

## Sara Poletti: From the cradle to the grave

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**The Genomic Press Interview with Sara Poletti, PhD, senior researcher at IRCCS Ospedale San Raffaele Milan, reveals how childhood trauma shapes adult mental health through neuroinflammation pathways. Project Leader at San Raffaele Hospital's Psychiatry and Clinical Psychobiology Unit, Poletti illuminates connections between early adversity, immune dysregulation, and mood disorders including depression and bipolar disorder. Her pioneering neuroimaging research demonstrates lasting neurobiological changes from childhood experiences, fundamentally altering brain-immune interactions throughout life. As the only tenure-track psychologist in psychiatry at her institute, Poletti bridges experimental psychology with clinical neuroscience through multidisciplinary approaches combining neuroimaging, genetic analysis, immunological markers, and neuropsychological assessments. Her European Research Area Network (ERA-NET) Neuron project coordination exemplifies innovative leadership advancing inflammation's role in psychiatric disorders. Poletti envisions precision psychiatry where individual biological signatures guide personalized treatments, offering new therapeutic targets focused on immune-brain interactions and prevention strategies. Beyond scientific achievements, she shares personal insights including her passion for Italian mountain hiking and life philosophy embracing present-moment happiness, revealing a researcher whose dedication transforms how we conceptualize psychiatric disorders.**

### Part 1: Sara Poletti – Life and Career

**Could you provide us with a glimpse into your personal history, highlighting the pivotal moments that sparked your passion for science?**

My passion for science began in early childhood when my parents bought me a microscope. However, it was only during high school that my passion took shape in terms of a more specific topic. Two events have sparked my passion: first, reading Sigmund Freud's biography and books, which piqued my interest in psychology and human behavior; second, a paper from a research group in Vancouver that investigated the neuroimaging underpinnings of behavior in violent criminals. These events shaped my passion and deep interest in neuroimaging research on the brain, leading me to choose Experimental Psychology as my field of study.

**Please share with us what initially piqued your interest in your favorite research or professional focus area.**

During my PhD, I was involved in a European project that investigated the role of inflammation in mood disorders. As a psychologist, I had no prior experience in the field. However, I immediately found the idea that the immune system could play a role in behavior exciting. Soon after, I went to my first congress on the topic. Although most symposia were difficult for me to understand, a completely new field of research opened before



**Figure 1.** Sara Poletti, PhD, Ospedale San Raffaele.

my eyes. From then on, I have tried my best to build my knowledge on the topic and be ready for the following congress, two years later, where I could finally appreciate all the symposia and the new knowledge that came with it.

**We would like to know more about your career trajectory leading up to your most relevant leadership role. What defining moments channeled you toward that leadership responsibility?**

When I started researching, I had no plans to take on leadership roles; I never thought I was meant to be a leader, and my thinking has not changed to date. However, life had other plans for me, and my career led me to become a project leader with a good perspective on becoming a group leader, following the long Italian career path. The first step toward leadership was becoming the coordinator of the human physiology course at





the Faculty of Medicine. I did not have a degree in medicine, and I was at my first experience as an academic, having to deal with professors who had much more experience than I did. This experience was very formative for me in my role as a leader. It led me to take on the role of Project Leader in the Unit of Psychiatry and Psychobiology, where I had to coordinate several professional figures, including psychologists, physicians, and biologists. Although making a career in the medical field with a bachelor's degree in psychology is a challenging prospect in Italy, winning an ERA-NET Neuron project as coordinator gave me the opportunity to pursue my interests in research and become the only tenured-track psychologist working in psychiatry at my Institute.

**What is a decision or choice that seemed like a mistake at the time but ended up being valuable or transformative for your career or life?**

Accepting to become a lecturer in human physiology, a field I knew very little about. It has been a real challenge for me; it required much work and extensive studying, and it put me to the test. However, I learned a great deal from this experience, both scientifically and personally. Studying physiology has enabled me to gain a deeper understanding of how the body and brain function and interact, as well as a better comprehension of the immune system and its various roles. It proved to me what I was capable of and what I could achieve.

**What habits and values did you develop during your academic studies or subsequent postdoctoral experiences that you uphold within your research environment?**

Honesty, inclusion, and cooperation.

**Please tell us more about your current scholarly focal points within your chosen field of science.**

I am focused on enhancing our knowledge of the impact of childhood experiences on the brain and the immune system and how their interaction may lead to the development of psychiatric disorders.

**What impact do you hope to achieve in your field by focusing on specific research topics?**

I aim to further elucidate the role of the immune system and its interaction with the environment in psychiatric disorders, providing a foundation for identifying new treatment targets tailored to the characteristics of each individual. I am also committed to developing prevention strategies to reduce the odds of developing a mental illness.

**What do you most enjoy in your capacity as an academic or research leader?**

I enjoy the opportunity to choose my research topic and collaborate with leaders in the field from other countries, as well as to mentor young researchers.

