From Hyperactive Children to ADHD Adults: Observations on the Expansion of Medical Categories

Peter Conrad; Deborah Potter

Social Problems, Vol. 47, No. 4 (Nov., 2000), 559-582.

Stable URL:
http://links.jstor.org/sici?sici=0037-7791%28200011%2947%3A4%3C559%3AFHCTAA%3E2.0.CO%3B2-J

Social Problems is currently published by University of California Press.

From Hyperactive Children to ADHD Adults: Observations on the Expansion of Medical Categories

PETER CONRAD, *Brandeis University*

DEBORAH POTTER, *Brandeis University*

Medicalization is, by definition, about the extension of medical boundaries. Analogous to "domain expansion," extant medicalized categories can expand to become broader and more inclusive. This paper examines the emergence of Attention Deficit Hyperactivity Disorder (ADHD) in adults. ADHD, commonly known as Hyperactivity, became established in the 1970s as a diagnosis for children; it expanded first to include "adult hyperactives" and, in the 1990s, "ADHD Adults." This allowed for the inclusion of an entire population of people and their problems that were excluded by the original conception of hyperactive children. We show how lay, professional, and media claims help establish the expanded diagnostic category. We identify particular aspects of the social context that contributed to the rise of adult ADHD and outline some of the social implications of ADHD in adults, especially the medicalization of underperformance and the availability of new disability rights. Adult ADHD serves as an exemplar of several cases of diagnostic expansion, an important avenue of increasing medicalization.

Over the past thirty years there has been keen sociological interest in the medicalization of deviance and social problems (Conrad 1992, 2000; Conrad and Schneider 1992; Zola 1972). By now, there are dozens of case examples of medicalization and a body of literature has accumulated that has loosely been called "medicalization theory" (see Williams and Calnan 1996). At this point, it is important to build on this corpus of knowledge to better understand different aspects of medicalization. Medicalization is, by definition, about the extension of medical jurisdiction or the expansion of medical boundaries. In different situations, medical professionals (Halpern 1990), political reformers (Haines 1989), lay activists (Schneider 1978), or social movements (Scott 1990) have promoted boundary expansion. Most medicalization studies focus on how nonmedical problems become defined as medical problems, usually as illnesses or disorders. But there has been less examination of how medicalized categories themselves can be subjects of expansion, thus, engendering further medicalization.

It seems clear by now that medicalization of social problems is not an either/or phenomenon, but that it is better conceptualized in terms of degrees of medicalization. Some conditions are almost fully medicalized (e.g., death, childbirth), others are partly medicalized (e.g., opiate addiction, menopause), and still others are minimally medicalized (e.g., sexual addiction, spouse abuse). One dimension of the degree of medicalization is the elasticity of a medical category. "While some categories are narrow and circumspect, others can expand and incorporate a number of other problems" or be applied to new populations (Conrad 1992, p. 221). For example, Alzheimer's Disease (AD) was once an obscure disorder, but with the removal of "age" as a criteria (Fox 1989), there was no longer a distinction between AD and senile dementia. This

Our thanks to Joel Best, Libby Bradshaw, Phil Brown, Allan Horwitz, and the anonymous reviewers for comments on earlier drafts of this paper. Direct correspondence to: Peter Conrad, Department of Sociology, MS-071, Brandeis University, Waltham, MA 02425-9110. E-mail: conrad@brandeis.edu.

SOCIAL PROBLEMS, Vol. 47, No. 4, pages 559–582. ISSN: 0037-7791

sharply increased the number of cases of AD, now including cases of senile dementia over 60 years old. As a result, AD has become one of the top five causes of death in the United States.

Psychiatric and medical diagnoses are the product of socio-historical circumstances and the claims-making of particular interest groups. New diagnoses rarely emerge simply as a result of new scientific discoveries. Medicalization studies have demonstrated that agents such as self-help and advocacy groups, social movements, health-related organizations, pharmaceutical companies, academic researchers, and clinicians can be central in creating specific diagnoses.

Medicalization is usually a product of collective action, rather than a result of "medical imperialism" (Conrad 1992). Whatever the extent of medicalization, it is not simply doctors colonizing new problems or labeling feckless patients. Reissman (1983) and others have asserted that patients and other lay people can be active collaborators in their own medicalization, although sympathetic professionals are usually needed for successful claims-making (Brown 1995). Numerous studies show how affected parties can make critical contributions to the medicalization process. Conrad and Schneider (1992) outlined the role of organized lay interests in the medicalization of alcoholism and the demedicalization of homosexuality. Other studies demonstrate the importance of the mobilization of people who are diagnosed in collectively promoting and shaping their medical diagnoses. This kind of diagnostic advocacy is often accomplished by or directly connected to an extant social movement: premenstrual syndrome (PMS) with the women's movement (Reissman; Figert 1996); post traumatic stress disorder (PTSD) with the Vietnam Veterans movement (Scott 1990); and AIDS treatment with the Gay and Lesbian movement (Epstein 1996). In each case, an explicit politicization of the medical diagnosis and the active mobilization of the social movement apparatus propelled the new category forward. Self-help and patient advocacy groups are legion, and some of these have been active in promoting the acceptance of their own illness categories. But the difficulty that supporters of multiple chemical sensitivity disorder (MCSD) (Kroll-Smith 1997) or sexual addiction (Irvine 1995) have encountered in their attempts to achieve acceptance as medical diagnoses highlights some limits of lay advocacy. Without being able to draw upon the resources of a larger movement, lay claims about medical diagnosis seem to have more difficulty becoming medically acknowledged and institutionalized.

A wide range of new medical categories that did not exist previously have emerged in the past four decades: attention deficit/hyperactivity disorder (ADHD), anorexia and eating disorders, chronic fatigue syndrome (CFS), repetition strain injury, fibromyalgia, PMS, PTSD, and MCSD. Many of these diagnoses have been promoted actively by sufferers and their advocates, with some achieving substantial medical acceptance while others remain contested or controversial (Singer, et al. 1984). By the close of the 20th century, patients have become more engaged in their own treatment and more demanding in what they want from physicians (Guadagnoli and Ward 1998). Moreover, as Barsky and Boros (1995) point out, the American public's tolerance for mild symptoms and benign problems has decreased, which may be leading to a further medicalization of ills.

There are numerous reasons for seeking new medical diagnoses. Life's troubles are often confusing, distressing, debilitating, and difficult to understand. Michael Balint (1957) pointed out many years ago that a medical diagnosis transforms an "unorganized illness," an agglomeration of complaints and symptoms that may be unclear, unconnected, and mysterious, into an entity that is a more understandable "organized illness." As Broom and Woodward (1996) show with CFS, sufferers will often seek a diagnosis, which will both legitimate their troubles and provide them with an understanding of their problem. In some instances a diagnosis can be a kind of self-labeling that provides a new public identity as having a particular illness or disorder. In other cases, it may facilitate medical treatments that can have a substantial impact on individual's lives. When these occur, it is hardly surprising to see sufferers embracing medicalization.

The emergence of so many new medical categories raises the question of what happens to them over time. It is likely that some just become established and a part of regular medical practice, others may be challenged, disappear, or become vestigial from nonuse, while others

may expand in new ways. Medical diagnostic categories, perhaps especially psychiatric categories (Horwitz forthcoming), are often fluid and subject to expansion or contraction. The extension of established diagnoses is especially interesting for it can occur almost unnoticed as a part of regular medical practice and, at the same time, expand the realm of medicalization in significant ways. To examine this phenomenon, we can find a similar process in the social constructionist frame for studying social problems.

"Domain expansion" describes a process by which definitions of social problems expand and become more inclusive (Best 1990; Loseke 1999). Domain expansion encompasses claims-making work that extends the definitional boundaries of an established social problem to include similar or related conditions. Best (1990) examined the emerging definitions of child abuse and found that "by 1976, the issue encompassed a much broader array of conditions threatening children. The more general term 'child abuse' had replaced the earlier, narrower concept of 'battered child' and the even broader expression 'child abuse and neglect' had gained currency among professionals" (Best 1990, p. 67). Jenness (1995) has argued how activism by the gay and lesbian movement brought attention to the scope and consequences of anti-gay and lesbian violence. She suggests that domain expansion accompanied social movement growth and was key in reframing violence against gays and lesbians as a "hate crime" and as a specific public issue in the United States. While domain expansion need not always be linked to a social movement, the activities of champions and claims-makers are likely to be critical to the expansion of definitional boundaries.[1]

This paper examines an analogous process for medicalization, focusing on the emergence of the diagnosis of Attention Deficit-Hyperactivity Disorder (ADHD) in adults in the 1990s. How did hyperactivity, which was deemed largely a disorder of childhood, become adult ADHD? This research follows on Conrad's study of the medicalization of hyperactivity published in the 1970s (Conrad 1975, 1976). Our interest here, however, is also to investigate this case as an example of how medicalized categories, once established, can expand to become broader and more inclusive. This category expansion is one means for increasing medicalization and provides us with an opportunity to explore how this aspect of medicalization operates. This paper will focus on key claims and counter-claims made by mental health and medical professionals, as well as lay leaders, support groups, and conferences.[2] After reviewing the state of childhood hyperactivity as a medicalized diagnosis in the 1970s, we trace the emergence of "adult hyperactives" among those whose childhood symptoms persisted into adulthood, and then examine how this was transformed into the category "ADHD adults." We show how lay, professional, and media claims helped establish the expanded diagnosis. We identify particular aspects of the social context that contributed to the rise of adult ADHD, and then outline some of the consequences of the medicalization of ADHD in adults and the social implications of expanding diagnostic categories.

