives a short summary of studies of attachment in psychosis. It was found that dismissing and disorganized forms of attachment were over-represented in psychosis. Evidence pointed to associations between a dismissing attachment pattern and positive psychotic symptoms, negative symptoms, and poor engagement with services. Furthermore, insecure attachment was found to predict impaired recovery from negative symptoms. Possible major risk processes in development linking dismissing attachment to symptom development were externalizing and deactivation of affects and poor mentalization. For a disorganized form of attachment, possible risk mechanisms were heightened stress-sensitivity and dissociation. Based on this initial evidence, further research in attachment in psychosis focusing on these risk mechanisms seems warranted. In addition, the evidence supported a focus on attachment-related risk processes to enhance the prevention and treatment of psychosis.

Key words: dismissing attachment/negative symptoms/disorganized attachment/stress-sensitivity/psychological treatment

Introduction

The crucial importance of attachment for normal development has long been acknowledged as attested in a large and rapidly growing body of research.[1] The developmental psychopathology approach and the new Research Domain Criteria (RDoC) approach, proposed by the American National Institute of Mental Health, both stress the importance of studying risk development in domains important for normal development. Nonoptimal forms of attachment have been found to be involved in the development of several mental disorders, such as borderline personality disorder (BPD) and depression.[1] Taken together, this makes attachment a promising area for elucidating psychosocial mechanisms important for the development of schizophrenia. Following the RDoC approach, the association between attachment and the broader psychosis domain, not only schizophrenia proper, will be discussed.

Attachment

The core contribution of the attachment approach is the understanding of the unique quality of the tie between a parent and a child established through the infants first 1–2 years of life.[2] Through attachment relationships, strong emotional bonds between infants and primary caregivers are formed, which can then lead the infant to experience distress and separation anxiety when separated. This distress can only be repaired by reunion with the attachment figures, not by any other caregiver. According to attachment theory, humans have an evolution-based need for attachment, which serve the purpose of increasing survival through securing the infant's physical closeness to the caregiver and providing optimal conditions for the cognitive and socioemotional development. It is the specific qualities of the attachment relationship, where the caregiver can serve as a secure base for exploration and as a safe haven for the regulation of distress and negative emotions, which is crucial for optimal development. The infant's experiences in attachment relationships lead eventually to the development of an inner working model for affect regulation, exploration, and interpersonal functioning, an attachment pattern, which tends to be relatively stable over time.

Subtypes of Attachment

Three organized patterns of attachment have been described, secure, insecure dismissing and insecure preoccupied.[3] These patterns are understood as adaptations to the type of care provided, with the purpose of

maintaining the caregiver's protection. *Secure attachment* is characterized by adaptive affect regulation, an ability to be emotionally close and yet autonomous in interpersonal relationships and high levels of mentalization, ie, the ability to understand mental states. This is the result of early interactions with caregivers, who are sensitive to the infant's need for both exploration and resolution of distress and anxiety.

In *dismissing attachment*, adults tend to deactivate emotions and attention to mental states of self and other. They prefer to keep others at a distance, valuing achievements over close relationships. This is understood as an adaptation to early experiences of consistent rejection from caregivers of open expression of distress. The person adapts to this by over-regulation of affects and distraction strategies, eg, by focusing away from the attachment relationship and attending to exploration, in an attempt to cope with distress alone.

In contrast, *preoccupied attachment* is thought to develop in response to inconsistent caregiver availability. In order to secure the needed attention from attachment figures, the person exaggerates expression of emotions and keeps attention to attachment figures at the expense of exploration and development of autonomy. Emotions tend to be under-regulated, and positive feelings are often mixed with feelings of anger and anxiety.

In addition to these 3 organized patterns, some individuals develop more *disorganized attachment* characterized by momentary ruptures of the organized pattern (unresolved type) or more profound breakdown (cannot classify type). Here, a strategy to successfully regulate emotions no longer seems present, resulting in incoherent states of mind. Disorganized attachment has been linked to adverse experiences in childhood, such as frightening or frightened caregiver behavior or other types of disrupted caregiver behaviors.

