Child and Adolescent Psychiatry: 

Psychopathology Viewed Through the Developmental Lens

By

Dr. med. univ. Hans Steiner, FAPA, FAPM, FAACAP, Stanford University
Dr. med. univ. Julia Huemer, Medical University of Vienna
Niranjan Karnik, MD, PhD, University of California, San Francisco
O. Univ. Prof. Dr. Max Friedrich, Medical University of Vienna

What is Child and Adolescent Psychiatry?

Child and adolescent psychiatry is one of the newer medical subspecialties which studies, diagnoses and treats psychopathology in infants, children and adolescents. As adult psychiatry has matured into a fully recognized medical speciality, it has become increasingly clear that many, if not most, psychiatric syndromes and disorders manifest themselves much earlier in life in \textit{formes frustes} and prodromes. These do not necessarily map exactly onto the adult phenomenology of psychiatric disorders, but are pathogenetically connected to the earlier manifestations during childhood\(^1\).

A good example of this constellation can be found in bipolar disorder. In studies of bipolar offspring, a cohort at high-risk for developing classic bipolar disorder later in life, it has been repeatedly shown that early manifestations of the disorder are best described by problems with attention, conduct, anxiety among others, without there being the full blown classic presentation of adult cycles of mania and depression\(^2\). Such disorders can be schematically represented as shapes (Figure 1) which do not appear identical but have certain elements in common. Such elements become evident over time, and can only be understood developmentally as heterotypic age dependent manifestations. The phenomenology of the disorder can be different (difficult temperament vs. ADHD vs. mood disorder vs. classic mania) but the underlying pathogenetic deficits remain largely the same. Thus in our representation, the shape and character of the symptoms may change, and thereby produce a changing diagnostic picture, but the underlying process is shared.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure1.png}
\caption{Representation of developmental phenomenological progression of psychiatric illness.}
\end{figure}
and presumably requires similar interventions. As our therapeutic interventions become more diverse and potentially specific, knowledge beyond phenomenology increases in importance.

From this vantage point, child and adolescent psychiatry is the medical speciality which seeks to identify mental health disorders at their earliest possible moment in order to intervene as soon as possible, and even to prevent onset of disorder. Such a focus, by necessity, calls for an expansion of the purist phenomenological-biological approach, as followed by descriptive psychiatry, represented in the Diagnostic and Statistical Manual (DSM)\(^3\) and International Classification of Disease (ICD)\(^4\) systems of diagnosis. Because disorders can present very differently at different ages yet most likely be driven by the same underlying deficit, child and adolescent psychiatry by necessity focuses on underlying psychopathological processes. And because we are still quite limited in the precise knowledge as to which disorders are caused by which processes, child and adolescent psychiatry, again, by necessity, has to be inclusive: it considers social, psychological and biological processes and their interactions as causing psychopathology, weighs them appropriately and brings to bear appropriate tools to disrupt pathogenetic processes. Culture can affect psychology, and psychology can affect biology (e.g., when a child with a genetic risk for bipolar disorder is being bullied at school, becomes stressed, and as a function of the interaction between stress and genetic vulnerability experiences the earliest manifestations of bipolar disorder). Such top-down causal cascades are common in other disorders as well, such as eating disorders, disruptive behavior disorder, just to name a few.

On the other hand, the child and adolescent psychiatrist also knows that biology can adversely affect psychology and culture. For instance, attention deficit disorder, a condition with a very high heritability index\(^5\), manifests itself in problems with focusing on task relevant cues and temporal ordering of information, impulsivity and irritability. Such patients usually have problems with learning, are very unpopular among peers\(^6\) and are often unnecessarily aggressive in social contexts. Their social isolation from mainstream peers then leads them to associate with more countercultural peers, which very often leads to pronounced antisocial and disruptive behavior and drug abuse. Treating the problems of under-arousal of the attention regulation system usually goes a long way to facilitate learning, and reclaim the child for more pro-social influences\(^6\). This would be the classical case of a bottom-up efficacious biological intervention (treatment with agents which increase dopaminergic and noradrenergic neurotransmission) leading to psychological (better self-esteem and learning) and cultural (association with pro-social peers) outcomes. Bottom-up causation of problems are particularly evident in the more neuro-psychiatric conditions of childhood, such as autism spectrum disorder, mental retardation, disorders that manifest early in life and profoundly affect all domains of functioning.