The DSM as a Categorical Touchstone

Psychiatric diagnoses are historically and culturally situated. Certain diagnostic categories appear and disappear over time, reflecting and reinforcing particular ideologies within the

1. More recently, Best (1999) has drawn on the work of Stallings (1990) to make a distinction between "domain expansion" and "domain elaboration," the latter being a process related to domain expansion, which "involves the identification of new aspects of a problem" (Best, 1999, p. 169) The terms "domain elaboration" and "domain expansion" overlap considerably in their meaning and both refer to the way in which expanding categories of social problem results in additional claims-makers and advocates identifying with the problem, promoting its continued problematization, and keeping the problem alive in the public eye. To maintain consistency throughout this paper, we have chosen to use the more familiar term "domain expansion."

2. A recent study by Leffers (1997) focuses on how individuals with ADHD come to understand their problems and how the social construction of the disorder affects this understanding. The present paper is more of a sociological account of the expansion of the ADHD diagnosis to adults.

"diagnostic project" (the professional legitimization of diagnoses), as well as within the larger social order (Cooksey and Brown 1998, p. 550). As numerous researchers have noted, psychiatric diagnoses are not necessarily indicators of objective conditions, but are a product of a negotiated interactive process influenced by socio-political factors (Caplan 1995; Cooksey and Brown 1997; Kirk and Kutchins 1992; Kutchins and Kirk 1997). Diagnoses related to behavior or involving cognitive symptoms are frequently contested or controversial and, as such, diagnosis of "functional diseases" can "represent an implicitly negotiated solution to the problem of idiosyncratic suffering that is not explainable by specific pathology" (Aronowitz 1998, p. 16).

Most psychiatric disorders become legitimated in the American Psychiatric Association's *Diagnostic and Statistical Manual* (DSM), the official guidebook for psychiatric diagnoses. Although DSM does not contain all medical diagnoses, when it comes to behavior, it can be seen as a repository of medicalized categories. Despite psychiatric claims, it is not a scientific document, but a "mix of social values, political compromise, scientific evidence and material for insurance forms" (Kutchins and Kirk 1997, pp. 11, x). As the authoritative voice of psychiatry, the DSM has been used as a mechanism to "secure psychiatric turf" (Kirk and Kutchins 1992) and to sanction psychiatric categories.

The various revisions of DSM have reflected distinct approaches taken by mental health professionals toward understanding human troubles as psychiatric conditions. In 1952, the original version of the DSM reflected the dominance of psychoanalytic thought and sought to "provide a broader set of labels which would be inclusive of the whole society" (Cooksey and Brown 1998, p. 530). A major shift in psychiatric thinking occurred with the publication of DSM-III in 1980, when the largely psychoanalytic orientation was abandoned and replaced with an avowedly biomedical and categorical approach to diagnosis. "The fundamental premise of DSM-III was that different clusters of symptoms indicated distinct underlying diseases such as schizophrenia, depression, panic disorder and substance abuse" (Horwitz forthcoming, p. 2). The "diagnostic project" was now heralded as a scientific endeavor, a claim that has increased with the publication of DSM-IV (1994), a revision that identifies nearly 400 distinct medical diagnostic entities.

The DSM provides a useful touchstone for the sociological task of understanding how behaviors are defined medically, especially for documenting how criteria for diagnosing a problem change over time and thorough various revised editions. In this way, we can track some of the elasticity of a diagnosis such as ADHD.

Hyperactivity in the 1970s

Although ADHD's roots are often traced to early in the twentieth century (Goldman, et al. 1998), it only emerged as a diagnostic category in the 1950s (see Conrad 1975). It was termed at various times Minimal Brain Dysfunction (MBD), Hyperactive Syndrome, Hyperkinesis, Hyperactive Disorder of Childhood, among several other diagnostic categories. While there were slight differences among the categories, in practice, they were interchangeable. The terms Hyperactivity and MBD were most commonly used.

Beginning in 1968, the DSM-II identified "minimal brain damage" and other problems such as "hyperkinetic reaction" as a childhood disorder "characterized by overactivity, restlessness, distractibility, and short attention span, especially in young children; the behavior usually diminishes in adolescence" (APA, 1968, p. 50). The disorders, thus, were defined by both hyperactivity and inattention, two distinguishing features that would persist in various combinations throughout the next 30 years (see also, Stewart, et al. 1966; Stewart 1970; Wender 1971). Although this official classification clearly placed the hyperactivity within the realm of childhood psychiatric illnesses, it also allowed for the possibility of persistence into adolescence. For example, hyperactive behavior "usually" (but not always) "diminished" (though not necessarily disappeared) by the time the patient entered adolescence. While there was no solid evidence of biological causation, there was an assumption that there was some type of organic pathology.

The most significant criterion for diagnosis was a child's behavior, especially at school. The emphasis in identification was on hyperactive and disruptive behaviors (Conrad 1976). The major treatments for hyperactivity were stimulant medications, especially Ritalin. During the 1960s, the disorder became increasingly well known, due, in part, to publicity it received concerning controversies about drug treatment. By the middle 1970s, it had become the most common childhood psychiatric problem (Gross and Wilson 1974) and special clinics to identify and treat the disorder were established, although most children were diagnosed by their pediatrician or primary care physician.

While there were no methodologically sound epidemiological studies in the 1970s, it was widely estimated that 3–5% of elementary school students were hyperactive (occasionally estimates were as high as 10%). Frequently mentioned estimates suggested between 250,000 and 500,000 children were identified as hyperactive. The disorder was believed to affect boys more often than girls, perhaps at a ratio of 8 to 1. In sum, hyperactivity was seen, fundamentally, as a disorder of childhood, typically identified in the early years of school, which most children were expected to "outgrow" by adolescence.

The Emergence of "Adult Hyperactives"

Beginning in the late 1970s, several cohort studies were published which followed children who had been originally diagnosed with hyperactivity a decade or more earlier and traced their development into adulthood. These studies established that for some hyperactive children, the symptoms persisted into adolescence and even into adulthood. Thus emerged the notion of what we call "adult hyperactives," hyperactive children who did not "outgrow" their symptoms and still manifested some problems as adults.

Weiss and colleagues (1979) followed 75 hyperactive children and 45 matched controls for 15 years. When compared to a matched cohort, they found that clear symptoms persisted for many hyperactive children into adulthood; 66 percent had at least one symptom (Weiss and Hechtman 1986). Most notable was the persistence of restlessness and poor concentration. Despite criticisms that only 60 percent of the children were followed into adulthood, the study remains widely cited, and mis-cited.[3] A second prospective study found 31 percent were still diagnosable as hyperactive in late adolesence (Gittleman, et al. 1985; see also Mannuzza, et al. 1991; 1998). A follow-up at young adulthood, however, showed a significant decrease of ADD symptoms, to about one-third the rate reported by Weiss. The media has tended to focus on the higher prevalence rates reported in the Weiss data.

Following the publication of these seminal studies, other researchers investigated the persistence of symptoms into adulthood (e.g., Biederman, et al., 1996) to further identify what they believed to be confounding factors (such as co-morbidity with other disorders). These studies reflect the dominant thinking of the late 1980s: any diagnosis of Attention Deficit Disorder (ADD, as the diagnosis was renamed) was found only among adults whose disorder persisted from childhood and, thus, was *not* a disorder that was either "missed" during childhood or was of adult onset. All ADD adults were hyperactive children grown-up.

The 1980 update, DSM-III, both reflected and facilitated an interest in hyperactivity beyond childhood.[4] First, in line with the general trend in DSM-III to define disorders by symptoms, rather than etiology, the updated manual reclassified the disorder according to its

3 For example, although the cohort continued to exhibit signs of hyperactivity, a twenty-year follow-up found 36% of the cohort symptomatic—a less widely reported statistic (e.g., *Newsweek*, 1990). Even "experts" (such as Edward Hallowell) are cited in the popular literature referring to "seventy percent of the kids who have it continue to suffer symptoms as adults" (Stich 1993, p. 77). The figure of 70% appears to come from a study published by Wender in 1995, but is not the most accepted estimate of persistence of symptoms.

4. DSM-III, the third revision, aimed for more rigorous diagnoses and represented the dominance of the biopsychiatric viewpoint in psychiatry over other perspectives (Cooksey and Brown 1998).

primary symptoms: either hyperactivity *or* inattention. Thus, the diagnosis focused on *attention* deficits with two major subtypes: Attention-Deficit Disorder with Hyperactivity and Attention-Deficit Disorder without Hyperactivity (deemed the less severe of the two categories). The symptoms were focused largely on children's activities (e.g., "runs about or climbs on things excessively," "frequently calls out in class," "has difficulty concentrating on schoolwork or other tasks requiring sustained attention"). To be diagnosed, patients needed to exhibit symptoms before age seven.

Secondly, the range of behaviors included within the official diagnosis became more comprehensive. Some symptoms were related to school-based behavior, such as "frequently calls out in class"; whereas others were more interpersonal and ephemeral in nature, e.g., "often acts before thinking" or "is easily distracted." These changes in the diagnostic category meant that individuals who may not have "qualified" for a diagnosis of hyperkinetic reaction or minimal brain damage under DSM-II, now could now be thought of as having ADD under DSM-III. Both subtypes of ADD permitted courses of the disorder in which "all symptoms persist into adolescence or adulthood" or that "hyperactivity disappears, but other signs persist into adolescence or adulthood" (APA 1980, p. 42). Thus, the DSM-III definition expanded the diagnostic criteria in terms of necessary "symptoms," while allowing for the possibility for persistence into adulthood.

The Development of "ADHD Adults"

In the 1987 revision, DSM-IIIR, ADD was renamed "Attention Deficit Hyperactivity Disorder" (ADHD) to reassert the condition of hyperactivity as one possible, but not mandated, symptom of the disorder. ADHD enabled children who were hyperactive and impulsive, but less inattentive to meet the diagnostic criteria. Over 50% more children received ADHD diagnoses under these criteria (Newcorn, et al. 1989). The revised diagnostic criteria did not refer to the disorder in adulthood, but opened the door slightly for an expanded definition beyond "adult hyperactives" to "ADHD adults" who had no childhood diagnosis. For example, the environment in which ADHD symptoms occurred had expanded to the workplace: "In the classroom or workplace, inattention or impulsiveness are evidenced . . ." (APA 1987, p. 50). There was less emphasis on school-aged behaviors: "frequently calls out in class" (DSM-III) became "often blurts out answers to questions before they have been completed." The criteria of exhibiting symptoms before age seven was retained, and although the revision obliquely acknowledged the possibility of post-childhood ADHD, adult ADHD was not highlighted in the manual.

