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Review Article

Three Perspectives to Understand Mental Disorders in Childhood and Adolescence: Attachment, Child Abuse, and Neurodevelopmental Disorders

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Abstract

Recently, child and adolescent psychiatric practice in Japan has increasingly provided psychiatric treatment for children with different problems who grew up in an adverse environment. Children with such adverse experiences often present with symptoms of complex posttraumatic stress disorder, especially disturbance in self-organization, and they exhibit a combination of aggressiveness toward others and self-destructiveness upon referral. When becoming involved in such cases, assessment for case-formulation should be carried out. When assessing, a bio-psycho-social model that pertains to the onset of mental illnesses should be employed and all relevant factors must be evaluated comprehensively. It is especially important when formulating the case of a child who grew up in an adverse environment to emphasize evaluation of the nurturing environment, including the presence of abuse and familial dysfunction, developmental characteristics, including the developmental history and neurodevelopmental disorders, and characteristics relevant to the development of self and personality, including attachment styles and effects of adverse experiences such as child abuse. Treatment provided based on the results of such case formulation takes into account the following four points of action and combines therapeutic techniques for each: biological factors, interactive effects between the child and caregiver, the child's personality and stress-coping strategies, and stress factors outside the family. Treatment for children who grew up in

an adverse environment promotes three therapeutic aspects: stopping and preventing aggression and self-destructiveness, protection, and providing them care and nurturing, promoting spontaneous self-nurturing. Treatment helps the children experience these aspects continuously.

Keywords: child abuse, bio-psycho-social model, complex posttraumatic stress disorder, inpatient treatment, therapeutic fostering

Introduction.

I have spent most of his 43 years of psychiatrist as a child psychiatrist. I would like to begin this article by describing the reasons that have supported my practice and kept me interested in children's minds.

The first reason is that the child psychiatrist is a professional who can be present and witness to the transition from child to adult mental illness as it unfolds in the here and now. The second reason is that they can be involved in and witness the process of therapeutically modifying the developmental path of the self and personality, stopping the development of adult mental illness right here and now. For example, it is well known that children who grew up in abusive and adverse nurturing environments often develop a condition similar to borderline personality disorder, such as self-injury, drug addiction, and clinging to relationships with other people to fill a sense of emptiness in adolescence. This is a condition specific to adolescents, centering on "abandonment and depression," which Masterson, J. F.9) called borderline adolescent, but it should not be immediately called borderline personality disorder even if children from junior high school to high school age show such a condition. This is because this age group has a high degree of plasticity that can be improved to a level that can no longer be called a personality disorder through therapeutic involvement in the process of passing through the adolescent years.

I hope that young readers will be interested in these reasons given by me, and feel the significance of being involved in the mental illness of children in this age group.

I.A bio-psycho-social model of the development of mental disorders in children

The age group from infancy to the end of adolescence proper (0-18 years old) is referred to here as the child-adolescent age group. I have previously proposed an onset hypothesis that summarizes the various factors involved in the development of mental disorders in children in this age group and schematizes their interrelationships as a bio-psycho-social model10) . Figures 1 and 2 are modified versions of this hypothesis, in which the following four factors are involved: biological factors, nurturing environment, personality traits and stress coping, and the current environment outside the family and the stress it causes. Figure 1 shows that the child's mind, or the internal domain in which the child perceives himself/herself, is named the "self-system," and that it is a system supported by homeostasis in which the equilibrium among the above four factors is maintained.

The biological factors listed as the first of the four factors in Figure 1 are the innate and constitutional characteristics of brain function that are mainly the result of the interaction between the genetic predisposition of each child and the intrauterine environment. Needless to say, the innate and constitutional characteristics of brain functioning refer to a wide variety of characteristics that can be listed without limit, but here we will focus on the temperament, which is the core of the personality crystallization process that consistently progresses after birth, and the constitutional affinity or vulnerability to various mental disorders.

The second factor, the nurturing environment, is a special and important area of environmental factors that has a decisive influence on the child's self-formation and the formation of his or her personality, which is the predominant mode of functioning (emotions, thoughts, interpersonal relationships, etc.). The quality and quantity of the nurturing environment are not solely determined by the characteristics of the caregivers, particularly the mother, but are the result of interaction with the powerful influence of the characteristics of the child on the quality of the nurturing environment.

The third factor is the child's self and personality, which are formed through repeated crystallization through active interaction with the nurturing environment, which is the second factor, based on the core of temperament, which is the personality aspect of the newborn's brain function mentioned in the first factor. The child's emotions that predominate in the process of the formation of its self and personality, if they have a certain intensity, whether

positive or negative, not only strongly influence the emotions and nurturing behaviors of the caregivers in the nurturing environment, which is the second factor, but also influence the brain functions, which is the first factor. It is important to note that very dynamic system of interaction is at work.

The fourth factor is environmental factors outside the family and the stress they cause. This refers to the supportive and stressful influences of current environment outside the family, such as nursery schools, kindergartens, elementary schools, and junior high schools.

While these four factors interact with each other, if stress from the environment outside a family is increased by noxious involvement, its invasiveness or traumatic nature is neutralized by stress coping strategies that are a functional area of the child's personality, so that the threshold of biological vulnerability to the mental illness is not exceeded. Needless to say, the functionality of children's stress coping is determined by their temperament and the quality of their nurturing environment, and the quality of the nurturing environment is influenced to a certain extent by the child's temperament and personality traits. The quality of the nurturing environment is influenced to a certain extent by the child's temperament and personality traits, and moderately good nurturing fosters the child's functional personality traits and enhances stress coping.