Developmental approaches to psychopathology are by necessity non-reductionistic, consider the entire range of possible pathogenetic mechanisms and decide on the basis of the strongest empirical support which of these processes is the most powerful, relevant and in need of correction for the child to resume normal development. Along the pathways suggested by Alan Sroufe, one of the pioneers of developmental approaches to psychopathology, the patterns that emerges is best demonstrated by a tree-like structure with various critical developmental or experiential points that can either enhance or reduce the likelihood of developmental maturation and success\(^7\).

Figure 2: New Psychiatry: Context, Mind & Brain (Brain image from Gray’s Anatomy (1918) used through public domain via Wikipedia).
Within child and adolescent psychiatry, disorders and syndromes are seen as the developmental outcome of risk and protective factors which interact, as the child grows up and achieves maturity. Genetic risk alone is rarely a complete explanation for ultimate outcomes in child and adolescent psychiatry. Genetic risk and environmental factors (cultural, social, nutritional, etc.) interact to push a patient either in the direction of health, persistent deficit or ongoing psychopathology. This theoretical stance sets child and adolescent psychiatrists apart from their adult psychiatry colleagues, who are much more prone to symptom-based models of diagnosis and treatment. It is quite possible that as age and chronicity of illness advances, factors such as neuronal regeneration and neuroplasticity, weaken and make top-down causative processes less and less important. This then lends some justification to the use of reductionist models in adult psychiatry. In certain child psychiatric syndromes, damages at the genetic/neuronal level are so profound (as in some forms of autism spectrum disorders and mental retardation) that again, cultural and psychological influences pale by comparison in their importance. However, even in these syndromes, it has been shown that environmental influences can improve a child’s functioning considerably.

**The development of child and adolescent psychiatry: a historical view**

The antecedents of child psychiatry dated back to the late 19th century in Europe. In this context, the social recognition of childhood as a particular phase of life with its inherent developmental stages represented an important prerequisite. In 1887, Emminghaus, a German psychiatrist, pioneered child and adolescent psychiatry, particularly by defining important cornerstones of developmental psychopathology in his publication on childhood mental illness titled “Die psychischen Störungen des Kindesalters” [The Mental Disorders of Childhood]⁹. In 1899, the term “psychiatrie infantile” [Child Psychiatry] was used as a subtitle in Manheimer’s monograph “Les Troubles Mentaux de L’Enfance” [The Mental Problems of Childhood]¹⁰. Moritz Tramer (1882-1963), a Swiss psychiatrist, contributed to the definition of diagnosis and treatment of childhood phenomena in his textbook on child and adolescent psychiatry.

Sigmund Freud’s attempts to understand the underlying patterns of neurosis, soon led him to the analysis of early childhood development. This approach became particularly evident in “Drei Abhandlungen zur Sexualtheorie” [Three Contributions to the Theory of Sex] (1905)¹¹ and “Traumdeutung” [The Interpretation of Dreams] (1900)¹². The writing “Analyse der Phobie eines fuenfjaehrigen Knaben; Der kleine Hans” (1905) [Analysis of a Phobia in a Five-Year-Old Boy; Little Hans]¹³ represented the beginning of child psychotherapy. Soon after, rules of adult psychoanalysis were not merely transformed into child and adolescent psychoanalysis but amended by particular methods, such as play therapy. In terms of defining the special needs of child psychotherapy, Anna Freud, Sigmund Freud’s daughter, has left a last mark by defining key theories in the treatment of children. The Second World War gave Anna Freud the opportunity to analyze the impacts of deprivation of parental care on children. She established a center

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[Figure 3: The development of psychopathology and syndromes as adaptation. Based on Alan Sroufe (1997)⁹.]