**At Genomic Press, we prioritize fostering research endeavors based solely on their inherent merit, uninfluenced by geography or the researchers' personal or demographic traits. Are there particular cultural facets within the scientific community that warrant transformative scrutiny, or is there a cause within science that you feel strongly devoted to?**

Diversity should be given greater importance; people with different backgrounds, experiences, perspectives, and characteristics can enrich the research environment and foster the development of novel ideas.

**Outside professional confines, how do you prefer to allocate your leisure moments, or conversely, in what manner would you envision spending these moments given a choice?**

I love being in contact with nature, and in particular, spending time hiking in the beautiful Italian mountains or traveling in places where nature reigns supreme.



**Figure 2.** Sara Poletti at the summit of Sasso Nero (2,847m) in the Italian Alps, where she finds clarity and renewal among the peaks that fuel her scientific passion.

**Part 2: Sara Poletti – Selected questions from the Proust Questionnaire.<sup>1</sup>**

**What is your most marked characteristic?**

A great sense of humor.

**Among your talents, which one(s) give(s) you a competitive edge?**

I am skilled at problem-solving and finding solutions, and I never give up.

<sup>1</sup>In the late nineteenth century, various questionnaires were a popular diversion designed to discover new things about old friends. What is now known as the 35-question Proust Questionnaire became famous after Marcel Proust's answers to these questions were found and published posthumously. Proust answered the questions twice, at ages 14 and 20. In 2003 Proust's handwritten answers were auctioned off for \$130,000. Multiple other historical and contemporary figures have answered the Proust Questionnaire, including among others Karl Marx, Oscar Wilde, Arthur Conan Doyle, Fernando Pessoa, Stéphane Mallarmé, Paul Cézanne, Vladimir Nabokov, Kazuo Ishiguro, Catherine Deneuve, Sophia Loren, Gina Lollobrigida, Gloria Steinem, Pelé, Valentino, Yoko Ono, Elton John, Martin Scorsese, Pedro Almodóvar, Richard Branson, Jimmy Carter, David Chang, Spike Lee, Hugh Jackman, and Zendaya. The Proust Questionnaire is often used to interview celebrities: the idea is that by answering these questions, an individual will reveal his or her true nature. We have condensed the Proust Questionnaire by reducing the number of questions and slightly rewording some. These curated questions provide insights into the individual's inner world, ranging from notions of happiness and fear to aspirations and inspirations.



**If you could change one thing about yourself, what would it be?**  
I would like to believe more in myself.

**What is your current state of mind?**  
Unquiet.

**What is your idea of perfect happiness?**  
I do not believe that perfect happiness truly exists, but something similar can be found in many places when someone can live in the moment, without thinking about the past or the future, and simply enjoy the present.

**When and where were you happiest? And why were so happy then?**  
When I reached the summit of Gran Paradiso Mountain, the view was incredible, the air thin, and I was proud of myself for going beyond my limits and making it to the top.

**What is your greatest fear?**  
Having a debilitating chronic illness.

**What is your greatest regret?**  
Waiting too long and losing the moment.

**What are you most proud of?**  
Keeping a house plant alive for five years now.

**What do you consider your greatest achievement?**  
Being the first and only tenure-track researcher in psychiatry at my hospital.

**What or who is your greatest passion?**  
Discovery: in science and life.

**What is your favorite occupation (or activity)?**  
Hiking.

**What is your greatest extravagance?**  
Heavy metal music.

**What is your most treasured possession?**  
An original map from 1800 of the travels made by Austro-Hungarian troops who arrived in Italy from Austria, created by one of my ancestors, a lieutenant of General Radetzky.

**Where would you most like to live?**  
When I stop working, I will be somewhere near the Italian mountains. Until then, in my city, Milan.

**What is the quality you most admire in people?**  
Sense of humor and perseverance.

**What is the trait you most dislike in people?**  
Falsehood.

**What do you consider the most overrated virtue?**  
Devotion.

**What do you most value in your friends?**  
Loyalty, enthusiasm, and warmth.

**Which living person do you most admire?**  
Nives Meroi, an Italian mountaineer.

**Who are your heroes in real life?**  
All those people who never surrender and overcome adversities to reach their goals.

**If you could have dinner with any historical figure, who would it be and why?**  
Marie Curie. She accomplished incredible things, including changing medical practice during historical period when women were not afforded the same freedoms as men in academia or daily life.

**Who are your favorite writers?**  
Umberto Eco, Valerio Evangelisti, Francis Scott Fitzgerald, Bill Bryson, Michael Ende, and George Martin.

**Who are your heroes of fiction?**  
Arya Stark from *A Song of Ice and Fire* by George R.R. Martin, Momo from the novel *Momo* by Michael Ende, and the Count of Monte Cristo by Alexandre Dumas.

**What aphorism or motto best encapsulates your life philosophy?**  
Chi vuol esser lieto sia / di doman non c'è certezza (Trans: *Be happy if you want to / for tomorrow may not come*).

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