

VIEWPOINT

Correcting the record: Leo Kanner and the broad autism phenotype

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Leo Kanner's ideas about autism have been widely misunderstood. Recent media accounts and books report that he blamed parents for causing autism. But Kanner did not blame parents. In fact, his astute observations of parents gave him deep sympathy for them, and led to his fundamental insights about their behavior that fueled important advances in the genetics of autism.

Kanner's **classic 1943 paper** on 'early infantile' autism was the first systematic description of this unique neurodevelopmental condition¹. His conclusion that autism is an innate disorder set the stage for later studies in identical twins that confirmed the condition's genetic basis². In his paper, Kanner also described the parents of these children and their behavioral traits. He wrote that, overall, the parents seemed perfectionistic and preoccupied with abstractions, rather than showing a genuine interest in people.

Kanner addressed the question this observation raises: Are parents in some way to blame for their child's condition? On the contrary, he wrote: "The children's aloneness from the very beginning of life" suggests that parents' behavior is not a causative factor. He went on to state that scientists must assume "that these children have come into the world with the innate inability to form the usual, biologically provided affective contact with people¹."

Kanner published his paper at a time when support for eugenic genetic engineering as a way to improve society was prevalent among scientists, making the diagnosis of an innate condition a

serious matter. This was a time in the United States when sterilization of people with intellectual disability was legal. Moreover, in 1942, Foster Kennedy, a prominent neurologist from New York, proposed a “mercy death” for children with severe intellectual disability³.

Kanner publicly opposed Kennedy and offered a spirited defense for those with severe, innate developmental disorders. He insisted that all lives matter and that “we should extend the democratic ideal” to these individuals because much could be learned by studying their unique qualities⁴.

In defense of mothers:

Despite Kanner’s many publications and public statements, his views on the causes of autism have been widely misinterpreted. His attempts to distance himself from eugenic views, along with his descriptions of parents’ behavior, led others to mistakenly believe that Kanner had changed his mind about autism being innate and instead assigned parents much of the blame for their child’s autism.

On the contrary, Kanner held tightly to his original proposal that autism was an innate condition, which was widely understood to mean it had a genetic basis. His behavioral observations of parents contributed to a breakthrough concept that is wholly consistent with genes being a key part of the autism story. Instead of parenting causing autism, Kanner’s idea — which has since been validated — was that autism (and its genetic roots) underlies some of the behavior in a subset of parents.

From the 1940s through the 1960s, the negative behavioral view (in this case, aimed at parents) had strong adherents, in part because it seemed to offer some hope. Psychoanalysis — and the notion that treating people for psychological trauma in early life has broad benefits — held sway among the clinical and scientific establishment. In the case of autism, if parents were in some way to blame for their child’s condition, the parents could be treated psychoanalytically.

Unlike Kanner, **Bruno Bettelheim**, who then directed the University of Chicago's **Sonia Shankman Orthogenic School** for emotionally disturbed children, although he was an art historian by training, believed that autism wasn’t innate, but rather the result of maternal aloofness. The press and Bettelheim popularized the idea of a parent who displayed such emotional detachment as a ‘refrigerator mother.’ Research at this time had shown that an extreme lack of social stimulation and emotional deprivation could severely affect development, which lent itself to the blame-the-parent ‘theory’ of autism⁵.

But Kanner saw through this idea. His subsequent research on children with autism showed there was no evidence for parental “mistreatment, overt rejection, or abandonment” as a factor in a child’s having autism. In addition, Kanner had long fought against psychoanalytic theories that blame mothers. Even before he published his seminal description of autism, he expressed this view

in his widely read 1941 book, “In Defense of Mothers: How to Bring Up Children in Spite of the More Zealous Psychologists⁶.”

Heavy hearts:

The book opens with a sympathetic letter to mothers who have come to him with “heavy hearts” and in despair, saying, “It’s all my fault,” believing themselves to be to blame for their child’s problems. Kanner instead made clear his view that mothers are inundated with conflicting advice on child-rearing. He advised them to close the “door to the din from pseudopsychological markets” and encouraged them to regain their self-confidence and trust their own feelings in the face of a barrage of parent-blaming.

