Child & Adolescent Psychiatry in Development - A Personal Retrospective Account Across Five Decades

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Abstract
This personal account covers first steps and the individual development of the author within the - then in Germany newly established - field of child and adolescent psychiatry (CAP), across a five-decade period, both in national and international environments, in clinical, academic, and pharmaceutical industry settings.

Early years in medical school, practical experience, and psychology studies, succeeded by theses and examinations, were all directed to successfully gain adequate knowledge/skills to become a well-trained CAP clinician. Specialist residencies followed, in CAP/psychosomatics, paediatrics and adult psychiatry. In parallel to broad clinical responsibilities, soon, first research activities, successful grant applications, and intensive collaborations with publicly funded research consortia were strongly stimulated, to start an academic career. Clinical research in CAP areas of, e.g., psychoendocrinology/intersexuality, psychophysiology, psychopharmacology, migrant psychiatry, coping and compliance in somatic disease were pursued, including a 2-year research assignment abroad (USA). Unexpectedly, back in Germany, the author joined clinical CNS research in an international pharmaceutical company for several years, finally focussing on studies in juveniles. Over the last decade of his professional life, he became endowed chair, professor and director of a research group for paediatric psychopharmacology in a university department, the first of its kind in Europe. Currently open questions and challenges in this field conclude the report.

Keywords

Introduction
As an adolescent, the author grew up in a typical German small-town sports club, in gymnastics in particular, under the guidance of a very liberal and tolerant coach, mentor and role model, developing an early particular interest in (differences/variation of) human behaviour, from the mid-1960ies on.

He became a certified coach himself, focusing on minors primarily, and soon favoured a very basic concept of interplaying biological, psychological, and social factors which were assumed as contributing to patterns of individual behaviour.

While finishing the last few years in the German high-school system, he planned to later become a psychologist, with focus on human development, child and educational psychology, potentially clinical psychology/psychotherapy. Family support was minimal for these intentions since the public belief was then held that there were too many psychologists around already.

1968 – 1977: Medical school and early training
In 1968, he finished his high school education; and, around that period, he accidentally learned from a regional radio program, that - very recently (May 1968) - a new medical discipline had formally been established in the German health care system, namely child and adolescent psychiatry (CAP) [1]. Disorders and therapeutic approaches of CAP were comprehensively outlined, and, required personal interests, abilities, and skills of future CAP specialists were discussed.

At the end of this program, the student was clearly decided to rather attend medical school and become a CAP doctor (a real key moment/crucial experience). Subsequently, his family only learnt about ‘medical school’, but not about his particular field of interest.

Following a mandatory military service (medical), he started medical school at the university of Mainz (GE) in 1969 (without a CAP chair then and for many years later), soon added psychology studies from late 1970 on since he had been advised by (now) Prof. Peter Strunk (then Marburg university, CAP) in a hand-written 2-page letter that various topics, better to be acquired in university psychology, were important elements for successfully practicing CAP.

During those years, he intensively attended extra lectures and courses in relaxation techniques, autogenic training, and hypnosis, presented by Prof. Dietrich Langen (Mainz) who held the first chair for ‘Psychotherapy’ at a medical school in Germany.

In 1971, a first German language multi-author standard textbook of child & adolescent psychiatry was published, soon became ‘the bible’ in the field [2].

In order to gain practical experience in the field, the author applied to a black-board student job advertisement, and worked as an assistant/nurse in a small office-based practice in Mainz, with Prof. Isabella Bielicki (originally from Warsaw, PL) who combined general paediatrics and CAP, during break periods (1971-2). She became a highly estimated role model and mentor, fostering his plans to become a child & adolescent psychiatrist, and now potentially a paediatrician in addition.

While continuing the regular curriculum of both medicine and psychology studies, the author started to work, as was common in the clinical section of the training, on his doctoral thesis (medicine), a (systematic) review on ‘Psychotherapy in children and adolescents’, supervised by Prof. Dietrich Langen [3].