This self-system equilibrium will not be maintained forever. If a child experiences excessive stress outside the family, for example, due to persistent bullying (Factor 4), becoming a victim of crime (Factor 4), or experiencing an adverse life event such as a serious illness or death in the family (Factor 2), the child's stress coping strategies (Factor 3) may not be able to adequately alleviate the invasive or traumatic nature of the stress, even if they are at a healthy level of functioning. If the child's personality development (Factor 3) is distorted by some factor, such as having some of neurodevelopmental characteristics (Factor 1), or being raised in an adversarial environment such as child abuse (Factor 2), the child's stress coping strategies (Factor 3) will be at a non-functional level. In such a case, even if the quality and quantity of stress encountered are within the normal range (i.e., a level that most children can cope with), the threshold of vulnerability to mental illness may be crossed, triggering the onset of the disease.

When the balance of the self-system is disrupted in this way, the affinity for the onset of mental illness, especially

mental illnesses that are innately vulnerable, increases, leading to the onset of mental illness. This is the bio-psycho-social model of the mental illness (Fig. 2).

In the following, I would like to discuss the treatment of adolescents, especially those who grew up in an adversarial environment, using the fictional case A shown in the next chapter as material.

II. Description of the fictional case

A, an only child of a father and daughter family, was placed in a foster home when she was 4 years old because of her father's child-rearing difficulties. Her father and paternal grandmother were the primary caregivers for A during her infancy.

In the fall of the first year of junior high school, she began to be absent from school, and in the second year of junior high school, she began to repeatedly engage in self-destructive behavior, such as self-injuring her wrists and tightening neck herself with a string. A said “I want to die.” repeatedly, and clung to staffs as infant. At the same time, she became very rebellious, often arguing with her elders and becoming violent in response to the staff's warnings and reprimands. One day, A became so agitated over a trivial matter that she punched a staff in charge several times in the face, and the Child Guidance Center decided to send her to a hospital for child psychiatric treatment.

III. Three assessment axes for understanding psychiatric symptoms and problem behaviors exhibited by children

Evaluating the background factors involved in the development of psychiatric symptoms such as anxiety, depression, and obsessive-compulsive behavior, as well as problematic behaviors such as truancy, rebellion, and delinquency that appear during childhood and adolescence, means examining the factors involved in the bio-psycho-social equilibrium of the self-system shown in Figure 1, and picking up the multiple factors involved in the disruption of the equilibrium. This is an effort to understand the entire process that led to the formation of symptoms and the expression of problems. However, an assessment that focuses on all the factors is too comprehensive to be practical in actual clinical practice, unless a certain selection is made based on the characteristics of the disease. In order to understand the background of the symptoms and problems of children who have experienced adversity, I proposes three evaluation axes, as shown in Table 1, to focus on factors in

infancy that are particularly difficult to grasp.

1. Quality of the nurturing environment (Axis 1)

The "quality of the nurturing environment" here refers to the qualitative and quantitative characteristics of the nurturing environment that have a significant impact on the development of attachment, which is a major factor in children's psychological development, and are involved in the crystallization of the attachment style. The evaluation targets include the social status (marital status, relationship with the original family, employment status, etc.), psychological status or mental health problems (mental illness such as depression and its peripheral events, etc.) of the parents, especially the mothers, from pregnancy through the perinatal period and throughout infancy, and the presence or absence of child abuse in the child-rearing process.

In the assessment of Axis 1, we should begin to assess the presence or absence of child abuse or adverse nurturing environment, those seriously affect children's mental growth (Axis 1a in Table 1). These include physical, psychological, sexual assaults on the child's body or mind, neglect such as not taking care of the child or avoiding necessary educational, medical, or health care, and witnessing domestic violence such as the father's violence against the mother or forcing her to perform sexual acts in front of the child. These are all examples of child abuse or similar adverse child-rearing environments. It is important to note that the continuous experience of such adversity, especially in infancy, can lead to feelings of helplessness, ineffectiveness, worthlessness, and guilt that predominate in children, as well as anger and resentment.

Apart from the adverse nurturing environment, it is also essential to evaluate this axis from the perspective of whether the situation, for example, discord between parents or the mother being tied up in caring for her parents, is causing dysfunction in the family system and giving serious stress to children (Axis 1b in Table 1). On the other hand, it should be noted that dysfunction may occur when the family system is shaken by the child's prior problems, such as the child's school refusal or mental illness, which may gradually alter the family's feelings and relationships with each other. In either case, there is a high possibility that the child's mental illness or problem behaviors will become more severe or more prolonged as a result.

From this perspective, the nurturing environment surrounding A in infancy is as follows.

A was neglected by her mother since shortly after birth. Her parents divorced early in infancy, leaving her in a paternal home. The father tried to raise A single-handedly, but soon found it difficult, and with the help of the distant paternal grandmother ("she was warm," A says), her father did his best until A was three years old. However, the grandmother soon died, and A was placed in a foster home through the Child Guidance Center. Her father was a good-natured guy, but he often scolded her harshly and impulsively. A has no memories of her mother, and says “I cannot remember her face”.

In the case of A, her mother's early abandonment and her parents' divorce are the most prominent characteristics of her upbringing environment. A was raised in a nurturing environment in which the father was the caregiver and the paternal grandmother assisted him until the age of three, when the grandmother died and A was raised in a foster home. In the early nurturing environment, neglect by mother in the earliest stages was a conspicuous feature. In the subsequent upbringing by the father, although he impulsively reprimanded A and was sometimes violent, his warm feelings toward A seem to have been consistently at the root.