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Anna Freud (© OENB )
for young war victims, named “The Hampstead War Nursery”, in London. In her research, she described the effects of stress on children and their relationships, and reinforced the importance of a developmental psychopathology perspective into child and adolescent psychiatry(14).

The beginning of the 20th century took place in, what was called, “Das Rote Wien” [Red Vienna] (15), referring to the fact that Social-Democrats, such as Julius Tandler, who were the ruling party from 1918 and 1934, had initiated important changes in social and health-related policies. These changes gave rise to a health care system for youth from all different social ranks.

Moreover, an innovative program to support families (establishment of the first day-care centers for children, kindergartens etc.) were introduced on a broad national scale. August Aichhorn, the founder of psychoanalytical pedagogy, cleared the way for some these social breakthroughs by his advocacy and research.

Charlotte Buehler, who was the first woman to hold a professorship in psychology in Europe, introduced concepts of developmental psychology in her book “Das Seelenleben des Jugendlichen” [Psychology of Adolescence] (1922)(16). In 1934, Tramer founded the “Zeitschrift für Kinderpsychiatrie” [Journal of Child Psychiatry], which later became “Acta Paedopsychiatria”, the first publication devoted entirely to the study of childhood psychopathology.

Under the direction of Adolf Meyer, Leo Kanner, an Austrian-American, established the first American academic child psychiatry department at the Johns Hopkins Hospital in Baltimore in 1930. When Kanner published a textbook on child psychiatry in 1935(17), the professional subfield was officially introduced in the USA. His seminal paper, “Autistic Disturbances of Affective Contact”, together with the work of Hans Asperger, represents the basis of the modern study of autism(18). The use of medication in the treatment of childhood psychopathology also began in the 1930s. Arnold Gesell (1880-1961), professor at Yale University and author of several books on child psychiatry, emphasized the importance of both nature and nurture, by stating that many aspects of human behavior were heritable. Additionally, he made use of latest advancements in video and photography, and integrated them into his research methods. In 1937, the first international conference for child and adolescent psychiatry was held in Paris.

In the United States, child and adolescent psychiatry was established as a recognized medical specialty in 1953 with the founding of the American Academy of Child Psychiatry. It was later defined as a board-certified medical specialty in 1959. In the 1970s child psychiatry witnessed major theoretical and intervention breakthroughs in terms of a paradigm shift towards a sociotherapeutically orientated pedagogy. Much of this was driven by the pathbreaking scholarship of Sir Michael Rutter(19). He completed the first comprehensive population survey of nine- to 11-year-olds which was carried out in London and the Isle of Wight. He raised issues which have not lost their relevance: for instance, the prevalence of psychiatric disorders among youth, gene-environment interactions, social impacts on children’s adjustment, and many others.

Since the 1960s and 1970s, particular attention has been paid to the classification of child and adolescent psychiatric disorders. As a consequence, DSM-IV(3) and ICD-10(4) have distinguished certain symptomatologies into “childhood” and “adult” disorders. Today, child and adolescent psychiatry particularly faces the challenge of reconciling aspects of biological and social psychiatry.

**Treatment from an integrated, developmental perspective(20)**

By using the developmental psychopathology framework that has been outlined above and
whose history is partially defined, it is relatively self-evident that psychiatric disorders then need to be re-grouped and the approach to treatment should be framed from an integrated perspective. Such an approach attempts to look for the developmental roots of the illness and then uses all of the tools – biological, interpersonal, psychological and social – to address the illness.