In the summer of 1974, he graduated in psychology (Diploma, MSc) with a thesis on ‘Comparability of efficacy reports in behaviour therapy (of paediatric OCD patients)’ [4], supervised by (later) Prof. Hanns Martin Trautner, one of the leaders in Developmental Psychology in Germany.

Medical final and MD exams followed in 1975/6, the required internships including Adult and C&A Psychiatry (acute; mentally/ multiply disabled pats.) in Hamburg, GE over 1976-7.

1977 – 1987: Specialist training and first steps in CAP research
In order to become a certified CAP, the required residencies, all in Hamburg, covered Adult/Acute/Migration Psychiatry (State Hospital, Prof. Hans Lauter; 1600 beds); Paediatrics (Prof. Karl-Heinz Schäfer) and CAP/Paediatric psychosomatic medicine (Prof. Hedwig Wallis; both at the University Childrens Hospital).

During these years (1977-81), the author introduced principles and implemented practice of both Behaviour Therapy and Autogenic Training, acquired during his university studies, into routine treatments of single patients in the mentally-disabled, adult psychiatry, and paediatrics settings he worked in, not very common then. Thus, since often perceived ‘successful’, these new approaches were highly appreciated by colleagues from the very fields.

The German Professional Society of CAP (BKJPP), was established in 1978, only. His following clinical work took place in a department of child and adolescent psychiatry/ paediatric psychosomatics (Prof. H. Wallis) that pioneered a setting of primarily outpatient and consultation liaison services, with a limited number of inpatient beds. The unit focussed on psychosocial care of chronically ill paediatric patients (e.g., from endocrinology, cardiology, nephrology, oncology, neuropaediatrics, surgery), on psychosomatic disorders, e.g., Anorexia nervosa, and a broad spectrum of C & A psychiatric disorders (e.g., ADHD), including suicidology and adolescent migrant psychiatry. Routine treatments represented a multi-modal approach, with Counselling/Psychoeducation, Behaviour Th., Psychoanalytically-oriented Th., (systemic) Family Th., and Non-directive Therapy, various Relaxation techniques (e.g., Autogenic Training), Psychopharmacology, etc., also comprising early paediatric dialysis summer camps [5].

In order to complement his clinical experience, the author joined the neighbouring university department of C & A psychiatry (Prof. Thea Schönfelder) in Hamburg for several months (1981-2), focusing on systemic (family) therapy and inpatient care of youths suffering from schizophrenia/psychoses, in particular.

In 1982, during a two-month trip, he visited various university departments (e.g., USC, UCLA, Johns Hopkins, Columbia), both in Paediatrics (e.g. chronically ill, nephrology, endocrinology) and CAP (e.g., general; psychoendocrinology) in Los Angeles, Baltimore, and New York, USA, to add an international perspective to earlier trainings and qualifications.

The author received his licences as a ‘Child and adolescent psychiatrist’ (1981) and ‘Clinical psychologist’ (1982), was promoted to ‘Deputy director’ at the department (1982). A first peer-reviewed publication in ‘paediatric psychopharmacology’ reported on findings from a large parent sample on psychotropic medication use in their children up to age 7 [6].

From 1980 on, with respect to clinical research, the author was encouraged by the department head to clinically take care and comprehensively study a rare patient population, i.e., individuals born with ‘intersexuality’ (now: disorders of sexual development, DSD), that had been a specific (clinical) focus and expertise at the Hamburg university hospital (in inter-disciplinary collaboration with paediatric endocrinology, urology, gynecology) for many years [7,8].

A successful grant application to the German ‘Volkswagen Foundation’ (AZ. I/37 302) and their financial support allowed,
from 1982 on, to systematically study two groups of DSD patients, their female siblings as controls, plus their mothers reporting on both daughters. This interdisciplinary project was focusing, e.g., on gender-related and sexual behaviour, cognitive aspects, and body movements. Core findings were published in book format (Psychology PhD theses: [9,10]) and in a series of peer-reviewed international publications [11-16].