2. Developmental characteristics (Axis 2)

I believe that we should first focus on the developmental path of the child since birth, what the child has acquired and what he or she has formed, and at what stage of development the child who appears as a patient is currently at, and which age of mind is predominant (Axis 2a in Table 1). It is important to remember that children are not small adults, but are in the process of dynamic change, and are difficult to grasp only from the perspective of adult psychopathology. In other words, they have been changing continuously and have arrived at here now, and are still changing rapidly from here.

If this is the case, then the question is whether or not the clinician has a concrete image of the psychological developmental path that captures what the developmental process of the target child is like and how it differs from the standard developmental path. In order to reach this point, it is essential to make a steady effort to study the developmental theories of our predecessors and to constantly cross-check the knowledge learned there with one's own clinical experience.

Figure 3 shows an example of the psychological developmental path of a child from birth to adulthood. For infant development, the separation-individualization process theory of Mahler, M. S.7) is mainly incorporated,

and for adolescent development, the adolescent development theory of Blos, P.3) is mainly incorporated. Blos4) called adolescence the "second individuation" and noted its partial similarity to the separation-individualization process in early childhood.

A's developmental progress and current developmental stage are as follows.

A was deprived of a stable attachment object from early infancy. Although the attachment object was shared by his father and paternal grandmother, they were not able to become promoters of stable and homeostatic interaction. As a result, A spent her infancy with a predominant sense of primitive anxiety and isolation. According to his father, until the age of three, A was a very active and friendly child who moved around a lot and talked to everyone. After entering the foster home, A was in a similar state, and was regarded as an obedient child, although restless. However, some staff members had the impression that A was unruly when she had tantrums. The situation changed a lot when she became a junior high school student.

A's developmental trajectory is characterized by an unstable upbringing in infancy, and a high probability that he did not successfully complete the developmental tasks of each age. In particular, Mahler's approach to the developmental task of acquiring the ability to reconcile the ambivalence of attachment and anger in the third stage of the separation-individuation process (Rapprochement subphase) was overwhelmed by the outbursts of resentment that increased in the neglectful nurturing environment. As a result, A had to enter the adolescent years with ability to reconcile and hold ambivalence remained at an immature level. Although A is currently in the stage what Blos calls early adolescence, there are many aspects of her mentality that cannot be understood without considering the effects of her developmental path with adverse experiences from infancy.

In addition to the evaluation of developmental stages and developmental pathways, we should pay attention to whether or not the child has the characteristics of disorders included in the neurodevelopmental group of the DSM-5 (Axis 2b in Table 1). If a child is found to have behavioral, thinking, or emotion regulation symptoms that cannot be explained by standard developmental pathways, and if neurodevelopmental disorders cannot be ruled out, a detailed evaluation of which disorder the symptoms belong to is needed. The results of that evaluation will provide extremely important data

for planning treatment and support.

According to his father, A was an active and friendly child who moved around a lot in early childhood, and would approach strange women to talk and cling to them. Even after entering the foster home, her restlessness was noticed, but her friendliness was accepted as an advantage, as she would cling to staffs even when she was scolded by them. In addition, the facility staff and the homeroom teacher at the elementary school considered her frequent forgetfulness and the fact that she rarely wrote in her school notebook as a problem. Developmental tests conducted in infancy and intelligence tests done at the Child Guidance Center after she entered elementary school showed no delay in her intellectual abilities.

The characteristics of A raised the possibility of attention-dificit/hyperactivity disorder (ADHD). After a visit to the child psychiatrist, A was diagnosed with ADHD after a rigorous psychiatric evaluation according to the DSM-5 diagnostic criteria.

3. Developmental traits of self and personality (Axis 3)

Because the quality and quantity of attachment as influenced greatly by the nurturing environment have a significant impact on the formation of the child's self and personality, assessment of attachment quality and its problems is essential to understanding mental illness and problems in children (Axis 3a in Table 1). It is important to note that attachment is not only determined by the style and functionality of the parent's transmission, reception, and attunement. The quality of attachment is also largely determined by the child's mode of transmission, reception, and attunement. Good attachment experiences early in life promote the development of a child's highly functional self and personality, while impaired attachment can stagnate or distort the development of self and personality. One of the most notable causes of such outcomes is child abuse.

Ainsworth, M. D. S. et al. 1) assessed the attachment styles of infants aged 12-18 months using a special structured observation method called the strange situation procedure (SSP) and classified them into three types: type A (avoidant), type B (secure), and type C (ambivalent). Type A infants did not react well to the situation when their mothers left the observation room, and when their mothers reentered the room, they averted their eyes and tried to avoid their mothers. Type B infants are characterized by crying and following the mother to some extent during separation, and expressing joy at the

time of reunion, approaching the mother and seeking physical contact. Type C infants characterized by intense anxiety and confusion at separation from the mother, and approaching to the mother and seeking contact when mother come in the room again, on the other hand, they express anger and show aggressive behavior such as hitting the mother. Of these three types, Ainsworth et al. called type B the secure type, while both of type A and C were called the insecure type. In the case of children who are classified into the insecure type, it is important to evaluate what factors are involved in the development of such a style of mother-child relationship.