In addition to these classical subtypes of attachment, which are measured by the Adult Attachment Interview,[3] various questionnaires have been used in studies of attachment in psychosis.[4] They use subtypes conceptually related to the classical subtypes for assessing attachment, most importantly "attachment avoidance," which is related to the dismissing pattern and "attachment anxiety" resembling the preoccupied pattern. The classical terms will be used to cover both.

Distribution of Attachment in Psychosis

In psychosis the dismissing type of attachment is found to be dominating, ranging from 48% to 71% compared with 27% in a norm group. Preoccupied attachment ranges between 12% and 20% and secure between 27% and 32%, as compared with 19% and 58%, respectively, in a norm group.[5–7] This distribution stands in contrast to most other mental disorders, where preoccupied attachment and under-regulation of affect are dominant, as in depression and BPD.[8] Only two studies[6,7] have reported levels of disorganized attachment in psychosis. They found high levels (29–35%) equivalent to levels found in BPD whereas, in post-traumatic stress disorder (PTSD), disorganization is higher (57%).[9] Thus, dismissing and disorganized attachment appears to be important as potential risk factors in psychosis.

Correlates of Attachment

Two recent systematic reviews have summarized the findings of correlates of attachment in psychosis[10] and association with psychotic phenomena in clinical and nonclinical samples.[11] As would be predicted by attachment theory, *insecure forms of attachment* taken together are related to poorer premorbid adjustment, more interpersonal problems, and impaired mentalization.[10] *Dismissing attachment* is robustly associated with psychiatric symptoms, positive and negative symptoms in psychosis. These findings are echoed by findings in nonclinical populations. Here, dismissing attachment is associated with subclinical psychotic symptomatology, paranoia, and endorsement of delusional-like experience;[12] and with negative symptoms, especially social anhedonia found in 3 studies[11] suggesting a robust relationship. For *attachment preoccupation*, only a modest association to symptomatology is found in psychosis,[10] whereas correlates of *disorganized attachment* in psychosis are yet to be examined. Thus, at present, the evidence is most strongly established for an association between dismissing attachment and psychotic symptoms.

Risk Mechanisms in Dismissing Attachment

Various hypotheses have been proposed concerning which risk processes link attachment and psychosis. Three risk processes might be involved in the association between *dismissing attachment* and psychosis, namely *deactivation of affects* and *impaired mentalization* involved in the development of negative symptoms and *externalizing affect regulations strategies* involved in the development of positive symptoms.

1. *Deactivation of affects.* It has been proposed that the over-regulation/deactivation of affects seen in dismissing attachment could be a risk mechanism underlying development of *negative symptoms*.[7] Negative symptoms include blunted affect, anhedonia, and emotional and social withdrawal. Each of these symptoms could potentially be endpoints of severe affective deactivation processes in a dismissing attachment pattern, in response to unresolved distress.
2. *Impaired mentalization*. Impaired mentalization has been suggested as linking attachment and psychosis[6] and is more profound in dismissing attachment than in secure and preoccupied attachment in psychosis.[6]

Furthermore, impaired metacognitive skills—a concept overlapping with mentalization—has been found to be associated with negative symptoms in schizophrenia.[13] Impaired ability to mentalize is likely to interact with deactivation of affects and together these two risk developmental processes could be underlying mechanisms of the lack of spontaneity and engagement in social interaction described in negative symptomatology. Low mentalization has also been proposed to be involved in impaired social functioning and positive symptoms.[11]

3. *Externalizing strategies.* Externalizing behavioral and cognitive strategies might be mechanisms linking dismissing attachment to *positive psychotic symptoms*. A line of indirect evidence supports this hypothesis. Dismissing attachment is characterized by a turning away from attachment towards exploration in situations of distress. In accordance with this externalizing affect regulation strategy, infant avoidant attachment predicts externalizing behavior,[14] which in turn has been found to be associated with hallucinations in a youth sample.[15] Externalizing cognitions are further found to underpin hallucinatory experiences.[16]