In 1984, during the cold war period, the author was invited – with a special ministerial permit (from the GDR) – to present on the current status and clinical management of patients/families with, intersexuality at two scientific conferences in the former German Democratic Republic (GDR; Magdeburg, Leipzig), leading to friendly professional relationships maintained for many years.

Another line of interest was stimulated by clinical questions as well, both from paediatrics and CAP, namely, Coping, Compliance, and (Medication) Non-/Adherence, a topic then covered repeatedly over decades [17-22].

In 1984-5, a first personal computer was introduced to the research work of the department. In the same period, there were strong initiatives (phosphate league) in Germany to promote phosphate-elimination diet as the core treatment for ADHD patients. In large public discussions the author (only individual at the Hamburg university holding prescription forms for psychostimulants then) was labelled ‘a disbelieving Thomas’ when challenging the approach and requesting solid scientific data.

In parallel to the research activities mentioned above, from 1982-7, the author became an active member of the Research Program ‘SFB 115’ (Psychosomatics, Clinical Psychology, Psychotherapy), funded by the German Research Foundation (DFG) at the Medical Faculty in Hamburg, and established a strong collaboration with its Research Group on ‘Clinical Psychophysiology’. A comparative clinical study - with CAP patients who had acquired Autogenic Training (AT) as part of their routine treatment vs. those that had not - investigated a broad range of physiological and psychological parameters, to find out objectively whether young CAP patients were able to establish the intended physical changes.

In order to reach the qualification of ‘Habilitation/Privat-Dozent’ (equivalent to Associate Prof.) a specific thesis in book format had to be published [23]. Based on this work, the respective title was granted in early 1987.

In the summer of 1986, after an unexpected retirement of his department head, the author was appointed ‘Acting Director’ (with all rights/duties of the respective professorship).

An additional focus of clinical interest (Intercultural/Migrant Psychiatry) lead, e.g., to supervisor responsibilities both for a DAAD stipend from Thailand (1986-8) and for a psychology diploma thesis (intercultural conflicts, in female adolescents from Turkey) [24].

1988 – 1992: Research abroad (NYC) and consecutive development

Based on the above-mentioned study and thesis (DSD; patients with congenital adrenal hyperplasia in particular) [10] he received his PhD in Psychology from the university of Hamburg (supervisor: Prof. B. Dahme) in 1988, followed by the prestigious ‘Hermann-Emmighaus Award’ (for outstanding research in CAP) later that year.

With support by a 2-year grant from the German Research Foundation (DFG, 1987) the author and his family (3 kids, born 1982-8) moved to the USA where he joined the Division of, Developmental Psychoendocrinology (PE) (Department of CAP, NY State Psychiatric Institute, Columbia University) as (visiting) Associate Professor of Psychiatry (late 1988-90), in order to pursue and extend his DSD investigations. This project was implemented in close collaboration with international leaders in this field (Directors: Prof.s. Anke Ehrhardt, H. Meyer-Bahlburg), including intensive interdisciplinary interaction with experts from related animal research (rodents, primates), paediatric endocrinology, and child urology, facilitated by additional grants from local and national US funding agencies. Clinical work with this particular and related populations was involved as well.

In parallel, the author, e.g., continued his training in psychoanalytically-oriented psychotherapy at the Columbia University Psychoanalytic Center (supervisor: Prof. J. Rainer). A couple of years later, he became a certified specialist for both ‘Behaviour Therapy’ and ‘Psychoanalytically-oriented Psychotherapy’ in Germany.

Separately, the PE research group et al. had been granted extensive national funding for ‘HIV research’, new at that time; thus, the author had the rewarding opportunity to partly share the early developments of the, until now continuously funded, very productive Columbia ‘HIV Center for Clinical and Behavioral Studies’.

Additional international CAP collaborations were established and renewed while attending various international congresses in the USA or, e.g., in Japan (Kyoto; IACAPAP 1990) when also presenting at the St. Marianna University Department of Psychiatry (Kawasaki; Dr. N. Watanabe).