Early Claims

In the same year that the DSM-III-R was published, two publications aimed at lay readers heralded a new category of "ADHD Adults"—adults who had not been diagnosed as children, but had suffered from symptoms. Although later claims would be made by those who could not trace their suffering to their youth, these early claims were made either by or for those who, retrospectively, could identify signs of ADHD in their childhood.

In 1987, Paul Wender, a longtime hyperactivity researcher, published a book that examined hyperactivity throughout the life span. Although the book was entitled, *The Hyperactive Child, Adolescent and Adult,* only one chapter described adults with ADHD symptoms. Nonetheless, the book targeted a lay audience and would be cited frequently in subsequent years.

The same year, Frank Wolkenberg (1987), a free-lance photographer and picture editor, wrote a first-person account in the *New York Times Magazine* about his discovery that he had ADHD despite his apparently successful life. When he sought treatment for depression and

suicidal ideation, he was diagnosed with ADHD by a psychologist whose specialty was learning disorders. Wolkenberg then began reinterpreting several clues from early in his life (e.g., impulsivity, distractibility, disorganization, and emotional volatility) as signs of the disorder. This highly visible testimony of someone not previously diagnosed with ADHD as a child put the idea of "ADHD Adults" into the public realm. No one had diagnosed him as hyperactive as a child, yet now, he was attributing "seemingly inexplicable failures . . . all unnecessary and many inexcusable" (p. 62) to ADHD. He suggested it was a neurobiological dysfunction "of genetic origin," thus attributing his life problems to a chemical imbalance.

As the notion of ADHD in adulthood was filtering into the public, the psychiatric profession was also turning attention to this new problem. Clinics for adults with ADHD were established at Wayne State University in 1989 and two years later at the University of Massachusetts in Worcester (Jaffe 1995).

In 1990, Dr. Alan Zametkin of the National Institute of Mental Health and several of his colleagues published an often-cited article in the *New England Journal of Medicine*. Using positron-emission tomography (PET) scanning to measure brain metabolism, Zametkin demonstrated different levels of brain activity in individuals with ADHD compared to those without the disorder, providing new evidence for a biologic basis for ADHD. Because of the risks inherent in research involving radiologic images, the researchers used adult subjects who both had childhood histories of hyperactivity and were biological parents of hyperactive children. Although not their intention, Zametkin's work became one of the key professional sources cited by others to demonstrate the presence of ADHD in adults (e.g., Bartlett 1990; and *Newsweek*, December 3, 1990), since it appeared to bolster claims that ADHD could persist into or develop during adulthood.[5] While the study made national headlines, additional follow-up studies which did not confirm the strength of the initial study's findings, received no widespread publicity from the professional and lay press.[6]

Adult ADHD in the Public Sphere

Writing about ADHD as a disorder in adults has been increasing in the professional literature for years. As can be seen in Table 1, by the middle 1980s there were over 40 articles in the medical literature and about a dozen in the psychological literature published per year (with some overlap). Many of these articles were minor and nearly all dealt with the persistence of symptoms in hyperactive children as they reached adulthood. The issue of "ADHD adults" *per se* did not reach the popular media until the 1990s (see Table 1) and in a moderate, but growing number of articles. But the idea that adults could have ADHD did spread with the help of a variety of media.

By the early 1990s, several books written for a popular audience looking specifically at ADHD adults were published. Psychologist Lynn Weiss (1992) identified her adult subjects as those who were diagnosable with ADHD, not merely grown-up hyperactive children having remnants of the symptoms carried over from an earlier condition. Another popular book quickly followed with the provocative title of, *You Mean I'm Not Lazy, Stupid or Crazy?!* (Kelly and Ramundo 1993), emphasizing the shift in responsibility that being diagnosed with adult ADHD can bring. Thom Hartmann (1994), writing in a somewhat esoteric, but essentially sociobiological frame, associated ADHD with an evolutionary adaptation to the social environment. He likened those with ADHD to hunters (who are nomadic, scanning the environment for sustenance, seeking of sensation, reacting quickly and decisively) adapting to a more mod-

5. Referencing the work of others, Zametkin noted that "the disorder is probably inherited in certain families" and "symptoms persist into adulthood in 40 to 60 percent of the persons with childhood hyperactivity," but these claims were primarily in the context of justifying using an adult sample (Zametkin, et al. 1990, p. 1361).

6 The follow-up studies using adolescent populations produced varied results (e.g., Ernst, et al 1994, Zametkin, et al. 1993). Additionally, with more evidence in, scientists are less sure that PETs establish a clear marker of ADHD—in children or in adults.

Table 1 • *Adult ADHD in the Professional and Lay Media Mean Articles Per Year, 1975–1999 (in five year intervals)***

	Professional Media		*Lay Media*		
	Medline	*Psychinfo*	*Academic Universe*		
Year			*Wire Service*	*NE Regional*	*Magazines*
1975–1979	34.4	3.4	0	0	0
1980–1984	41.6	7.6	0	0	0
1985–1989	43.6	11.4	0	0.4	0.2
1990–1994	50.0	13.8	5.8	6.0	0.4
1995–1999	95.6	42.6	25.2	28.6	3.2

* For this table, we do not distinguish between articles on "adult hyperactives" or "ADHD Adults." Search criteria: *Medline and Psychinfo databases*: adult and (ADHD or "attention deficit hyperactivity disorder" or "attention deficit disorder" or hyperkinesis). *Academic Universe*: in text search for: "Attention deficit disorder or ADHD or hyperkinesis" and in headline or lead paragraph: "adult." Sources are divided among wire service (e.g., *Associated Press, United Press International*), New England Regional Newspapers (e.g., *Boston Globe, New York Times*), and Popular Magazines (e.g., *Ladies Home Journal, Newsweek*).

ern farming community (which requires greater stability and focus). This hypothesis, by its nature, supports the notion of ADHD adults.

Further support came from the television news media reports on the spread of ADHD in adults. Major news shows put their own spin on the prevalence of the disorder. For example, on "20/20," Catherine Crier attributed ADHD to a "biologic disorder of the brain" in adults (September 2, 1994). Dr. Timothy Johnson on "Good Morning America" (March 28, 1994) was quoted as saying that experts estimate as many as 10 million adult Americans may have ADHD (Vatz and Weinberg 1997, p. 77). The new face of the disorder was not limited to hyperactive children grown-up, but included a new group of "ADHD adults" who came to reinterpret their current and previous behavioral problems in light of an ADHD diagnosis.

The message was reiterated in popular magazines. A feature article in *Newsweek*, for example, described a 38-year old security guard who held more than 128 jobs since leaving college after being enrolled in the academic institution for 13 years (Cowley and Ramo 1993). He finally "received a diagnosis that changed his life" at the adult ADHD clinic at the University of Massachusetts in Worcester. Similarly, an article in *Ladies' Home Journal* (Stich 1993) described a husband who would continually be fired from job after job, constantly interrupted his wife, and forgot details of conversations. Then "Two years ago, the Pearsons' discovered there was a medical reason for Chuck's problems. After their son was diagnosed with attention deficit disorder (ADD) . . . they learned Chuck also had the condition" (Stich 1993, p. 74). The article does not mention the fact that Chuck, who was diagnosed at age 54, also went on to found the Adult Attention Deficit Foundation, which acts as a clearinghouse for information about adult ADHD (Wallis, 1994, p. 47).

Adult ADHD was given a great boost in 1994 with the publication of a best-selling book *Driven to Distraction* by Edward Hallowell and John Ratey (1994), two psychiatrists with prestigious organizational affiliations. Hallowell offered his own experience as the springboard for the book: although successful as a medical student, and later as a practicing psychiatrist, he came to believe he had ADHD. Ratey also stated he had ADHD. The book has become a crucial touchstone among the lay public. Using their clinical experience as the basis for their book, Hallowell and Ratey (1994) argue that ADHD takes various forms. Based upon their clinical experience, Hallowell and Ratey propose "suggested diagnostic criteria for attention deficit disorder in adults" (p. 76). These criteria recognize the disorder without hyperactivity. They

present thirteen sub-types of the disorder, a set of "suggested diagnostic criteria," and offer a 100-question test (with elusive criteria[7]) for readers to assess whether or not they may need to seek evaluation for ADHD. The authors urge readers not to self-diagnose, but seek professional assessment of their condition. Neither Hallowell nor Ratey is a hyperactivity researcher—Ratey published only one article on the topic in a professional journal (Ratey, et al. 1992) and Hallowell, none. Both remain very active in promoting their work in public circles. Their affiliation with Harvard Medical School gave them some academic legitimacy, but they came to the area of ADHD adults more as professional advocates than as scientific researchers. In a sense, they are moral entrepreneurs for the adult diagnosis (Leffers 1997).

The cover of July 18, 1994 *Time* magazine issued a clarion call for ADHD adults: "Disorganized? Distracted? Discombobulated? Doctors Say You Might Have ATTENTION DEFICIT DISORDER. It's not just kids who have it." The 9-page article disseminated the criteria and possibilities of ADHD in adults to a wide audience, including speculations that Ben Franklin, Winston Churchill, Albert Einstein, and Bill Clinton may have had the disorder (Wallis 1994).