Later, Main, M. et al. 8) found a fourth, more pathological form of attachment through an observational study conducted using SSP. This is the D-type (disorganized/disoriented) attachment. This type of attachment is defined as a child who clings to the mother when reunited with her during SSP, but then immediately throws a tantrum by lying down on the floor, cowers down with vacant expression, freezes in the place, or ignores the mother and approaches experimental staff. A child of D-type attachment expresses some contradictory reactions or behaviors above. This attachment style is thought to reflect the attachment deficits of children who grew up in adverse nurturing environments, especially child abuse.

The following is a description of A's attachment from infancy to adolescence.

Immediately after the birth of A, the mother refused to raise the child and left the house to seek a divorce. Her father and paternal grandmother were mainly involved in her upbringing. From early infancy, A's attachment was expressed in the form of not showing much separation anxiety and approaching everyone, and one of her characteristics was that she sometimes threw tantrums that could not be soothed by her father or grandmother. The grandmother, who had played a central role in the caregiver function, died of illness when A was three years old. Soon after, A was placed in a foster home. Although her hyperactivity was noticeable in the latter half of infancy and the elementary school years, the home had no particular difficulty in dealing with her behaviors. It was not until she was in junior high school that a clear problem arose. After she started school refusal, she often said "I want to die," and showed marked regression, hugging the staff member in charge and using baby talk.

A's early infantile attachment style is characterized by a disinhibited aspect that lacks focusing on main attachment target, such as approaching everyone by toddler. This may be due in part to

ADHD characteristics, but at the same time, frequent violent tantrums toward caregivers indicate that signs of “Disruptive Mood Dysregulation Disorder”, which was diagnosed later, were already present at this stage. These findings strongly suggest that A's attachment style in early childhood was that of type D (disorganized/disoriented).

In addition, severely heightened ambivalence and confused aggression that A showed at the foster home as a junior high school student cannot be explained only by the standard mentality of adolescent girls who use their mothers to promote psychological separation from their mothers, therefore her condition can be diagnosed as Disruptive Mood Dysregulation Disorder. This state of mind, in which a mixture of uncontrollable need for dependence and intense rage predominates, is the result of attachment dysfunction deriving from the deprivation of the attachment object in infancy. Without a way out of this mess, A's self and personality development cannot be expected to resume in a healthy way, and treatment supported by a flexible and strong therapeutic structure and a tough treatment team is essential for development to resume.

Growing up in an environment of child abuse or similar adversity means growing up in a state of severe attachment deficits, which can have a profound impact on the child's mental development, particularly in the formation of personality. Therefore, it is essential to evaluate the presence or absence of adversity experiences, and the quality and impact of these experiences, in order to treat mental disorders and improve problems in children and adolescents.

It must be well understood that child abuse from infancy, regardless of the type of them, has a significant impact on the psychological development of the child (axis 3b in Table 1). In particular, we cannot forget Complex PTSD6) and Attachment Trauma2) as serious consequences of child abuse.

In addition to PTSD symptoms such as dissociation and flashbacks, Complex PTSD is characterized by emotional dysregulation (e.g., uncontrollable tantrums or angry, vulnerability), negative self-concept (e.g., worthlessness, sense of guilt), and interpersonal problems (e.g., inability to relate to others, feeling distant or isolated from others), which are summarized in the concept of disturbances in self-organization 5) . Similarly, the main consequence of Attachment Trauma is a deep-seated mistrust that immerses the child's mind 2). If the characteristic symptoms of Complex PTSD and Attachment

Trauma persist without improvement, there is an increased risk that the mental state exhibited by these symptoms will gradually become embedded in the personality, i.e., the predominant mode of interpersonal interaction, thinking, or self-acceptance. This increases the risk of limiting or biasing their functionality.

Looking at the case of A, it can be seen that from the earliest stages of her infancy, her mother did not engage in her nurturing, and even though her father and paternal grandmother were involved, her nurturing environment was initially quite unstable and the main object of attachment was unclear. Although her father and paternal grandmother were involved in her upbringing, the amount of involvement was inevitably insufficient, resulting in a neglect-like situation. The father later admitted that he often lashed out at the restless infant A with violent attitudes and words. This situation may have left traumatic traces similar to complex PTSD or attachment trauma in A. The results of these infantile experiences did not become apparent in infancy or early childhood, but only in the foreground of ADHD characteristics. A's emotional regulation and behavioral problems became clear in the first and second years of junior high school, just after the start of early adolescence.

A's problem first manifested itself in school refusal. Soon, excessively regressive clinging to the female staff member in charge and tantrums (accompanied by verbal and violent outbursts) that were hypersensitive to differences in the way the staff member treated other children became more prominent. On the other hand, she constantly said, "I wish I were dead," and followed the staff around in an irritated manner.

As seen in this process, A just before the visit to child psychiatrist not only showed disturbances of self organization which included emotional dysregulation and negative self-concept, but also showed high ambivalence and confusion stimulated by strong distrust of the staff member in charge who was the object of attachment. These findings suggest a state similar to Complex PTSD or Attachment Trauma.

IV. Approaches to Child Psychiatric Treatment

1. Therapeutic techniques and their points of action

Child psychiatry is a field of treatment that cannot be established unless we are always aware that it is not established only for children, but also for the interrelation between the child and the caregiver especially the mother. This means that without a comprehensive understanding of the

interaction between the child and the caregiver, it is impossible to grasp the whole picture of the child's mind.

