

## 10<sup>th</sup> EPA Summer School on Research 2021: sharing experience of the first online edition

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## **Introduction**

The European Psychiatric Association (EPA) Summer School is an intensive program which has been organised for 10 years now by the EPA Committee on Education and allows selected psychiatric trainees and early career psychiatrists (ECPs) from all over Europe to meet, network, and learn together. After the 2020 edition being cancelled due to COVID-19 pandemic, the 2021 edition continued the EPA educational mission in an innovative and up-to-date approach.

This was the first time EPA Summer School centered its topic on Research in Psychiatry, giving a unique opportunity for ECPs and psychiatric trainees to enrich their knowledge and skills and to find inspiration for their future research. The well-planned learning experience had the role of bolstering their odds to develop successful careers as researchers, since it is challenging to foresee such a career without developing extraordinary research expertise, and also of facilitating the development of collaborative international research studies.

Moreover, this year's setting was different from any previous one. For the first time, the EPA Summer School was held not face-to-face but online. Even though at first this setting seemed to imply a loss of quality, due to the lack of in-person social interaction, it soon became apparent that it was not as inconvenient as expected and rather implied some advantages. First of all, using the Zoom platform, which allows splitting meetings into breakout rooms, enabled the possibility to discuss in small groups and allowed us to interact more closely with some of the participants, making it easier to get to know each other, despite the physical distance. Secondly, holding the meeting virtually resulted in significant savings in time and money, making it easier to reconcile family and work life.

21 participants from 16 different countries were selected to attend by the EPA Committee on Education based on quality of their application, impact foreseen on applicant's career and motivational letter: Andrés Román Jarrín (Spain), Krista Mieze (Latvia), Camille Noël (Belgium), Renato de Filippis (Italy), Ahmet Gürcan (Turkey), Diogo Almeida (Portugal), Antonina Pushko (Ukraine), Ketevan Silagadze (Georgia), David Gurrea Salas (Switzerland), Laura Di Lodovico (France), Mário J. Santos

(Portugal), Laura Fusar-Poli (Italy), Uğur Çıkrıkçılı (Turkey), Mikhail Sorokin (Russian Federation), Cristiana Tapoi (Romania), Begoña Itziar Pérez Longás (Spain), Prince Nwaubani (United Kingdom), Liene Zilbere (Latvia), Milica Pantic (Serbia), Maria Filip (Poland), Goran Mijaljica (Sweden). Eligibility criteria included being in possession of a Medical Doctor degree, having at least 4 years of training/work in psychiatry, being under 40 years old, residing in a country included in the World Health Organization Europe Region, being fluent in English and being able to spread the acquired knowledge in their own country.

During the two full days of training, participants were engaged in fundamental educational activities by renowned faculty members such as Dr. Cécile Hanon, Dr. Nicolas Hoertel, Dr. Mariana Pinto da Costa, Prof. Andrea Raballo, Prof. Norman Sartorius and Prof. Peter Falkai.

In this paper, we intend to share our experience and provide a description of the EPA Summer School sessions.

### **Course overview**

The Summer School was preceded by all participants recording a 4-minute self-introduction video, which was uploaded and shared with other participants and faculty and which included their background information, their research expertise and their expectations for the Summer School.

A week prior to the start of the event, a special opening session named “Break the Ice Session” was organized. It aimed to ensure an interactive and virtual social gathering for faculty members and participants, enabling them to get acquainted with one another. Firstly, each faculty member did a short self-introduction and expressed their expectations and ideas about the Summer School. Afterwards, the participants were asked the same but in an interactive fashion, which saw them choosing two fictional characters (mostly superheroes) from an image to represent each one at the starting point and at the end of Summer School, prompting participants to think about their background, characteristics and aspirations.

The Summer School took place over two days, 23<sup>rd</sup> and 24<sup>th</sup> of September 2021, and consisted of four theoretical sessions aimed to expand the participants’ ability to approach research. After the plenary sessions, participants were divided into three working groups, each of them led by one faculty mentor. Each group tackled a different theme, from critical and conceptual analysis in psychiatry to methodological aspects of cross-sectional studies and key aspects of pharmacoepidemiology and drug repurposing. The objective of these working groups was to instigate critical thinking and to provide insight into the key aspects of research methodology in an experiential fashion.

### **Theoretical sessions**

#### **1. How to choose a suitable research topic & what should be the rules of collaborative research**

The first day of the course was opened with warm welcome words from Dr. Cécile Hanon, EPA Secretary for Education, who introduced mentors to participants of EPA Summer School. The plenary session began with a presentation by the distinguished Professor Norman Sartorius, president of the Association for the Improvement of Mental Health Programmes in Geneva, former president of the European Psychiatric Association and of the World Psychiatric Association and former director of the World Health Organization's (WHO) Division of Mental Health.