Organizational stake-holders. Over the years a number of parents and advocacy groups emerged around ADHD in children, including those involved in the learning disabilities movement (Erchak and Rosenfeld 1989). The largest ADHD support group, Children and Adults with Attention Deficit Disorder (Ch.A.D.D.), has grown significantly over the last decade and owes much of its growth to its adult membership, specifically, those adult members with ADHD. In its activities, as well as its framing of ADHD, the organization has helped expand the categorization to include adults. In 1990, the parent organization sponsored a national meeting that featured three adults with ADD and four professionals as speakers (Jaffe 1995). In 1993, the organization added the "and adults" to its name to reflect its broadened focus. In May 1993, a Ch.A.D.D.-sponsored national conference entitled, "The Changing World of Adults with ADD," attracted representatives from 30 states and two Canadian provinces. The organization now sees education and support of adults with ADHD as part of its core mission. For example, on its web page, the organization proclaims, "With relative certainty, we can predict that AD/-HD will continue to influence the behavior and attitude of an individual throughout his or her life. . . ." (http://www.CHADD.org/attention/attnv5n4p12.htm). In addition to lobbying for educational services for children, Ch.A.D.D. advocates legislation that provides workplace protection for adults with ADHD.[8] In all official publications and communications, Ch.A.D.D. has positioned ADHD as a medical condition, a "neurobiological disorder," rather than as a psychiatric or behavioral disorder (Diller 1997, p. 130; http://www.CHADD.org), so it can be perceived as having a more legitimate claim to disability entitlements.

Ch.A.D.D. played a significant role in bringing the lay and professional claims-makers together to promote better understanding, acceptance, and treatment of ADHD (Leffers 1997). Additionally, not only does Ch.A.D.D. promote the existence of adult ADHD to the public, the organization legitimates the disorder for sufferers, almost as much as the individual diagnosis does. Similar to other controversial illnesses (e.g., Kroll-Smith and Floyd 1997), the organization is both a haven and advocate for those who believe they suffer from the disorder.

Another organizational stakeholder is the pharmaceutical firm of Ciba-Geigy that manufactures Ritalin (methylphenidate), the drug most widely prescribed for treating ADHD. Ciba-Geigy has long been involved in promoting hyperactivity and now, ADHD as a medical disorder (Conrad 1975; Schrag and Divoky 1976). As early as 1971, Ritalin provided as much as 15

7. Questions include: "Do you change the radio station in your car frequently?" and "Are you always on the go, even when you don't really want to be?" The authors provide no normative standards against which to judge the answers.

8. As a claims-maker, Ch.A.D.D. spans several significant sectors. Ch.A.D.D. is buttressed by both the academic and business sectors of the ADHD community. The board of directors of Ch.A.D.D. includes well-known academic researchers and physicians working in the area of ADHD

percent of Ciba's gross profits (Conrad 1976, p. 16). While the original patent on the drug has long expired, and methylphenidate is available in generic formulations, Ritalin is still the most commonly prescribed medication for ADHD (Arnst 1999) and one of the three most commonly prescribed stimulants (Ballard, et al. 1997). The amount of methylphenidate manufactured has increased sharply in the 1990s. From 1990 through 2000, the production of methylphenidate in the United States grew by 800% (Wen 2000).[9] One national survey of physicians' diagnoses, based on 1993 data, found that of the 1.8 million persons receiving medications for ADHD, 1.3 million were taking methylphenidate (cited in Diller 1996, p. 12). Other sources have variously estimated that 2.6 million children (Guistolise 1998) and 729,00 adults received prescriptions for Ritalin (Breggin 1998, p. 160). The potential market, with 3 million children and 4 million adults in the U.S diagnosed with ADHD (Arnst 1999), has untapped pockets.[10] By redefining ADHD as a lifetime disorder, the potential exists for keeping children and adults on medication indefinitely. A recent review article noted, "The eightfold increase in the use of stimulants in the United States over the past decade stems from several factors, including the continuation of treatment from childhood into adolescence and the treatment of adults" (Zametkin and Ernst 1999, p. 45). While it is difficult to accurately assess what proportion of this huge increase of Ritalin use is for ADHD adults, it is likely to be a substantial proportion.

These organizational stakeholders have worked both independently and in consort. Ciba-Geigy reportedly has provided significant financial assistance through a variety of support mechanisms that assist adults with ADHD, including the support group Ch.A.D.D. and a video produced for the Office of Special Education Programs (OSEP) (Diller 1996). In 1995, The Merrow Report, a public radio talk show, reported that Ch.A.D.D., received significant financial contributions from Ciba-Geigy (PBS 1995). The public outcry and media attention questioned the neutrality of this group. Since then, Ch.A.D.D. continued to claim that the percentage of its funding from pharmaceutical companies never exceeded 17% and has been decreased to less than 10%, and is used only for educational programs (www.CHADD.org/presso4-13-98.htm).

Diagnostic Institutionalization

By 1994, DSM-IV reflected the growing consensus that adults could be diagnosed with ADHD, provided they had exhibited symptoms as children before the age of seven. Two (out of the five) diagnostic criteria were clearly relevant to adults. First, DSM-IV required that "some impairment must occur in at least 2 settings." While for children, these settings usually mean school and home, the range of settings may be greater for adults and include home, school, work, and other vocational or recreational settings. Secondly and related, "there must be clear evidence of interference with developmentally appropriate social, academic, or occupational functioning." The inclusion of work environments in the criteria section of the manual reflected the central and relatively uncontroversial position that the diagnosis of ADHD in adults now occupied.[11]

9. Production rates do not tell the entire story: while not all of the methylphenidate production is consumed in this country, a sizable portion is. According to the United Nations 1993 statistics, the U.S. produces and consumes more than 80% of the all methylphenidate (Guistolise 1998), but the DEA has estimated that the U.S. consumes over 90 percent of the 8 5 tons produced worldwide (Livingston 1997).

10 For many years, Ciba-Geigy actively proclaimed the benefits of Ritalin in advertisements. It is interesting that we have been unable to locate drug advertising for Ritalin for ADHD adults in major psychiatric or medical journals. Either Ciba-Geigy advertises Ritalin for ADHD through other channels—e.g., "detail" representatives who call on physicians or through conferences—or they have not promoted Ritalin for adult ADHD. Given the potential market, this is curious and worthy of further investigation.

11 In keeping with the approach begun with DSM-III, however, such markers are not seen as establishing the etiology of the disorder Rather, they are diagnostic in nature. While the manual asserted that no biologic markers cur-

The new definition allowed for more variations of symptomatic behavior across and within settings. "It is very unusual for an individual to display the same level of dysfunction in all settings or within the same setting at all times" (APA 1994, p. 79). Adults who might be quite successful at work, but highly inattentive in particular interpersonal relationships and recreational activities, could now be diagnosed with ADHD. As the more expansive criteria in DSM-IV gained acceptance among mental health professionals, some advocated eliminating the requirement that adults be able to retrospectively reconstruct a history of ADHD (Barkley and Biederman 1997). This would permit even greater expansion of the adult ADHD category.

Reports from the American Medical Association (AMA) and the National Institutes of Health (NIH) supported an expanded ADHD diagnosis. In 1997, the Council on Scientific Affairs of the AMA issued recommendations for treating ADHD, which were published in *JAMA* (April 8, 1998). The article noted:

> The criteria of what constitutes ADHD in children have broadened, and there is a growing appreciation of the persistence of ADHD into adolescence and adulthood. As a result, more children (especially girls), adolescents, and adults are being diagnosed and treated with stimulant medication, and children are being treated for longer periods of time (Goldman, et al. 1998, p. 1100).

The report concluded there was "little evidence of widespread overdiagnosis or misdiagnosis of ADHD or of widespread overprescription of methylphenidate by physicians" (Goldman, et al., 1998, p. 1100). In November 1998, NIH convened a Consensus Conference on the Diagnosis and Treatment of Attention Deficit Hyperactivity. While little new emerged from the conference, two papers explicitly focused on adults with ADHD. Overall, the conference report affirmed the validity of ADHD, although recognizing scientific controversies, the need for more basic and longitudinal research, and a lack of consensus on optimal treatment (http://odp.od.nih.gov/consensus/cons/110/110_statement.htm).

Further institutional support for the ADHD diagnosis in adults has come from prestigious professional publications. A lead editorial in the *American Journal of Psychiatry* (Shaffer 1994) and major review articles in *New England Journal of Medicine* (Elia, et al. 1999 and Zametkin and Ernst 1999), which included discussions of ADHD in adults, symbolized the acceptance of the diagnostic category in medical circles.

It is clear that by 1994, the clinical diagnosis of ADHD had expanded to include adolescence and adulthood and had become institutionalized in psychiatry and medicine. One longtime researcher called it "the most common chronic undiagnosed psychiatric disorder in adults" (Wender 1998, p. 671).

Diagnosis

One of the starkest contrasts to the earlier history of ADHD with children is the vast amount of self-diagnosis of ADHD among adults. Virtually all children were referred by parents or schools to physicians (Conrad 1976). Among adults self-referrals are the norm, and many patients come to physicians apparently seeking an ADHD diagnosis. Frequently, adults who encounter a description of the disorder, sense that "this is me" and go on to seek professional confirmation of their new identity. Another common path to self-diagnosis occurs when parents bring a child to a physician for treatment and remark, "I was the same when I was a kid . . ." and thus, begin to see themselves and their own difficulties through the lens of

---

rently exist ("There are no laboratory tests that have been established as diagnostic . . ."), through the absence of such markers, the manual gives creditability to such tests. Therefore, in refuting the absence of any such tests, the manual may have laid the groundwork for the next version of the DSM to consider laboratory tests such as PET or SPECT. In fact, lay as well as professional claims-makers have been asserting the presence of genetic, as well as other biologic, markers of ADHD

ADHD. While this trend appears to have been precipitated by some of the popular press (e.g., Hallowell and Ratey 1994), it continues with legitimization provided by support groups designed for adults with ADHD such as Ch.A.D.D.

