

# This Week's Citation Classic®

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Mendelson W B, Johnson N & Stewart M A. Hyperactive children as teenagers: a follow-up study. *J. Nerv. Ment. Dis.* 153:273-9, 1971.

[Departments of Psychiatry and Pediatrics, Washington University Medical School, St. Louis, MO]

Eighty-three children between the ages of 12 and 16 who had been diagnosed as having the hyperactive child syndrome were followed up two to five years later. About one-quarter of them appeared basically unchanged in terms of the original symptomatology; one-quarter were markedly improved; and the remaining half were somewhere in between. Restlessness, distractibility, and impulsive behavior could still be seen in most of the children. A number had been involved in delinquent behavior. [The *Science Citation Index*® (SCI®) and the *Social Sciences Citation Index*® (SSCI®) indicate that this paper has been cited in over 190 publications since 1971.]

Wallace B. Mendelson  
Section on Sleep Studies  
Alcohol, Drug Abuse, and  
Mental Health Administration  
National Institute of Mental Health  
Bethesda, MD 20892

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I remember very vividly the circumstances under which this study was performed. While on a study break during final exam week in medical school, I managed to fracture my knee in a brief Frisbee game. Worse yet, I was due to leave in a few days to study child psychiatry during the summer in England. When I was more or less operational again, I called Mark Stewart, with whom I had been working on problems related to hyperactivity and who had arranged for the trip. I asked if he had an interesting project for the summer; the result was this study.

Mainly, my memories are of hobbling around St. Louis with my cast, interviewing these adolescents and their mothers. The

other memories that stick with me are the adventurous aspects of follow-up studies and how pleasurable it was when detective work payed off and we located the new address of one of our probands. I was amused to see some years later that in another similar study hyperactive children were found to have more address changes than controls.<sup>1</sup>

It may be useful to view this study in the context of the time and the approach to psychiatric diagnosis that was stressed by the Department of Psychiatry at Washington University School of Medicine. The principle was that if a disorder were to have much meaning, it should be recognized not only by its clinical features when seen cross-sectionally, but also by a natural history—a predictable course across time. This approach had been applied effectively to such conditions as affective disorders, Briquet's syndrome, and antisocial personality by Eli and Lee Robins, Samuel Guze, George Winokur, and others. In the case of hyperactive children, the field was at a point where such a study was needed, and it was the first of its kind for this particular disorder. Subsequently, as other follow-up studies came out,<sup>1-3</sup> ours was referenced, which may account for some of the citations counted by the *Science Citation Index* computer.

Another important point of the study, I think, is that it emphasized the poor self-esteem found in these children. This phenomenon has been emphasized by Cooper-smith,<sup>4</sup> who pointed out that poor self-esteem results in decreased subsequent performance, which then only seems to confirm the original feelings. The result is an unhappy self-perpetuating process. Further, if one believes that the original symptoms (e.g., over-activity, short attention span, and so on) have some physiological foundations, then the consequent poor self-esteem and its results are a good example of the interaction of physiological and "psychological" processes in the same clinical condition. In any event, I am pleased that this study has been read so widely and hope that it has been useful in our growing understanding of hyperactive children.

1. Weiss G, Hechtman L, Perlman T, Hopkins J & Wener A. Hyperactives as young adults: a controlled prospective ten-year follow-up of 75 children. *Arch. Gen. Psychiat.* 36:675-81, 1979. (Cited 70 times.)
2. Riddle K D & Rapoport J L. A 2-year follow-up of 72 hyperactive boys. *J. Nerv. Ment. Dis.* 162:126-34, 1976. (Cited 55 times.)
3. Mannuzza S & Gittelman R. The adolescent outcome of hyperactive girls. *Psychiat. Res.* 13:19-29, 1984.
4. Coopersmith S. *The antecedents of self-esteem*. San Francisco: Freeman, 1967. 283 p.