In order to comprehensively understand the current situation of children and their families and to construct a corresponding treatment and support system, some clues are necessary. For this purpose, the author would like to propose the concept of four points of action for treatment derived from the hypothesis of the occurrence of mental disorders based on the bio-psycho-social model (Fig. 2); 1. biological factors, 2. interaction with the nurturing environment, 3. the child's developing personality traits and stress coping as a function of these tendencies, 4. environmental factors outside the family and the stress caused by these factors. I would like to propose the concept of "stress management" (Figure 4). In the psychiatric treatment of children, depending on the characteristics of the disorder or problems and the environmental conditions of each case, we can select several treatment techniques that work on any of these four points of action, and aim to construct a treatment and support system that is beneficial and balanced for children and their families.

Therapeutic techniques that work on the first point of action include the provision of well-balanced nutrition and adequate sleep, safety, physical and mental rest, and medication all of those results in improved brain function. In the case of children, the interventional approach of "medication first" is only applicable to a very limited number of diseases, and the first priority should be to restore stable nutritional status and physical health in a safe environment.

Therapeutic techniques that work on the second point of action directly or indirectly address modification and improvement of parent-child interaction. The simplest techniques of which are psychoeducation for parents and supportive parent-guidance. More intensive techniques include parent-child interaction therapy (PCIT), the Circle of Security Parenting Program (COS-P), and parent training for parents of children with ADHD. In addition, family therapy, which focuses on the family as a whole to improve the functioning of the family system, can be considered a therapeutic technique that works on this action point.

Therapeutic techniques that work on the third point of action are those that intervene directly with the child and do not only focus on the development of self-function, but also on personality that means predominant functional characteristics of self. Therapeutic techniques that address the recovery, adjustment, and development of stress coping and interpersonal skills that are becoming embedded in personality

functioning, work on same point of action. The former includes play therapy, supportive psychotherapy, dynamic psychotherapy, art therapy, and group therapy, while the latter includes many techniques of cognitive behavioral therapy for children. Needless to say, the areas of these two therapeutic techniques overlap, and clinical practice often includes elements of both.

The fourth point of action is to work on improving the quality of the adverse environment, adjusting the environment as a resource, and developing new resources, such as coordinating and exchanging information with schools, and collaborating with the children and families support centers and the child guidance centers. It also includes the development and provision of transitional and intermediate places to serve as secure bases for children's recovery.

A balanced comprehensive treatment system can be developed by keeping in mind these four points of action and the list of available treatment techniques that work on them. Furthermore, when these treatments produce some improvement, it is necessary to maintain the combination of treatments that produced the improvement for necessary and sufficient period. This is because the process of a child's development while receiving treatment is not a monotonous linear process, but a process of gradual progress that occurs through repetition of advance and then stagnation, advance and then retreat. In other words, psychiatrists who are involved in children's mental care should not only focus on curing present symptoms, but should also be involved in the repetitive and gradual process of the development of the child's self and personality.

The following is a brief description of the treatment of A.

Based on the psychiatric evaluation and psychological assessment of A at the first visit, the psychiatrist in charge decided that she should be admitted to the hospital for psychiatric inpatient treatment on the same day. A's admission was hospitalization for medical care and protection according to the Act on Mental Health and Welfare for Mentally Disabled, that was hold with the consent of the father as temporary consignment from the child guidance center.

After being introduced to inpatient treatment, A spent several days peacefully without any problems, and she seemed like being observing the surrounding circumstances. However, as early as the fifth day of hospitalization, she exploded in anger over the nurse's response, and punched her in the face. Doctor in charge judged that A had begun to reenact the

relationship with adults in the foster home, and began to isolate her by locking a private room. However, her abusive language and violence toward the nurse escalated more and more within a few days, so doctor in charge decided that the behavioral restrictions were tightened to physical restraint.

Under conditions of isolation and restraint, nurses, psychiatrist, and other treatment staff, such as psychologists and social workers, engaged in a variety of interactions, including physical care (often being kicked), talking (often being shouted at), and invitations to draw and work with clay (often being thrown crayons and clay). We engaged in a variety of activities that transcended our area of expertise. After nearly six months, A finally began to be gradually but gently dependent to the staff. She also eventually began to talk to specific nurses and the doctor in charge about how bitterly she hated class visiting day during elementary school, how hard she had a time wondering why she didn't have a mother, and how deeply she loved her paternal grandma.

After staying in this situation for a certain period of time, A began to work on her studies at the bedside with teachers of junior high school attached to hospital and then to participate in the classes of attached school, and gradually began to talk to adults about her dreams of the future. Eventually, she made a few friends that she could work and play with. As she progressed to the third grade of junior high school, her violent outbursts became markedly less frequent, and she began to enjoy going out with her father and the staff of the foster home. As for her future, her father was still having financial difficulties, so he was able to make a realistic decision to stay at the foster home and enjoy her high school life. In March, she could pass an entrance examination of high school and was discharged from the child psychiatric ward of hospital to the foster home.

2.Treatment of Children Raised in Adverse Nurturing Environments

Children such as A, who grew up in an adverse nurturing environment including neglect and physical child abuse, and became attachment disturbance without having a moderately calm and rich attachment experience in infancy, often enter adolescence with crystallizing mentality of complex PTSD. By the time they enter adolescence, these children are no longer able to push themselves overadaptive to the environment and they are overwhelmed by feelings of emptiness, helplessness, and rage. As these features of complex PTSD begin to emerge, the disturbances of self-organization also increase, and

eventually the individual is at the mercy of self-negation and highly ambivalent rage toward others.