Anecdotes in the popular literature suggest that adults who self-diagnose, may recognize the condition in a popular media article or book. Hallowell and Ratey (1994) tell of one woman who noted, "My husband showed me this article in the paper" (p. 26). Comments on Internet sites state directly that it was one of the books on adult ADHD that led individuals to physicians for a diagnosis. Diller (1997) relates that one of his patients came to self-diagnosis after reading *Driven to Distraction*. Diller points out that, while the physician who is presented with such a self-diagnosed patient may have difficulty establishing the existence of symptoms in their childhood (as opposed to a checklist of symptoms absorbed through reading), the self-diagnosis, itself, becomes an element that the professional diagnosis must take into account. One psychiatrist wrote a colleague, "Adult ADHD has now become the foremost *self-diagnosed* condition in my practice. I fear that the condition allows a patient to find a biological cause that is not always reasonable, for job failure, divorce, poor motivation, lack of success, and chronic depression" (Shaffer 1994, p. 638).

Diagnosis-seeking behavior is an integral feature of the emergence of Adult ADHD. This kind of self-labeling, information exchange, and pursuit of diagnosis fuels the social engine medicalizing certain adult troubles. Without it, the spread of Adult ADHD would be seriously limited.

Critics, Skeptics and Counter-Claims

Even with well-established diagnoses such as ADHD in children, there may be skeptics and critics who dismiss the validity of the diagnoses, criticize over-diagnosis, or enumerate the dangers of pharmacological treatment. Although such attempts to reign in medicalization have had little impact on Adult ADHD, they remain a reservoir of counter-claims that could affect diagnostic expansion.

Some therapists who treat those with ADHD, believe that the diagnosis is becoming too prevalent. "Certainly, some people diagnosed with ADHD are neurologically impaired and need medication. But the disorder is also being named as the culprit for all sorts of abuses, hypocrisies, neglects, and other societal ills that have nothing to do with ADHD" (Bromfield 1996, p. 32). Alan Zametkin, a leading researcher on ADHD, has become quite critical of what he has called "a cottage industry of adult ADD" (Kolata 1996).

Beginning in the late 1980s, the Church of Scientology launched a major media campaign against the use of Ritalin with children. Although the controversial church remained an outsider in the debate, for several years they offered continuous public criticism about ADHD (Leffers 1997). Furthermore, a number of popular books critical of the "epidemic" of ADHD and Ritalin usage have been published: *Running on Ritalin* (Diller 1997), *Ritalin Nation* (DeGrandpre 1999), and *Talking Back to Ritalin* (Breggin 1998). While most of the books focused their critiques on the diagnosis and drug treatment of children, they offered some skepticism about the disorder in general.

The popular media that had been actively involved in publicizing the prevalence of the disorder among adults in 1993 and 1994 has become more critical in subsequent years. Leading the challenge was a prominent, front-page article in *Time Magazine* (Wallis 1994); the synopsis banner read, "Doctors say huge numbers of kids and adults have attention deficit disorder. Is it for real?" "60 Minutes" (December 10, 1995), produced segments that highlighted the absence of a definitive test for ADHD. Other major news shows focused on controversies about the subjectivity of ADHD diagnoses and the over-prescription of Ritalin (e.g., The "Today" Show on October 24, 1995; CNN on November 2, 1995; "20/20" on December 20, 1995; and "ABC Evening News" on March 28, 1996—reported in Vatz and Weinberg 1997).

Most of the criticism has been about the overdiagnosis and treatment among children. And even in this context, there are also a steady number of articles supportive of treating the

disorder (e.g., Gladwell 1999). Only a small amount of the criticism has been directed against notions of adult ADHD. Yet, ironically, controversy about ADHD raises the public's awareness and increases the diffusion of information about the disorder, which can indirectly contribute to diagnostic expansion.

The Social Context for the Rise of Adult ADHD

The expansion of the hyperactivity diagnosis to adults is not, primarily, the result of new scientific discoveries about the biomedical nature of the disorder. While a number of studies indicated that symptoms in children diagnosed as ADHD could persist beyond childhood, the studies also showed that this occurred in perhaps a third of the cases (Weiss, et al. 1979). To the best of our knowledge, there were no breakthrough epidemiological or clinical studies that identified a population of adults as having ADHD who were not previously diagnosed in childhood. Yet it is clear that "adult ADHD" has become a more common and accepted diagnosis in recent years. What would bring adults to physicians seeking such a diagnosis and what spurs physicians to treat them? Several social factors appear to have contributed to the diagnostic expansion.

The Prozac Era

Since the introduction of chlorpromazine in 1955, there has been a psychopharmacological revolution in psychiatry (Healy 1997). Psychoactive medications played a major role in deinstitutionalization and became regular parts of physicians' treatment protocols for various life problems, especially anxiety (e.g., Valium). American psychiatrists preferred drugs that would be useful in office psychiatry, rather than medications limited to inpatient populations (Healy, p. 70).

In 1987, Prozac (fluoxetine) was introduced as a new type of medication to treat depression. This drug is a selective serotonin reuptake inhibitor that directly affected a different group of neurotransmitters with fewer unpleasant side effects than previous types of antidepressants. This drug quickly became a phenomenon in itself, and led to a whole new class of drugs for treating psychiatric and life problems. Peter Kramer's book, *Listening to Prozac* (1993) and the subsequent news media coverage (e.g., cover stories in *Newsweek* and *New York* magazines, and dozens of TV and radio appearances), piqued the public interest in this new drug. Prozac was increasingly depicted as a medication that was a psychic energizer and that could make people feel, in Kramer's terms, "better than well." Prozac was not seen as a medication only for the seriously disturbed, but was a formulation that could improve the lives of people with minor disturbances and distresses.

The introduction and popularity of Prozac (and a series of related medications) created a context whereby taking medications for life problems was more acceptable (cf., Diller 1996). Prozac was seen as a drug that was appropriate for a range of psychic difficulties, and whose use could even make an OK life better. It led numerous people to redefine their life woes in terms of mild depression and seek treatment. A person did not have to be severely disturbed to benefit from Prozac. Similarly, Ritalin was now available to adults who had not been diagnosed as hyperactive in childhood, but who were now redefining their life difficulties as related to "inattention," "impulsivity," and "restlessness." The possibility that adults could "have" ADHD became common in parts of the culture and many individuals "recognized" that they, too, suffered from the disorder and sought treatment from physicians. For example, Hallowell and Ratey (1994) recount a case in which a patient demanded Ritalin for their as-yet-to-be officially diagnosed condition. As physicians have come to view ADHD symptoms as not limited to children, they are likely to offer an ADHD diagnosis and a "trial on Ritalin" to adults with certain kinds of life difficulties. The key here, however, is that our culture seems to be

moving away from "pharmacological Calvinism" (Klerman cited in Healy 1997) to the idea that designer drugs might improve the functioning of most anyone.

Genetics

Genetics is the rising paradigm in medicine and an increasing number of human problems are being attributed to genetic associations, markers, or causes (Conrad 1999). Some experts have long believed that there is a genetic component to ADHD and its predecessor, hyperactivity, but to date, evidence is only suggestive, even though the claims of inheritance date back at least 25 years (Cantwell 1975; Wender 1971; Wood, et al. 1976). After reviewing extant evidence, researchers noted, "Family, twin, adoption, and molecular genetic studies show that it has a substantial genetic component" (Faraone and Beiderman 1998, p. 951). Recent research has focused on a genetically induced imbalance of dopamine. Researchers posit a potential link between ADHD and three genes: D4 dopamine receptor gene, the dopamine transporter gene, and the D2 dopamine receptor gene (Faraone and Beiderman). The thinking is that people who carry the gene overproduce dopamine, which impairs self-control. Some suggested that genetic inheritance might account for as much as 80 percent of the likelihood that one has ADHD (Barkley 1997, p. 39). Despite the research and much published testimony (e.g., parents reiterating about their ADHD child, "I was just like that when I was his age"), the genetic nature of ADHD is still contested. However, the greater the medical and public acceptance of a genetic component of ADHD, the more adult ADHD becomes a social reality. If the disorder is genetic, then it is deemed an intrinsic characteristic of people with the gene. This supports the notion that ADHD is a lifelong disorder, and the position that adults could have the disorder, even though they were never diagnosed as children.[12]

The Rise of Managed Care

Managed care affects all aspects of medicine, including psychiatry. Health insurance imposes strict limits on the amount of psychotherapy for individual patients. Psychiatrists, now, must make use of utilization review, participate in medication management, consultation, or administering "carve-out programs" (Domino, et al. 1998). Mental health advocates and some researchers argue that, under managed care, there is a growing reliance upon various forms of prescription therapies to treat all types of psychiatric and life problems (Johnson 1998). A recent study found that managed care might fuel growth in the pharmaceutical industry (Murray and Deardorff 1998). Undoubtedly, there are now greater incentives for psychiatrists and other physicians to treat all potential mental health problems with medication, rather with than some form of talking or psychotherapy. Managed care tends to replace psychiatrists with primary care physicians who are less versed in "talking therapies" (Stoudemire 1996), and, thereby, increasing the potential for relying on medication for treatment. Searight and Mclaren (1998) describe a "pragmatic assessment and treatment" that occurs when primary care physicians diagnose and treat ADHD children with pharmaceuticals. In fact, there is some evidence that ADHD children are treated with stimulant medications to the exclusion of other "talking therapies" (Woolraich, et al. 1990). It is likely there are similar trends with adult ADHD.

Furthermore, this apparent treatment preference may encourage the expansion of drug treatable diagnoses, since these are reimbursable under managed care. It is feasible that problems that might have been diagnosed differently two decades ago (e.g., adult adjustment reaction) or seen as life dissatisfaction, now can be diagnosed and treated as ADHD. While we do

12 A recent article reported a sharp increase in Ritalin use among 2–4 year old children enrolled in two Medicaid programs (Zito, et al. 2000). While safety and efficacy for such young children is unknown, and diagnostic validity even more problematic, this suggests that ADHD may be expanding in two directions age-wise, creating a lifelong disorder.

not claim that managed care has caused the rise of adult ADHD, it is part of the context that makes ADHD a more likely diagnosis than in the past.