1993 – 2005: Pharmaceutical industry, international Clinical Research

For personal and family reasons, the author declined the offer to stay in the above-mentioned NYC setting (a major interdisciplinary grant application had received (oral) approval by the NICHD), returned to his department in Hamburg (late in 1990), where clinical and research emphases had meanwhile changed with a new leadership.

CAP director positions were rare in German academia during those years, thus difficult to attain, in particular given the limited research record of his home department and the – non-main
stream - research fields of the author. Thus, with a time-limited contract (ending 1992) and after a number of unsuccessful job applications, wanting to continue with clinical research activities, he decided to join an international pharmaceutical company (US-based, research-oriented), in its German affiliate from 1993 on, planned for a limited number of years. But, over more than a decade, he then held several national, European and international positions (from Clinical Research Physician, Global Director, to Medical Fellow). The research focus was on adult psychiatry, neurology, and child & adolescent psychiatry in particular, in the clinical development of substances for the treatment/indications of Major Depression, Obsessive-Compulsive Disorder, Anorexia Bulimia nervosa, Anxiety Disorders, Schizophrenia, Bipolar Mania, ADHD, Parkinsons Disease, Alzheimers Disease, etc. Several drugs/indications reached regulatory approval in the USA (FDA), Europe (EMA), and in other parts of the world. With different degrees of personal responsibilities, he was engaged in > 75 clinical studies, the majority were registration trials at high methodological standards, with compounds, e.g., atomoxetine, duloxetine, fluoxetine, olanzapine, mGluR2, pemoline, pergolid, xanomeline. Strong scientific collaborations - and often personal friendships - with national and international leaders from industry, academia, and clinical care were established during these years, beyond clinical trial work also very fruitful in joint publication projects (e.g., [25-28]; and in running various educational programs for both adult and CA psychiatrists and paediatricians (e.g., INAQ; EINAQ; [29]).

As a clinical counterbalance to this range of clinical research activities, the author ran a part-time (approx. half day/week) private CAP practice in his home town, covering a broad range of disorders and multi-modal therapeutic approaches. He also satisfied his honorary academic teaching appointment at the Medical Faculty, University of Hamburg.

A first former industry-sponsored (providing free medication) clinical paediatric psychopharmacology study in juvenile patients, performed in Hamburg in cooperation with a MD doctoral student, was finally published early during those years [30].

2005 – 2018: Back to university CAP and academia
From late 2005 on, the Central Institute of Mental Health, Medical Faculty Mannheim,University of Heidelberg had attempted to establish an Endowed Chair, with non-public funding from the (pharmaceutical) industry. Following intensive and comprehensive negotiations, the German affiliate of E. Lilly & Co, Indianapolis, USA, agreed to financially support this project for a period of five years. Based on a standard application procedure, the author was appointed E. Lilly Chair of Paediatric Psychopharmacology' (W3 professorship) by the University of Heidelberg, the first chair of its kind in Europe, and, thus, left his pharmaceutical industry position. He established a respective Research Group (RG) in 2008, with core objectives, e.g., to foster: - clinical studies in paediatric psychopharmacology, with funding from both public agencies and pharmaceutical industry, - establishing networks of study sites, - collaboration in translational research projects, - cooperation between pharmaceutical industry and academia, - academic teaching, - development of junior faculty, and - data dissemination (publication, presentation) in this relatively new field.

From 2013 on, the Endowed Chair position was continued as a partly state-funded professorship at the university of Heidelberg, CIMH, Mannheim, with the same objectives and activities.