Kanner went on to respond directly to accusations that parents were to blame. He was appalled at Bettelheim’s theory that so-called ‘cold mothers’ were the cause of autism. At the first meeting of the parent advocacy group the **National Society for Autistic Children** (now called the Autism Society) in 1969, he said, “From the very first publication until the last, I spoke of this condition in no uncertain terms as ‘innate.’ But because I described some of the characteristics of the parents as persons, I was misquoted often as having said that ‘it is all the parents’ fault.’” Then in his typical warm, wry, jovial manner, he announced to the parents in attendance: “Herewith I especially acquit you people as parents.” Many of the parents in the audience rose and tearfully cheered him. The society awarded Kanner an official citation for his contributions to children with autism and their families.

But despite Kanner’s open denial that he had ever blamed parents, the specter of the ‘refrigerator mother’ theory continues to haunt popular histories of his work. Some recent histories relate that Kanner eventually gave in to others’ views and came to agree with professionals who blamed the parents, just as they did. Critics often add that, after recanting much later, Kanner went back to his original proposal that autism was innate — but that by then, it was too late and the damage was done. This version of events, however compelling, is not accurate.

Telling traits:

We revisited Kanner’s historical contributions on autism, seeking to clarify the confusion about how Kanner’s descriptions of parents’ behavior have been interpreted. We conclude that Kanner, in describing the parental behavior he observed, was describing the features of the **broad autism phenotype** — a genetic predisposition for autism-related traits that are thought to be an expression of autism’s genetic causes. Kanner’s observations may in fact constitute the first descriptions of a broad autism phenotype, a concept that has been widely studied and validated.

In his evaluations of children with autism, Kanner recognized that some parents have characteristics that are milder but qualitatively similar to the defining features of autism. In particular, these parents were overly focused on detail and had limited interest in social

interactions.

In 1956, Kanner and his collaborator at Johns Hopkins University in Baltimore, **Leon Eisenberg**, published a paper describing autism as a psychobiological disorder that both genetic background and the environment contribute to⁷. “If one considers the personalities of the parents who have been described as successfully autistic, the possibility suggests itself that they may represent milder manifestations and that the children show the full emergence of the latent structure,” they wrote.

In the nearly 75 years since Kanner’s first publication on autism, his recognition of the broad autism phenotype in a subset of parents set the stage for later family-genetic studies demonstrating that autism is a genetic disorder. Rigorous behavioral measures and brain imaging studies now support the existence of a broad autism phenotype among some parents of children with autism^{8,9,10}.

Dynamic role:

In their 1956 publication, Kanner and Eisenberg acknowledged that although the psychological environment does not cause autism, it does affect child development. “It is difficult to escape that the emotional configuration of the home plays a dynamic role” in the development of children with autism, they wrote⁷. If parents had difficulty recognizing their children’s social cues, they could inadvertently **adversely affect their child’s development** — just as any parent could if they failed to find a way to emotionally engage with their child.

Child-rearing strategies, behavioral interventions and home environment make a difference in both typical and atypical neural development in children. Ample evidence exists for the idea that enriched social environments lead to better outcomes for children at risk of autism, and current early intervention research focuses on optimizing the dynamic engagement of the children with their parents¹¹. This ongoing research may lead to more successful **early behavioral interventions** for children with autism, helping to improve their language skills and ability to attend to social cues.

As founding director of child psychiatry at John Hopkins University from 1930 to 1959, Kanner was very much a pioneer in providing clinical support to families of children with developmental disorders. In 1935, he wrote the first textbook of child psychiatry, one that defined child psychiatry as a medical discipline. His passion for social justice is a potent reminder of the importance of finding appropriate services for all children. To those who knew him,* Kanner was a wise and compassionate physician who cared about all children and supported their parents. His career continues to be an inspiration to us all.

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* James Harris was Leo Kanner's student during his residency training and was a successor to Kanner as director of the child and adolescent psychiatry division at Johns Hopkins University School of Medicine. Harris gave the memorial tribute to Kanner at the plenary session of the American Academy of Child Psychiatry in 1981, the year of Kanner's death.

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