Some Consequences of the Adult ADHD Diagnosis

In a paper over two decades ago, Conrad (1975) outlined some of the ramifications of the medicalization of hyperactive behavior. These included: (1) the problem of expert control; (2) the uses of medical social control; (3) the individualization of social problems; and (4) the depoliticization of deviant behavior. To these, he later added the dislocation of responsibility from the individual to the nether world of biophysiological functioning (Conrad and Schneider 1992). Most of these can be applied to adult ADHD as well. The self-initiated and even self-diagnosed nature of most adult ADHD puts a different emphasis on some of these issues (e.g., depolitization) but does not neutralize them. With adult ADHD, it may be the shift from personal responsibility and the individualization of life problems that are most critical. Creating a "medical excuse" directs attention away from social forces to biogenic ones and shifts blame from the person to the body. Thus, adult ADHD carries with it some unique consequences, especially since most cases are self-referred adults.

The Medicalization of Underperformance

What is interesting about adult ADHD is that many of the individuals who are given the diagnosis are, by some measures, successful individuals. Ratey and Hallowell, for example, are both psychiatrists affiliated with a major medical school and authors of a best-selling book, yet identify themselves as having ADHD. Frank Wolkenberg was a successful freelance artist. In a widely publicized and controversial article, James Trilling (1999) characterized both himself (a professor and author) and his late father, the renowned literary critic, Lionel Trilling, as suffering from ADHD. Both lay and professional accounts of adult ADHD commonly provide examples of adults who have achieved success by many conventional social measures (e.g., Hallowell and Ratey 1994; Leffers 1997). There are, of course, individuals with limited achievement who are also defined as ADHD, but the issues remain similar. In fact, Hallowell and Ratey see their audience as "chronic underachievers" whose difficulties are caused, not by a lack of self-discipline, but by an inborn neurological condition.

For adults, the issue surrounding ADHD is performance, not behavior. As Diller (1997, p. 277) notes:

> In broadest terms, moving from childhood to later life for those with ADD involves a shift from problems with behavior to problems with performance. The simple fact of hyperactivity or impulsivity is not the chief concern for teens and adults: rather, it's their disorganization, irresponsibility, procrastination, and inability to complete tasks.

The adult ADHD diagnosis often stems from a perception of underperformance. This underperformance can be reflected in how tasks are accomplished, continual problematic adaptations, or the level of success achieved. Individuals feel that they could/should be doing better and seek help in improving their performance. The ADHD diagnosis provides a medical explanation for their underperformance, allows for the re-evaluation of past behavior, and by shifting responsibility for problems reduces self-blame. A man who has come to see his ADHD as underlying the chaos in his life said, "I always thought I was stupid" (quoted in Hales and Hales 1993, p. 64). Laura, a minister, "always did very well, was always at or near the top of her class through high school, and seminary. . . . But now, she told [the psychiatrist], academics had always been a struggle for her" (Hallowell and Ratey 1994, pp. 83–84). Another woman reflected, "I had 38 years of thinking I was a bad person. Now I'm rewriting the tapes of who I thought I was to who I really am" (Wallis 1994, p. 43).

But beyond an explanation, Ritalin provides a strategy for improving the underperformance. Ritalin has been credited with saving marriages, rebuilding faltering careers, and transforming what had been problematic personalities. For example, "once Sam's ADD was diagnosed, he started on Ritalin at a dosage of 10 mg three times a day, and it worked well in helping him focus and reducing his mood swings" (Hallowell and Ratey 1994, p. 111). A 43-year old woman reports, "I was able to sit down and listen to what my husband had done at work. Shortly after, I was able to sit in bed and read while my husband watched TV" (Wallis 1994, p. 49). Some even describe a personal epiphany after first taking Ritalin. "The first day after starting to take the medication, walking down the Brooklyn street on which I then lived, I noticed the sky through the leaves of a tree and stopped to look at it. After a minute, it struck me that, for the first time in my life, I was looking at something with no sensation of having to stop and move on" (Wolkenberg 1987, p. 82).

A New Disability

A diagnosis of ADHD puts an individual into the larger category of having a "disability," which can serve as a gateway to potential claims to certain benefits and accommodations. Within this "rights" framework, the diagnosis has been interpreted, primarily, as a learning disorder (rather than a psychiatric disorder). While previous research has analyzed the role of ADHD-based claims to rights within children's education (cf., Searight and Mclaren 1998), the expansion of the diagnosis permits the medicalization of adult ADHD to gain further legal legitimization within the institutions of medicine, as well as employment and adult education.

As ADHD was coming to be identified as a disorder among adults in the early 1990s, individuals began to pursue legal actions to lay claim to rights under legislation such as the Americans with Disabilities Act and the Rehabilitation Act of 1973. Although rights are guaranteed under these statutes, they are only enforceable through civil suit. ADHD is not one of the conditions explicitly covered under the ADA, yet advocates have argued that the disorder falls under the umbrella of the law. When ADHD is of sufficient severity to affect an otherwise qualified individual by limiting a major life activity, protections are afforded under the ADA (Latham and Latham 1995). Individuals with ADHD have filed suits so that they might receive reasonable accommodations in education and in the workplace (Jaffe 1995). For example, a search using the legal database of Lexis-Nexis, identified 211 cases in federal labor law between 1980 and 1999 that concern ADHD (many of which include school boards or universities).

Clearly a diagnosis of adult ADHD carries with it a certain currency in the public sphere. The public is aware of these disability-related issues. A key article appeared in the *Wall Street Journal* in 1993 that outlined workplace and criminal justice issues for those with ADHD. A book on ADD related disability law was published for advocates in 1992 (Latham and Latham 1992). Not only are individuals with ADHD the potential beneficiaries of a "medical excuse" for their life problems, but they may be eligible for specific benefits under the ADA. Individuals who, prior to diagnosis, would not have seen themselves having a disability find themselves reaping the benefits of disability legislation. Under the ADA, individuals with ADHD are entitled to "reasonable accommodations" if their disorder is sufficiently severe to interfere with tasks that they are otherwise qualified to perform. Accommodations could include untimed tests, oral versus written administration of tests or instructions, additional time to complete tasks, structured work assignments with written instructions, extra clerical support, more frequent performance appraisals, checklists for multi-stage tasks, diminished capacity arguments in criminal suits, and protection against discrimination (taken from Latham and Latham 1995; Nadeau 1995). The 1997 guidelines from the Equal Employment Opportunity Commission (EEOC) led to a list of accommodations for ADHD-diagnosed employees, including special office furniture, equipment such as tape recorders and laptops, and "organizational schemes (color coding, buddy systems, alarm clocks, and other 'reminders') designed to keep such employees on track" (Eberstadt 1999).

On Adult ADHD and Medicalized Category Expansion

Adult ADHD offers a clear example of how a medicalized category can expand to include a wider range of troubles within its definition. ADHD's expansion was, primarily, accomplished by refocusing the diagnosis on inattention, rather than hyperactivity and stretching the age criteria. This allowed for the inclusion of an entire population of people and their problems that were excluded by the original conception of hyperactive children.

The expanded category, adult ADHD, has become what Ian Hacking (1995, p. 96) terms "an object of knowledge" with discernable symptoms, putative causes, and particular treatment and care. Adult ADHD is recognized widely as an entity that is real, a "natural category" that only needs proper application. While thirty years ago adult ADHD might have been an oxymoron, today it is deemed a discrete disorder that can be claimed and diagnosed.

What is particularly interesting about the adult ADHD case is the role of lay groups in promoting the expansive medicalization. The lay-professional alliance (see also, Leffers 1997), best exemplified by Ch.A.D.D., but also evident in the media presentations, suggests an alignment between the claims of sufferers and professionals. This contrasts sharply with the case of multiple chemical sensitivity disorder where there is a clear-cut disjunction between lay claims-makers and skeptical professionals (Kroll-Smith and Lloyd 1997) and chronic fatigue syndrome, where individuals may have a difficult time getting their symptoms medically legitimated (Cooper 1997). The lay promotion of adult ADHD and the predominance of self-diagnosis contradict some of the basic premises of the labeling theory of psychiatric diagnosing (Scheff 1984), which suggests a fundamental conflict between social control agents and putative deviants. In the adult ADHD case, the diagnosis is embraced and promoted by the people who receive it. This suggests that this may be a different kind of psychiatric diagnosis from those sociologists typically study, one that is sought out by the very people to whom it is to be applied. In this case, medication treatment may be seen as much as an enhancement as a form of social control.

Studies have shown that the interaction of lay and professional claims-makers, rather than "medical imperialism," typically underlies the medicalization process. But the case of adult ADHD indicates that popularization may also play a part in diagnostic expansion. Media, including TV, popular literature, and now the Internet, spread the word quickly about illnesses and treatment. This popularization of symptoms and diagnoses can create new "markets" for disorders and empower previously unidentified sufferers to seek treatment as new or expanded medical explanations become popularly available. The widespread popular acceptance of entities as illnesses suggests a *feedback loop* among professionals, claims-makers, media, and the public in terms of the creation, expansion, and application of illness categories. Just as medicalization research has moved from focusing primarily on the claims and activities of physicians, to examining the interplay of professional and lay claims-makers, it behooves us to investigate how medical diagnoses penetrate in the public consciousness and become "taken-for-granted as an objective natural entity" in the public sphere (Horwitz forthcoming). Such medical diagnostic entities are often accepted without recognizing their history and with an assumption of their universal categorical significance regardless of cultural context. Within an increasingly medically aware public reside individuals who take identified "symptoms" as revealing an underlying disease condition and, in cases like adult ADHD, may seek to attain their diagnosis of choice.