Beginning with a predominantly biological disorder like bipolar disorder where genetic heritability is high and likely has a strong organic basis, we can see how such an integrated approach might help achieve treatment goals. John is a 16-year-old male who presented to the clinic with a history of panic, anxiety, irritability, mood lability and sleep dysfunction. The family history was notable for several generations of his family with marked depression and his mother was recently diagnosed with bipolar disorder. By using a target symptom approach, the clinician initially chose a selective serotonin reuptake inhibitor (SSRI) to try to address the panic and anxiety. The result was a marked worsening of the young man’s state within a two-week period and near hospitalization due to worsening aggression and irritability. The SSRI was discontinued, and the clinician now adopted a more holistic treatment plan. He began to see the young man weekly for individual psychotherapy and also initiated treatment with an antiepileptic drug (AED), in this case valproic acid. On this medication, the young man’s sleep rapidly improved and he reported lower levels of anxiety and no further panic episodes. The individual therapy focused on helping the young, many come to terms with his illness, understanding his interpersonal relationships with others in family which had become strained during the past several month, and also helped to ensure compliance with the medication regimen. Despite the likely biological roots of John’s illness, the developmental perspective helps to highlight the familial component of his disease and also enables the clinician to have a broad view which breaks with the narrow target symptoms approach.

Similarly, the psychological level of functioning also requires the clinician to consider other aspects of care in order to develop an integrated and successful approach. Jane is a 14-year-old female with a six-month history of restrictive eating patterns. She is a member of a gymnastics team and has a long history of fascination with fashion models. She is an A-student who has always excelled in academics and she plans to attend a top-ten university when she finishes high school. She presents to the clinic on referral from her pediatrician who has grown increasingly concerned with Jane’s weight loss over the past year and her ongoing body image issues.

In this case the likelihood of anorexia is very high. This illness is largely a psychological one which appears to have some relationship to popular media as well as individual personality factors. The anorexic pattern is one that is driven by shame about the individual’s body and the rapid development of perception problem in how the individual perceives their body and control over it. The psychological factors that lead to restrictive patterns of eating are also ones which often help these youth have success in other areas of functioning like academics.

The integrated, developmental approach in this case should involve the combination of individual and family therapy. While there is likely a biological process at play especially due to the weight loss and the neurocognitive effects that this can impose, the needs at the biological level involve medical monitoring of refeeding processes and nutritional supplementation. The psychological and family interventions are ones that are likely to address the fundamental issues at play and also help achieve longer-term success. There is a need for change at the social level to reduce triggers and media influences by expanding the notions of beauty that young people are exposed to. This has happened to some extent by having some countries undertaking minimum body-mass index requirements for professional models.

Finally, it is worthwhile to consider a case of a predominantly social or cultural case. Billy is a 10-year-old boy who has always been small for his age. He is a quiet boy whose success at school has recently dropped. He has increasingly reported
somatic complaints of headache and stomach ache as a means to avoid school. His pediatrician has completed a thorough evaluation for the somatic issues and has been unable to find a cause and there sends the referral to the child psychiatry clinic for consultation. After a few sessions in the office, Billy reveals that he has been the object of bullying at his school due to his small stature and the view of some children that he is odd. He has been called names and is often physically assaulted when teachers are not present.

Bullying is quintessentially a cultural and social phenomenon. It emerges in the context of multiple factors including differences in developmental trajectories. Studies have shown that bullies often suffer from poor self-esteem and mood disorders, and that bullying becomes a maladaptive means of externalizing those feelings. For children like Billy, the need for intervention from an integrated, developmental perspective is clear. First, Billy is presenting with somatic complaints but biological interventions are unlikely to resolve the issue because of the complex roots. Billy needs continued support and individual therapy as well as family therapy are likely indicated. The individual work would act to support Billy and provide him a safe place to present his feelings. The family interventions should help Billy’s parents support and advocate for him in the school context.

At the social level, the clinician should act with the school to put appropriate interventions in place to protect all children in the school setting. Among the most successful programs for bullying are school-wide interventions that not only protect victims but also help get bullies into appropriate types of care. Given that many bullies have their own psychiatric problems, early identification and treatment can help both the bullies themselves and secondarily protect other children from their behaviors.

References

(4) http://www.who.int/classifications/apps/icd/icd10online/