Risk Mechanisms in Disorganized Attachment

In addition to dismissing attachment, *disorganized forms of attachment* (unresolved and cannot classify) were found in one-third of persons with psychosis. Unresolved attachment in adults can only be assigned when experience of past trauma has been identified. Corresponding to this, a recent meta-analysis[17] found significant associations between childhood adversities and psychosis with an overall effect of odds ratio (OR) = 2.78. The findings indicated a 33% reduction in people developing psychosis if childhood trauma could be prevented. Within subtypes of childhood trauma, the highest risk of psychosis was found for emotional abuse (OR = 3.40) and high as well was emotional neglect (OR = 2.90). Infant disorganized attachment status is closely linked to trauma[18] and has in itself been proposed as the result, not only of overt trauma but also of "hidden trauma"[19] of caregiver unavailability and interactive dysregulation resulting in lack of regulation of fearful arousal in the infant. Thus, early disorganized attachment is likely to be a risk factor for psychosis, in line with the established emotional abuse and neglect type of trauma. In contrast, secure attachment is an important resilience factor for resolving traumatic experiences in childhood[20] indicating that secure attachment could moderate the association between trauma and psychosis. As mentioned earlier, correlates between disorganized attachment and psychotic symptomatology in psychosis are yet unexplored, but indirect evidence points to a possible association between disorganized attachment and positive psychotic symptoms, with heightened stress-sensitivity and dissociation as underlying risk mechanisms.

1. *Heightened stress-sensitivity*. A physiological mechanism possibly linking disorganized attachment and trauma to psychosis is heightened stress-sensitivity, a vulnerability marker for psychosis. This is supported by findings that the human brain seems especially sensitive to interpersonal stress.[21] Stress-sensitivity can be measured as altered cortisol reactivity in the hypothalamic–pituitary–adrenal axis in responses to stressful experiences. Both hyper- and hypo-cortical reactivity have been found in psychosis, indicating altered functioning as response to prolonged severe distress.[22] Furthermore, altered cortisol release patterns have been found in infants with disorganized attachment[23] and in adults with childhood emotional maltreatment.[24]
2. *Dissociation*. Dissociation can be understood as a mental reaction to severe distress, which cannot be regulated or overcome. The distress can partly be a result of heightened stress-sensitivity. Dissociation is well described as a result of traumatic experiences in PTSD and is thus hypothesized to be present also in persons with psychosis and a history of trauma. "Hidden trauma" within the attachment relationship may also lead to dissociation, because disorganized attachment in itself is described as an early form of dissociation,[25] and strong associations has been found between disorganized attachment in infancy and dissociative symptoms at 19 years.[26] In addition, dissociative symptoms are common in psychosis and have been associated with hallucination in PTSD and trauma and hallucinations in psychosis.[27] This line of indirect evidence supports the hypothesis of a link between disorganized attachment and the development of positive psychotic symptoms with stress-sensitivity and dissociation as underlying mechanisms.

Psychosocial Risk Mechanisms in Psychosis—An Attachment-Based Model

Several possible mechanisms have thus been proposed which could underlie associations between dismissing and disorganized attachment and psychosis. The proposed developmental pathways and risk mechanisms described earlier are illustrated in figure 1.

As illustrated in figure 1, the quality of the infant caregiver attachment relationship most likely interacts with parental and infant factors, as well as with various social factors. If the attachment relationships lead to dismissing or disorganized attachment, then various risk developmental processes are present, which can be involved in symptom development in psychosis. The model only illustrates the mechanisms discussed in this report. In line with the developmental psychopathology approach