What should the treatment of such children be like? Figure 5 shows my personal view of the therapeutic intervention that should be provided to children who have such adverse experiences. And I use the word "experience" to express the mentality that should be gradually internalized by the child who is going through repeatedly the circle of three phases of therapeutic interrelationship showed Fig. 5.

The first phase of such treatment (1) in Figure 5) usually begins by prescribing an experience in which the child is stopped and protected against committing the severe self-destructiveness, which often manifested in self-injury and suicidal ideation, and rage with aggressive behavior toward others. From this therapeutic situation, the child gains the experience of being protected against threats and against his or her own rage and self-destructiveness. Through repetition of this experience, the child begins to internalize “a sense of self” worthy of protection and “a sense of trust” in the goodwill of others.

Premised on the protected situation in the first phase, the second phase of treatment (Fig. 5, 2) deals with prescribing the experience of being cared for and nurtured both physically and mentally. This includes nutritional support and good sleep which are essential for healthy physical and mental growth, care such as keeping whole body clean such as bathing, and interaction with adults who are supportive and acceptive rather than abusive and who can keep calm themselves during interrelating with the child. These experiences facilitate internalizing by the child as the positive sense of self and the sense of trust to others.

The third phase of treatment (Fig. 5, (3)) is characterized by the involvement of gently encouraging the child, who has been nurtured while being protected up to this point, to progress gradually and spontaneously, and to work on nurturing himself or herself. By repeating these efforts without giving up, the child will have repeated experiences of feeling active and independent, and gradually crystalize a sense and image of an active, independent, and separate self.

I believes that the main road to treatment for children raised in an adverse nurturing environment such as A is to aim for the discovery and establishment of a independent and positive self through the efforts of the above three therapeutic phases and the internalization of all such experiences. This therapeutic process is illustrated

by Figure 5 as a combination of therapeutic approaches prescribed to the child through the three phases and the child's mentality that has internalized each approach as an experience, that is shown as a circular or repetitive process. By providing such cyclical and repetitive experiences, the inpatient treatment of A mentioned above was able to improve the disturbance of self-organization and provide an opportunity for A to grow up to the point where she could take charge of her own development of self.

If children can have this kind of therapeutic experience, they will be able to address the issues that led to the development of symptoms and behavioral problems of mental illness and expand their potential for healthier mental restructuring. It goes without saying that therapeutic collaboration between psychiatrist and other professionals is essential for this purpose.

If the family functioning is at a healthy level, the above treatment can be continued as an outpatient treatment, with the family and school playing a part in the therapeutic support.

If the child's problems are mainly internalizing disorders and the difficulties perceived by the treatment team are relatively small, the function of therapeutic foster care can be took charge by a child welfare residential institution such as a foster home, even if the family function is highly impaired. The Ministry of Health, Labor and Welfare (MHLW) defines a foster home as a supportive institution with such functions.

However, if the child is markedly aggressive or self-destructive, or if the mental disorder of the child is severe, only framework of an inpatient treatment in a child psychiatric ward that complies with the Mental Health and Welfare Law can accept such a child, protect against his or her own destructive acting out, and provide both psychiatric treatment and therapeutic foster care, thereby contributing both to the healing of child's mind and to the development of self and personality.

Conclusion.

A period from infancy to adolescence, from birth to 17 years old, is a time of change that begins with the emergence of the self and personality traits, and progresses them gradually along a developmental route. Therefore, the minds of children are rich in plasticity, and have flexibility and suppleness with high recoverability as their characteristics. The therapeutic intervention in children of this age group as child psychiatric care team is not limited to "the crisis intervention model" which aims to solve problems and cure symptoms for the time being,

but also includes “the therapeutic foster care model” which aims to protect and nurture their damaged and sick minds. In addition, child psychiatric treatment should be implemented as a system of treatment, that is a combination of treatment techniques corresponding to the multiple points of action required, based on psychiatric evaluation and psychological assessment (Fig. 4).

Note: This is a review article based on an educational lecture given at the 115th Annual Meeting of the Japanese Society of Psychiatry and Neurology.

There are no conflicts of interest to be disclosed in relation to this paper.

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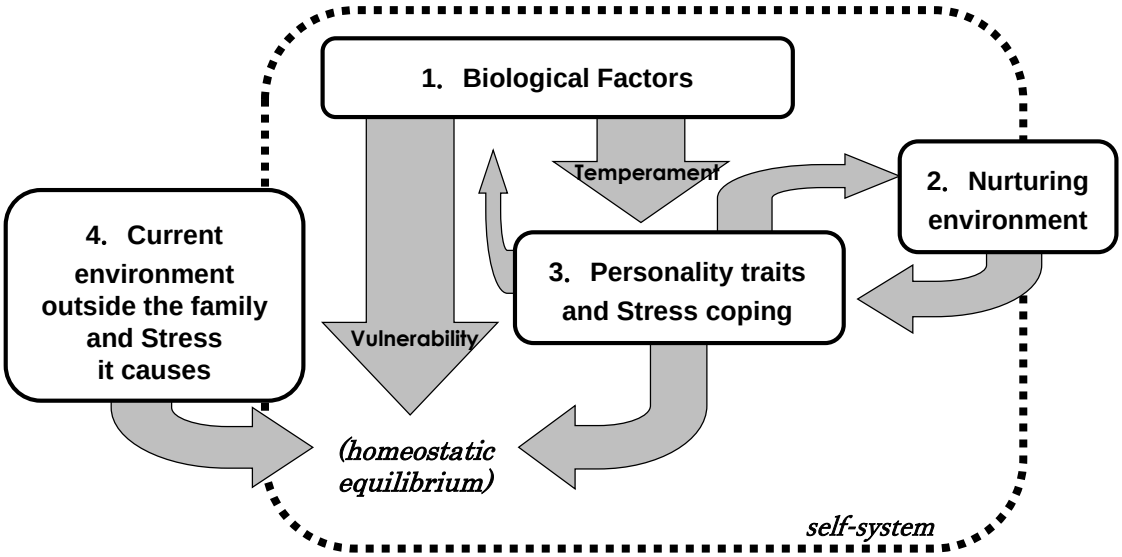