The issues raised in this talk rarely become a subject for wide discussion, but they are fundamental in the development of the career of young psychiatrists and researchers. Professor Sartorius generously shared his experience in organizing collaborations, the principles of allocating time resources, and emphasized the importance of personal contacts in the profession.

Young psychiatrists at the beginning of their careers have to simultaneously solve a lot of problems: the acquisition of theoretical knowledge and practical experience, the choice of interests in the specialty, gaining professional positions, the search for like-minded colleagues, the organization of personal life. Investing time and energy from the outset of a young psychiatrist's career can be much more effective by building on short predetermined time periods for each stage of the work - about 6-8 months. Participation in high-status collaborations, projects with well-known organizations or professionals helps to quickly acquire personal skills and the necessary resources for future research. Obtaining the maximum number of formal permits, certificates, and diplomas required for practical work in the early years was also highly recommended by professor Sartorius.

## **2. Replicability crisis and obstacles in psychiatric research – how to overcome them**

The next theoretical course was provided by Dr. Nicolas Hoertel, Associate Professor of Psychiatry at Paris University. The participants became acquainted with the evidence-based medicine pyramid that showed the importance of quality of evidence and learned how to critically appraise relative strengths and weaknesses of each study design (i.e. observational studies, experimental studies, systematic reviews). Dr. Hoertel also pointed out the importance of statistical inference by emphasizing the set of methods used for drawing reliable conclusions from sample data. Additionally, we focused on how to identify the issues of outliers and missing data and how to reduce the risks of honest errors. Participants received useful tips for an effective literature search, such as defining adequate keywords and setting priorities and goals for the search and were taught how to address comorbidity across disorders using the bifactor model.

## **3. Occam's razor: looking at research literature through psychopathological eyes**

A stimulating presentation was delivered by Prof. Andrea Raballo, Head of the Center for Translational, Phenomenological and Developmental Psychopathology at the University of Perugia. The course provided a philosophical framework for research methodology and, considering Occam's principle of parsimony, was aimed at guiding participants in developing theoretical models with increased accuracy

and efficiency. Prof. Raballo also highlighted the many drawbacks that young researchers and creative investigators might encounter during the process of getting their data published, particularly if they care to provide new insights into well-established paradigms. These drawbacks are represented by an increasing divarication between bibliometric sensationalism and scientific impact, growing editors' tendency to support citation-based algorithmic benefit instead of originality and conceptual impact in the field, the profusion of reduplicated studies which resonates with the explicit commercial nature of open-access publishing (i.e. the editorial profit is a direct function of the number of published papers), increasing difficulty in finding high-quality, motivated and conflict of interest-free reviewers, overall reader's submersion by background publication noise and the general proclivity of the field to maintain the status quo. Ultimately, we reflected on current dynamics in psychiatry and learned how to overcome pitfalls in our research studies.

#### **4. How to critically appraise research**

The course held by Dr. Mariana Pinto Da Costa, Consultant Psychiatrist at South London and Maudsley NHS Foundation Trust and Senior Lecturer at the Institute of Psychiatry, Psychology & Neuroscience, King's College London, was aimed at providing a solid basis for critically appraised reviewing of scientific papers, giving the keys to assess their trustworthiness, relevance and results.

After an extensive analysis of the cornerstones for interpreting evidence, that are validity, reliability and relevance, an analysis of the different study designs and their applications was conducted. We then focused on threats to validity (i.e. bias) and the methodological solutions to prevent them. Statistical requirements and result presentation were finally addressed. This valuable teaching was beneficial to all students, giving a structured framework not only for critical appraisal, but also for building a scientific protocol.

#### **Working groups**

##### **Group 1: Drug repurposing: overcoming challenges in pharmacoepidemiology**

Prior to the sessions, Dr. Nicolas Hoertel, the lead faculty for Group 1, had provided us with relevant journal articles to study. The group commenced the sessions by attentively listening to the interesting research being carried out by Dr. Hoertel's team in Paris, observational evidence suggesting that certain antidepressants could be effective therapeutic options in reducing the severity of COVID-19, and the potential mechanisms of action involved [1,2].

To kick off the session, the group was then presented with the research question of designing an observational study that considers the effects of fluoxetine in pre-Alzheimer's disease (AD) states [3]. In essence, we wanted to explore evidence that fluoxetine might be a promising medication to be repurposed to prevent AD among patients having Mild Cognitive Impairment (MCI).

After a pattern of initial deliberations and brainstorming which helped us realise the complexity of the task ahead, we adopted an observational retrospective approach for our study design and created three arms to cover overall exposure: individuals on fluoxetine, individuals taking other selective serotonin reuptake inhibitors (SSRI's) and those on no SSRI's. An inclusion/exclusion criterion was also adopted. For primary analysis of data, a multivariate (Cox regression) survival analysis was adopted. Our outcome was selected as time to progression.