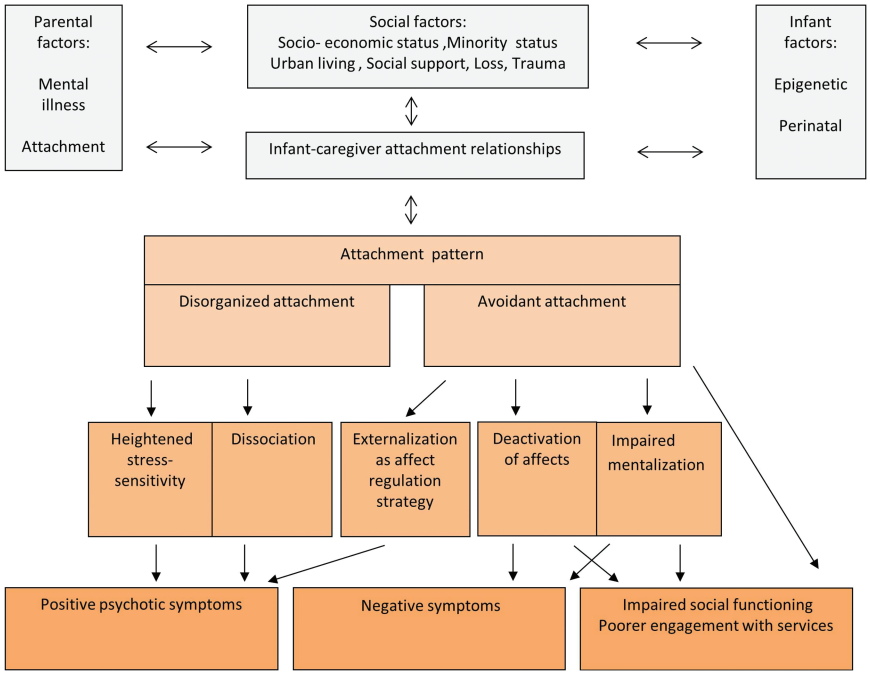

Fig. 1. Psychosocial risk mechanisms in development of psychosis—an attachment based model.

and empirical findings of multiple risk factors in schizophrenia, the disease is best understood as the result of multiple developmental pathways caused by several interacting risk factors and disease mechanisms. Hence, attachment is only one of many bio-psycho-social risk processes involved. Of particular note, secure attachment was found in one-third of a psychosis sample. A secure attachment pattern will most likely function as a resilience factor, and it has been found to be associated with better engagement with services and improved recovery from negative symptoms.[7]

Implications for Research

The emerging findings of associations between attachment and psychosis reported earlier support attachment as a potentially important concept in psychosis. I have pointed to a number of risk developmental processes possibly involved, namely deactivation and externalizing affect regulation strategies, low mentalization, heightened stress-sensitivity, and dissociation. They seem promising areas of research, which could potentially improve our understanding of socioemotional processes involved in the development of specific symptoms and difficulties in psychosis.

Implications for Prevention and Treatment

The emerging evidence for the role of attachment for development of psychosis has implications for prevention and treatment of psychosis. Prevention should include the promotion of resilience through facilitating secure attachment relationships during childhood. Little is known directly of the role of childhood attachment for psychosis, but indirect evidence, as outlined earlier, supports such an approach and warrant further research. Attachment-based preventive interventions should be offered where risk factors for psychosis known to be associated with insecure attachment, in general, are present, such as children having a mentally ill parent, low socioeconomic status, childhood interpersonal trauma, and growing up in managed care.

Turning to treatment, attachment as both resilience and risk factor should be part of routine assessment together with the assessment of adverse childhood experiences. An understanding of attachment status contributes important information on emotional and interpersonal aspects involved in symptom formations and recovery. Findings that attachment security predicted recovery from negative symptoms at 12 months and that increase in security was associated with improvement in negative symptoms support the importance of such an approach.[7]

Importantly, attachment affects the possibility of being engaged in treatment at all. Greater attachment insecurity is associated with poorer engagement with services and greater likelihood to disengage from mental health services.[10] Specifically, attachment avoidance is associated with a reduced likelihood to seek help, poor use of treatment, and lower therapeutic alliance.[10] Affective and interpersonal aspects of psychosis might thus be important to address in attachment informed psychological therapies to promote engagement with health services and promote recovery. The attachment perspective is currently informing various new integrative models for

psychotherapy of psychosis,[28,29] but further research in attachment informed intervention models is required.

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