Figure 1: Bio-psycho-social model of the child's mind (self-system)

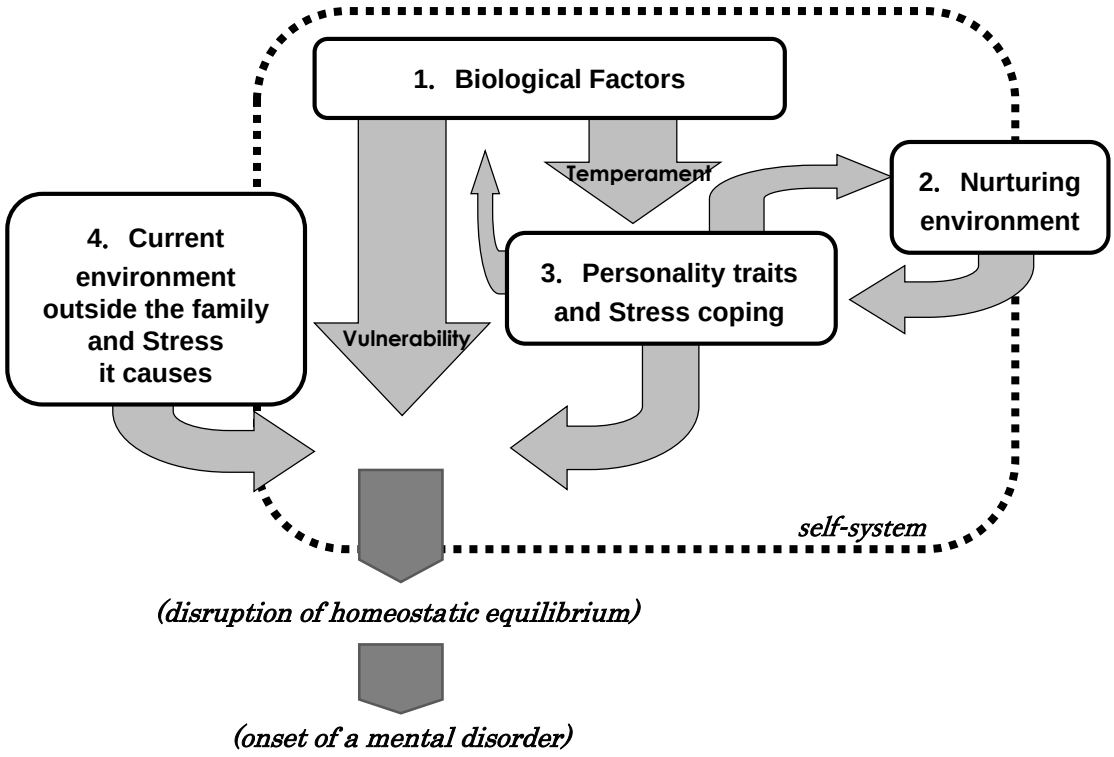

Figure 2: Hypothesis based on the bio-psycho-social model of the development of mental disorders in children

Table 1: Evaluation axes for capturing children's mental illness and their minds

Axis 1: Quality of nurturing environment
a. Presence or absence of child abuse
b. Dysfunction of the family system (e.g., parents' discord, divorce)
Axis 2: Developmental characteristics
a. Developmental stage and the process leading up to it
b. Presence or absence of neurodevelopmental disorders
Axis 3: Developmental traits of self and personality
a. Quality of attachment and its problems
b. Psychological effects of child abuse