Over the years, the main financial funding (> two thirds) of the RG was generated from participating in several publicly funded projects. In varying degrees of responsibility and leadership, the group has collaborated in, e.g., European Union-funded (FP7 program) international multi-center projects: PERS (risperidone in conduct disorder; [31]), STOP (medication-related suicidality; [32]), ADDUCE (methylphenidate, long-term adverse events; [33]); TACTICS (compulsivity; in Obsessive-compulsive disorder, Autism; glutamatergic medication; [34]), AGRESSOTYPE/MATRICS (agression; [35]), plus contributed in others, e.g., sponsored by German governmental departments for Education/Research (BMBF; [36]) and Health (BMG/BfArM; OLUNAR, TDM), with respect to projects and topics such as stepped care approaches in CAP, pharmacoepidemiology, and therapeutic drug monitoring [37] in paediatric psychopharmacology.

In the same timeframe, the RG collaborated in a number of clinical development studies (Ph III – IV), mostly registration trials for children and adolescents, sponsored by several pharmaceutical companies, with compounds, e.g., agomelatine, aripiprazol, atomoxetine, duloxetine, guanfacine, lisdexamfetamine, lurasidone, olanzapine, risperidone, vortioxetine, for indications, e.g., ADHD, Bipolar I/Mania, Bipolar I, and Major Depression, Schizophrenia, and Tourette syndrome.

Since 2012, an ongoing non-funded research program (SEMA, [22,38] of the RG has focussed on the inadequately investigated topic of, medication (non-)adherence; this work was awarded the AGNP (German equivalent to ECNP/CINP) prize 2018 for psychopharmacology [39].

Since 2008, with respect to data dissemination, and beyond both numerous oral/poster presentations and reports to sponsors, the RG members have (co-)authored more than 70 peer-reviewed scientific publications, with respect to study designs, methodology (incl. recruitment, instruments), clinical findings as to efficacy and tolerability/safety of psychotropic compounds, etc., from the, e.g., above-mentioned projects and on general issues in paediatric psychopharmacology [39].

The author has been involved in continuous academic and educational teaching, i.e., for medical and psychology students/trainees, interns/residents, psychologists, psychiatrists, child psychiatrists, and paediatricians.

Additionally, he has served on a number of Committees, for, e.g., Developmental/Paediatric Psychopharmacology (DGKJP, PPI/AACAP), Child Medication (KAKJ, at BMG/BfArM), Therapeutic
Drug Monitoring (TDM for children, and adults (at AGNPs)), Methodology (Instruments; CIPS and Ph IV study Design; AGNPs), the Ethical Scientific Conduct & Behaviour (at CIMH; [39]), the H. Emminghaus Scientific Award [40], the EUNETHYDIS consortium and its guidelines group (EAGG; [41]), plus a number of advisory boards to the pharmaceutical industry.

Across the period of 2008-16, the RG engaged and developed approx. 20 employees (2 thirds female), with different educational backgrounds and for varying amounts of time.

Based on this range of experience and looking ahead to the future of CAP, current open questions in the particular field of ‘paediatric psychopharmacology’ further comprise, e. g.:
- ethical issues;
- strong recruitment problems in finding these patients/families, related to the number/complexity of clinical studies requested by regulatory authorities and, thus, great trial-related demands to patients and parents;
- rather limited progress over time in reaching regulatory approval for (new) psychotropic compounds for this population (few drugs received market authorization);
- insufficient funding to adequately train new members and to staff experienced teams, needed to responsibly design, set up, and conduct clinical trials in this field;
- difficult public image (partly due to ill-informed media reporting and adversary groups), etc.

Being retired for a while now, and in retrospect, the author is still deeply convinced that his very early decision to become a child and adolescent psychiatrist was right, one of the most important ones in his life; he would certainly choose the same medical field again.

Potential Conflicts of Interest
Dr. Dittmann has received compensation for serving as consultant or speaker, or he or the institution he works for has received research support or royalties from the companies or organizations indicated: EU (FP7 Programme), US National Institute of Mental Health (NIMH), German Federal Ministry of Health/Regulatory Agency (BMG/BfArM), German Federal Ministry of Education and Research (BMBF), German Research Foundation (DFG), Volkswagen Foundation, Ferring, Janssen-Cilag, E. Lilly, Otsuka, Shire, and Theravance. Dr. Dittmann owns Eli Lilly and Company stock.

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