We discussed in detail adjusting for several confounding variables and we also talked through additional analytic considerations like outcome falsifiers, dose effect and active comparators (i.e. acetylcholinesterase inhibitors) and we then highlighted on the next research steps to consolidate positive results. Our methods and findings were presented to fellow scholars and faculty in other groups the following day. In all, members of Group 1 felt that it was an extremely rewarding experience and were thankful to Dr. Nicolas Hoertel for his amazing effort.

### **Group 2: Psychopathological research in psychiatry**

Working Group 2, led by Prof. Andrea Raballo, was not directly aimed to develop a research project. Indeed, the main purpose of Group 2 was to improve critical thinking and to exchange ideas among the group members. Therefore, the general organization and structuring of Group 2 activities was slightly different from the other groups.

Before the beginning of the Summer School, participants were asked to prepare and send to Prof. Raballo a short presentation about two topics: 1) an area of contemporary research that they considered particularly relevant; 2) an area of psychiatry that in their opinion remains under-researched because not yet recognized or identified by the mainstream. The proposed themes were presented by each participant at the beginning of the practical session and then discussed with the other members of the group. The topics which raised the greatest interest and the most intense debate were chosen as starting points to build more defined projects during the second day of the Summer School.

The diversity of the cultural, educational, and research backgrounds of the working group members allowed the flourishing of several different ideas. Prof. Andrea Raballo and Prof. Norman Sartorius - who joined the group from time to time - substantially enriched the discussion and provided insightful inputs to help participants refine their own ideas. The final research proposals were based on the following topics: 1) Diagnostic validity of polygenic risk scores for psychiatric disorders; 2) Dimensional conceptualization of psycho-metabolic disorders; 3) Psychopathological model of pre-addiction; 4) Cultural differences and reasons of anti-vaccination movement across Europe; 5) Cross-sectional survey to explore educational approaches and attitudes of psychiatric trainees across Europe.

### **Group 3: How to conduct a cross-sectional survey**

The purpose of this working group which was led by Dr. Mariana Pinto da Costa was to explore the key aspects of conducting a survey by integrating theoretical knowledge with a practical approach.

In order to prepare for the working group, the participants were provided with selected papers and were asked to write a research proposal. After everyone presented their ideas and the motivation behind them to the other participants, the group agreed upon one research question to be answered through the survey format. Over the two days, the participants explored the essential steps in survey research, starting from the assessment of the importance and relevance of the selected topic and study's objectives. A literature search was conducted on the survey topic and each participant in the group selected an article, critically read it and summarized it for the group. The discussion was then focused on research methodology, and participants gained insight into sample recruitment, the development of a questionnaire and ethical issues in survey research.

Both the group's mentor, Dr. Mariana Pinto da Costa, and Prof. Norman Sartorius, who was occasionally present in the group discussions, gave direction to the research development and offered valuable comments and tips based on their own experience. At the end of the group exercise, the participants gained practical skills in developing a survey and improved their confidence about conducting their own research.

### **Plenary discussion: working group conclusions and making it work in real life**

The whole faculty and the participants were invited to summarize the development of each group session and to share their conclusions within the big group. The designated speaker from each working group presented the key points of their collaborative effort and summarized the learned skills and the performance in each group using a PowerPoint presentation as a learning background. Each group had about 40 minutes to present their results and at the end of the corresponding presentation there was time for comments and feedback from the rest of the participants and faculty members.

The plenary session showcased an increasing emphasis on using alternative learning platforms, such as the Zoom platform which was utilized during the Summer School. Although state of the art remains the personal contact, working and learning together should be considered a priority, and hopefully we have innovative methods that enable us to do it. Thus, the possibility of a hybrid summer school in future years was mentioned.

A special aspect of the session was focusing on the importance of nurturing the relations built during the Summer School. Participants were encouraged to join forces in writing about the process of developing a research protocol with their newly acquired skills and also to collaborate in future projects.

At the end of the day, participants were asked for their overall impression of the Summer School and given the possibility to comment on the quality of lectures and activities and to express suggestions for

improvement. Feedback from participants showed high satisfaction rates, which indicates that not only online formats, but also the topic of research methodology might be a framework for future editions.

### **Conclusions**

The COVID-19 pandemic has created many limitations that have forced people to search for new and necessary ways to "continue life as it is". One of the main inconveniences was represented by travel restrictions and thus the inability to participate in international congresses, internships and exchanges. Facing the difficulties imposed by the pandemic, throughout the whole world virtual forms of contacts, classes and meetings spread. This edition of the EPA Summer School was held virtually for the first time in history. Despite this new form, the Summer School fully lived up to the expectations of both lecturers and participants. Thanks to the virtual format, despite the ongoing pandemic, participants from all over Europe had the opportunity to develop, gain valuable tips and expand their psychiatric knowledge based on the experience and knowledge of world-renowned lecturers.

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