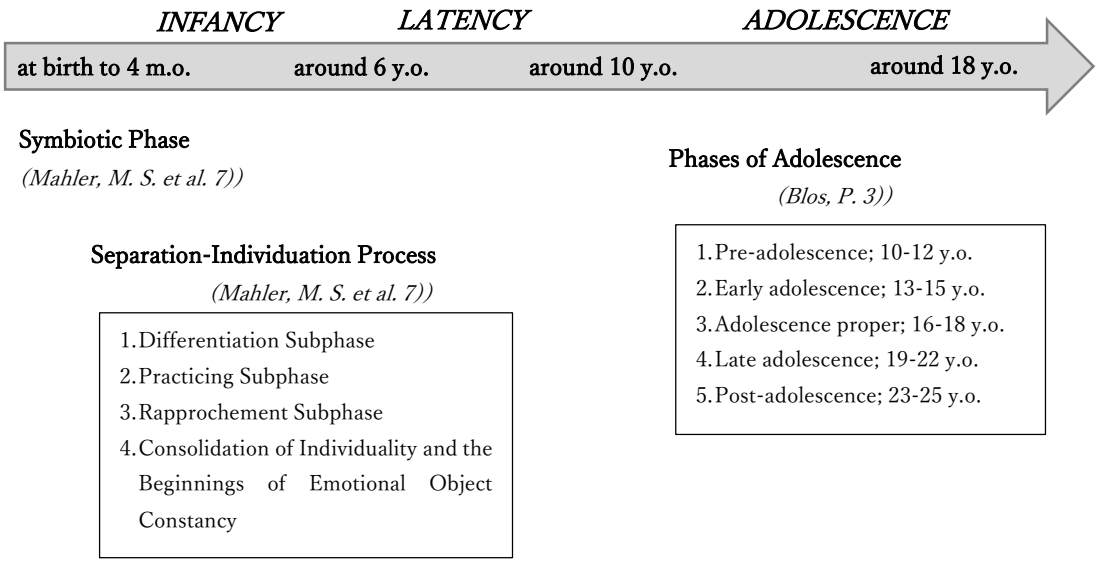

Figure 3: An example of a route map of children's mental development

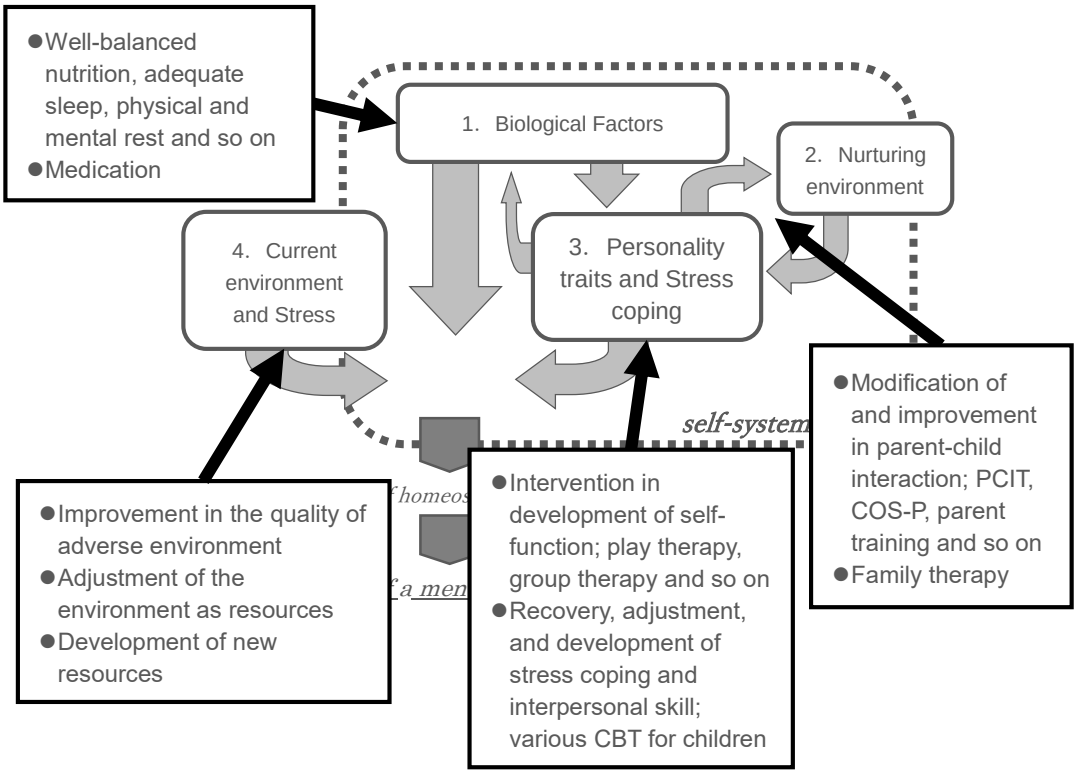

Figure 4: Treatments of children's minds and those points of action

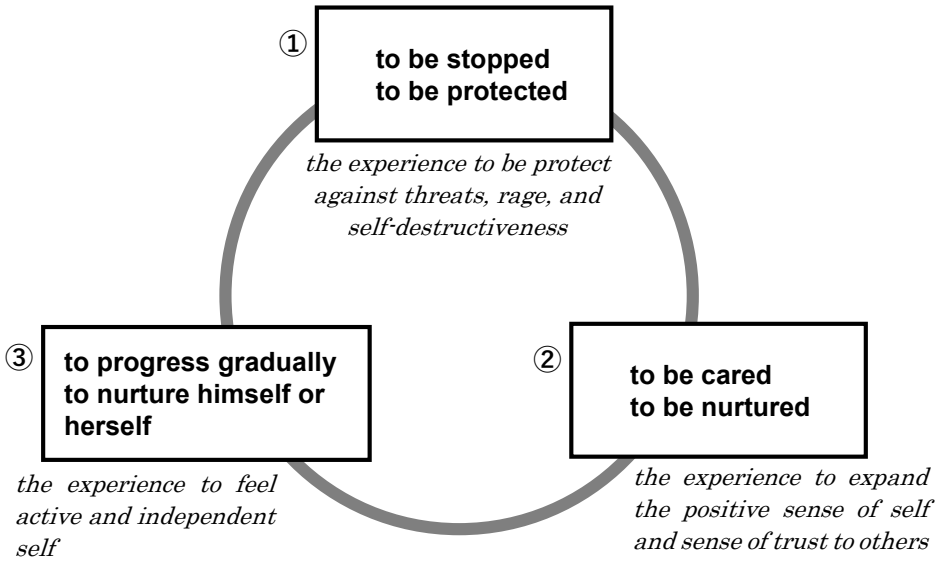

Figure 5: What should be internalized as experiences of children with adverse nurturing environment through child psychiatric treatment