But in terms of diagnostic expansion, the ADHD case is not unique. We can point to other cases where medicalized categories, which were originally developed and legitimated for one set of problems, were extended or reframed to include a broader range of problems. Several examples come to mind. Post-Traumatic Stress Disorder (PTSD) was originally conceived of as a disorder of returning Viet Nam war veterans who suffered from the after affects of brutal combat experience (e.g., with flashbacks, sleep problems, intense anxiety, etc.) (Scott 1990; Young 1995). But in recent years, PTSD has been applied to rape and incest survivors, disaster

victims, and witnesses to violence. Alcoholism was medicalized, in large part, due to the efforts of AA (Conrad and Schneider 1992), but the medicalization has expanded to include adult children of alcoholics, enablers, and especially "codependency" (Irvine 1999). Child abuse, which was originally limited to battering, has expanded to include sexual abuse and neglect, and to lesser extent, child pornography and exploitation (cf., Best 1990 and 1999) and, to a degree, spawned the larger domain of domestic violence (including woman battering and elder abuse). In 1972, multiple personality disorder was a rare diagnosis (estimated at less than a dozen cases in 50 years); by 1992, thousands of multiples were diagnosed. This "epidemic" resulted from the diagnostic reconceptualization to "dissociative identity disorder" in DSM-IIIR with less restrictive criteria and an association with child abuse (Hacking 1995).[13]

Definitional categories are potentially elastic and can be stretched to include more phenomena within their realm. This may be particularly true with medicalized categories because of the social advantages of medical definitions (e.g., mitigation of personal blame, medical excuse, health insurance, or disability benefits), although fiscal constraints of medicine may set limits on certain applications (Conrad 2000). While, in general, the expansion of medical categories may be limited by the carrying capacity of the medical profession and the health insurance industry (cf., Hilgartner and Bosk 1988), it appears that with active claims-makers, committed stake-holders, and receptive potential clients, diagnostic expansion can occur readily and with minimal opposition. Similar to domain expansion, diagnostic expansion begins with established disorders and moves toward more problematic claims. One legitimated medical category can beget others.

It is interesting to consider whether a parallel process of diagnostic contraction may take place. Some have suggested this narrowing has occurred for serious mental illness. With the increased reliance on primary care providers in managed care, for example, some research has suggested an underrecognition of some serious mental disorders (Stoudemire 1996). Others have noted that the "medical necessity" standard has altered, not only treatment, but also diagnosis (Ford 1998). It stands to reason that, in the age of managed care, shrinkage of the medical domain is a likely outcome. Yet as noted in the adult ADHD example, managed care may have paradoxically played a role in the emergence of this new category. Whatever the ultimate outcome of problem definitions, it seems clear the flexibility of certain medical diagnoses allows for expansion and, thus, the increase of medicalization in our society.

References

American Psychiatric Association, The Committee on Nomenclature and Statistics

1968 *DSM-II. Diagnostic and Statistical Manual of Mental Disorders*, Second Edition. Washington, DC: APA.

1980 *DSM-III. Diagnostic and Statistical Manual of Mental Disorders*, Third Edition. Washington, DC: APA.

1987 *DSM-III-R. Diagnostic and Statistical Manual of Mental Disorders*, Third Edition revised. Washington, DC: APA.

1994 *DSM-IV. Diagnostic and Statistical Manual of Mental Disorders*, Fourth Edition. Washington, DC: APA.

Arnst, Catherine

1999 "Attention deficit: Is it in the genes?" *Business Week* (November 22):70.

Aronowitz, Robert

1998 *Making Sense of Illness: Science, Society and Disease.* Cambridge, UK: Cambridge University Press.

13. In a different domain, the medicalization of childbirth has been the gateway to the medicalization of infertility, pregnancy, the post-natal period, and contributed to the medicalization of sexuality and sexual dysfunction.

Balint, Michael
1957 *The Doctor, His Patient, and the Illness.* New York: International Universities Press.
Ballard, Shirley, Morna Bolan, Michael Burton, Sherry Snyder, Claire Pasterczyk-Seabolt, and Don Martin
1997 "The neurological basis of Attention Deficit Hyperactivity Disorder." *Adolescence* 32:855–862.
Barkley, Russell A.
1997 *ADHD and the Nature of Self-Control.* New York: Guilford Press.
Barkley, Russell A. and Joseph Biederman
1997 "Toward a broader definition of the age-of-onset criterion for Attention-Deficit Hyperactivity Disorder." *Journal of the American Academy of Child and Adolescent Psychiatry* 36:1204–1210.
Barsky Arthur J. and Jonathan F. Boros
1995 "Somatization and medicalization in the era of managed care." *Journal of the American Medical Association* 274:1931–1934.
Bartlett, K.
1990 "Attention deficit: Scientists move toward understanding of brain disorder once thought limited to children." *Houston Chronicle* (December 2):6G.
Best, Joel
1990 *Threatened Children: Rhetoric and Concern about Child Victims.* Chicago: University of Chicago Press.
1999 *Random Violence: How We Talk About New Crimes and New Victims.* Berkeley: University of California Press.
Biederman, Joseph, Stephen Faraone, Sharon Milberger, Jessica Guite, Eric Mick, Lisa Chen, Douglas Mennin, Abbe Marrs, Cheryl Ouellette, Phoebe Moore, Thomas Spencer, Dennis Norman, Timothy Wilens, Ilana Kraus, and James Perrin
1996 "A prospective four-year follow-up study of Attention-Deficit Hyperactivity and related disorders." *Archives of General Psychiatry* 53:437–446.
Breggin, Peter
1998 *Talking Back to Ritalin.* Monroe, ME: Common Courage Press.
Bromfield, Richard
1996 "Fad or disorder?" *American Health* (June):32.
Broom, Dorothy H. and Roslyn V. Woodward
1996 "Medicalization reconsidered: Toward a collaborative approach to care." *Sociology of Health and Illness* 18:357–378.
Brown, Phil
1995 "Naming and framing: The social construction of diagnosis and illness." *Journal of Health and Social Behavior* (extra issue):34–52.
Cantwell, D. P.
1975 "Psychiatric illness in the families of hyperactive children." *Archives of General Psychiatry* 27:414–417.
Caplan, Paula
1995 *They Say You're Crazy: How the World's Most Powerful Psychiatrists Decide Who's Normal.* Reading, MA: Addison-Wesley.
Conrad, Peter
1975 "The discovery of Hyperkinesis: Notes on the medicalization of deviant behavior." *Social Problems* 23:12–21.
1976 *Identifying Hyperactive Children: The Medicalization of Deviant Behavior.* Lexington, MA: D. C. Heath.
1992 "Medicalization and social control." *Annual Review of Sociology* 18:209–232.
1999 "A mirage of genes." *Sociology of Health and Illness* 21:228–241.
2000 "Medicalization, genetics, and human problems." In *The Handbook of Medical Sociology,* Fifth Edition, Chloe Bird, Peter Conrad, and Allen Fremont, eds., 322–333. Upper Saddle River, NJ: Prentice Hall.
Conrad, Peter and Joseph W. Schneider
1992 *Deviance and Medicalization. From Badness to Sickness,* Expanded Edition. Philadelphia: Temple University Press.

Cooksey, Elizabeth and Phil Brown
1998 "Spinning on its axes: DSM and the social construction of psychiatric diagnosis." *International Journal of Health Services* 28:525–554.
Cooper, Cooper
1997 "Myalgic Encephalomyelities and the medical encounter." *Sociology of Health and Illness* 19:186–207.
Cowley, Geoffrey and Joshua Cooper Ramo
1993 "The not-young and the restless." *Newsweek* (July 26):48–49.
DeGrandpre, Richard
1999 *Ritalin Nation: Rapid-Fire Culture and the Transformation of Human Consciousness*. New York: W. W. Norton and Company.
Diller, Lawrence H.
1996 "The run on Ritalin: Attention Deficit Disorder and stimulant treatment in the 1990s." *The Hastings Center Report* (March–April):12–18.
1997 *Running on Ritalin*. New York: Bantam Books.
Domino, M. E., David S. Salkever, Deborah A. Zarin, and Harold Alan Pincus
1998 "The impact of managed care on psychiatry." *Administration and Policy in Mental Health* 26:149–157.
Eberstadt, Mary
1999 "Why Ritalin rules." *Policy Review* 94:24–40.
Elia, Josephine, Paul J. Ambrosini, and Judith L. Rapoport
1999 "Treatment of Attention-Deficit-Hyperactivity Disorder." *New England Journal of Medicine* 340:780–788.
Epstein, Steven
1996 *Impure Science: AIDS, Activism, and the Politics of Knowledge*. Berkeley: University of California Press.
Erchak, Gerald M. and Richard Rosenfeld
1989 "Learning disabilities, dyslexia, and the medicalization of the classroom." In *Images of Issues*, Joel Best, ed. New York: Aldine de Gruyter.
Ernst, Monique, Robert M. Cohen, Laura L. Liebenauer, P. H. Jons, and Alan J. Zametkin
1997 "Cerebral glucose metabolism in adolescent girls with Attention-Deficit/Hyperactivity Disorder." *Journal of the American Academy of Child and Adolescent Psychiatry* 36:1399–1406.
Ernst, Monique, Laura L. Liebenauer, A. C. King, G. A. Fitzgerald, R. M. Cohen, and Alan J. Zametkin
1994 "Reduced brain metabolism in hyperactive girls." *Journal of the American Academy of Child and Adolescent Psychiatry* 33:858–868.
Faraone, Stephen V. and Joseph Biederman
1998 "Neurobiology of Attention-Deficit Hyperactivity Disorder." *Biology and Psychiatry* 44 (November 15):951–958.
Figert, Anne E.
1996 *Women and the Ownership of PMS: The Structuring of a Psychiatric Disorder*. New York: Aldine de Gruyter.
Ford, W. E.
1998 "Medical necessity: Its impact in managed mental health care." *Psychiatric Services* 49:183–184.
Fox, Patrick
1989 "From senility to Alzheimer's disease: The rise of the Alzheimer's movement." *Milbank Quarterly* 67:58–101.
Gittleman, Rachel, Salvatore Mannuzza, Ronald Shenker, and Noreen Bonagura
1985 "Hyperactive boys almost grown up." *Archives of General Psychiatry* 42:937–947.
Gladwell, Malcolm
1999 "Running from Ritalin." *New Yorker* (February 15):80–86.
Goldman, Larry S., Myron Genel, Robecca J. Bezman, and Priscilla J. Slanetz
1998 "Diagnosis and treatment of Attention-Deficit/Hyperactivity Disorder in children and adults." *Journal of the American Medical Association* 279:1100–1107.
Gross, Mortimer B. and William E. Wilson
1974 *Minimum Brain Dysfunction*. New York: Burnner Mazel.

Guadagnoli, Edward and Patricia Ward
1998 "Patient participation in decision-making." *Social Science and Medicine* 47:329–39.
Guistolise, Jodi
1998 "Special section: Attention Deficit Disorder: The Ritalin epidemic." *Home Education Magazine* 15 (May–June):30–31.
Hacking, Ian
1995 *Rewriting the Soul: Multiple Personality and the Sciences of Memory.* Princeton, NJ: Princeton University Press.
Haines, Herb
1989 "Primum non nocere: Chemical execution and the limits of medical social control." *Social Problems* 36:442–454.
Hales, Dianne and Robert E. Hales
1993 "Pay attention: Hyperactivity isn't just for children anymore." *American Health* 12 (September):62–65.
Hallowell, Edward M. and John J. Ratey
1994 *Driven to Distraction* New York: Pantheon Books.
Halpern, Sydney A.
1990 "Medicalization as a professional process: Postwar trends in pediatrics." *Journal of Health and Social Behavior* 31:28–42.
Hartmann, Thom
1994 *Attention Deficit Disorder: A Different Perception.* New York: Underwood Books.
Healy, David
1997 *The Anti-Depressant Era.* Cambridge, MA: Harvard University Press.
Hilgartner, Stephen and Charles Bosk
1988 "The rise and fall of social problems." *American Journal of Sociology* 94:53–78
Horwitz, Allan V.
Forthcoming *Creating Mental Illnesses: Diagnostic Psychiatry and the Proliferation of Mental Disease.* Chicago: University of Chicago Press.
http://odp.od.nih.gov/consensus/cons/110/110_statement.htm
1998 Diagnosis and Treatment of Attention Deficit Hyperactivity Disorder. NIH Consensus Statement Online (Nov.16–18) 16, 2:1–37.
http://www.adders.org.
n.d. "Your success stories and top tips for adults."
http://www.chadd.org.
n.d. "Children and adults with Attention Deficit/Hyperactivity Disorder."
http://www.chadd.org/attention/attnv5n4p12.htm.
n.d. "You and your AD/HD: Partners for life."
http://www.chadd.org/press 04-13-98.htm.
1998 "Ch.A.D.D. 'talks back' to Peter Breggin." (Press release, April 14.)
Irvine, Janice M.
1995 "Regulated passions: The invention of inhibited sexual desire and sexual addiction." In *Deviant Bodies: Critical Perspectives on Science and Popular Culture*, Jacqueline Urla and Jennifer Terry, eds. Indianapolis: Indiana University Press.
Irvine, Leslie
1999 *Codependent Forevermore: The Invention of Self in a Twelve Step Group.* Chicago: University of Chicago Press.
Jaffe, Paul
1995 "History and overview of adulthood ADD." In *A Comprehensive Guide to Attention Deficit Disorder in Adults: Research, Diagnosis, and Treatment*, Kathleen G. Nadeau, ed. New York: Brunner/Mazel:3–17.
Jenness, Valerie
1995 "Social movement growth, domain expansion and framing process: The gay/lesbian movement and violence against gays and lesbians as a social problem." *Social Problems* 43:145–163.
Johnson, Dale L.
1998 "Are mental health services losing out in the U.S. under managed care?" *PharmacoEconomics* 14:597–601.

Kelly, Kate and Peggy Ramundo
1993 *You Mean I'm Not Lazy, Stupid, or Crazy?! A Self-Help Book for Adults with Attention Deficit Disorder.* Cincinnati: Tyrell and Jerem Press.
Kirk, Stuart A. and Herb Kutchins
1992 *The Selling of DSM: The Rhetoric of Science in Psychiatry.* New York: Aldine De Gruyter.
Kolata, Gina
1996 "Boom in Ritalin sales raises ethical issues." *The New York Times, Late New York edition* (May 15):C8.
Kramer, Peter
1993 *Listening to Prozac.* New York: Penguin.
Kroll-Smith, Steve and H. Hugh Floyd
1997 *Bodies in Protest: Environmental Illness and the Struggle over Medical Knowledge.* New York: NYU Press.
Kutchins, Herb and Stuart A. Kirk
1997 *Making Us Crazy: DSM: The Psychiatric Bible and the Creation of Mental Disorders.* New York: The Free Press.
Latham, Patricia H. and Peter S. Latham
1992 *Attention Deficit Disorder and the Law: A Guide for Advocates.* Washington, DC: JKL Communications.
Latham, Peter S. and Patricia H. Latham
1995 "Legal rights of the ADD adult." In *A Comprehensive Guide to Attention Deficit Disorder in Adults,* Kathleen G. Nadeau, ed., 337–350. New York: Brunner/Mazel Publishers.
Leffers, Jeanne Mahoney
1997 The Social Construction of a New Diagnostic Category: Attention Deficit Disorder in Adults (Medicalization). Unpublished Ph.D. dissertation, Brown University.
Livingston, Ken
1997 "Ritalin: Miracle drug or cop-out?" *Public Interest* 127 (Spring):3–18.
Loseke, Donileen R.
1999 *Thinking About Social Problems.* New York: Aldine DeGruyter.
Mannuzza, Salvatore, Rachel Gittleman, and Klein and Kathy A. Addalli
1991 "Young adult mental status of hyperactive boys and their brothers: A prospective follow-up study." *Journal of the American Academy of Child and Adolescent Psychiatry* 30:743–751.
Mannuzza, Salvatore, Rachel G. Klein, Abrah Bressler, Patricia Malloy, and Maria LaPadula
1998 "Adult psychiatric status of hyperactive boys grown up." *American Journal of Psychiatry* 155:493–498.
Maser J. D., C. Kaebler, and R. E. Weise
1991 "International use and attitudes toward DSM-III and DSM-III-R: Growing consensus in psychiatric classification." *Journal of Abnormal Psychology* 100:271–279.
McDowell, Jim
1997 "A hyperactive way to make more money: Teens with Ritalin prescriptions can supply drug-abusing classmates." *British Columbia Report* 8, 28:34–35.
Murray, M. D., and F. W. Deardorff
1998 "Does managed care fuel pharmaceutical industry growth?" *PharmacoEconomics* 14:341–348.
Nadeau, Kathleen G.
1995 "ADD in the workplace: Career consultation and counseling for the adult with ADD." In *A Comprehensive Guide to Attention Deficit Disorder in Adults· Research, Diagnosis, and Treatment,* Kathleen G. Nadeau, ed. New York: Brunner/Mazel.
Newcorn, Jeffrey H., Jeffrey M. Halperin, James M. Healey, John D. O'Brien, Daisy M. Pascualvaca, Lorraine E. Wolf, Allen Morganstein, Vanshdeep Sharma, and J. Gerald Young
1989 "Are ADDH and ADHD the same or different?" *Journal of the American Academy of Adolescent Psychiatry* 285:734–738.
Newsweek
1990 "A New View on Hyperactivity." (December 3):61.
New York Times
1999 "For school nurses, more than tending the sick." *Late New York edition* (January 28):A20.
Public Broadcasting Service (PBS)
1995 "ADD: A dubious diagnosis." *Merrow Report* (October 20). New York, NY.

Ratey, John J., Mark S. Greenberg, Jules R. Bemporad, and Karen J. Lindem
1992 "Unrecognized Attention-Deficit Hyperactivity Disorder in adults presenting for outpatient psychotherapy." *Journal of Child and Adolescent Psychopharmacology* 2:267–275.
Reissman, Catherine
1983 "Women and medicalization: A new perspective." *Social Policy* 14:3–18.
Scheff, Thomas J.
1984 *Being Mentally Ill: A Sociological Theory,* Revised Edition. Chicago: Aldine de Gruyter.
Schneider, Joseph W.
1978 "Deviant drinking as a disease: Alcoholism as a social accomplishment." *Social Problems* 25:361–372.
Schrag, Peter and Diane Divoky
1976 *Myth of the Hyperactive Child* New York: Pantheon.
Scott, Wilbur J.
1990 "PTSD in DSM-III: A case of the politics of diagnosis and disease." *Social Problems* 37:294–310.
Searight, H. Russell and A. Lesley McLaren
1998 "Attention-Deficit Hyperactivity Disorder: The medicalization of misbehavior." *Journal of Clinical Psychology in Medical Settings* 5:467–495.
Shaffer, David
1994 "Attention Deficit Hyperactivity Disorder in adults." *American Journal of Psychiatry* 151:633–638.
Singer, Merrill, Carol Arnold, Maureen Fitzgerald, Lynn Madden, and Christa Voight von Legat
1984 "Hypoglycemia: A controversial illness in U.S. society." *Medical Anthropology* 8:1–35.
Stallings, Robert A.
1990 "Media discourse and the social construction of risk." *Social Problems* 37:80–95.
Stewart, Mark A.
1970 "Hyperactive children." *Scientific American* 222 (April):794–798.
Stewart, Mark A., A. Ferris, N. P. Pitts, and A. G. Craig
1966 "The hyperactive child syndrome." *American Journal of Orthopsychiatry* 36:861–867.
Stich, Sally
1993 "Why can't your husband sit still?" *Ladies Home Journal* (September):74, 77.
Stoudemire, A.
1996 "Psychiatry in medical practice: Implications for the education of primary care physicians in the era of managed care. Part 1." *Psychosomatics* 37:502–508.
Trilling, James
1999 "My father and the weak-eyed devils." *American Scholar* 68, 2:17–41.
Vatz, Richard E. and Lee S. Weinberg
1997 "How accurate is media coverage of Attention Deficit Disorder?" *USA Today* 127 (July):76–77.
Wallis, Claudia
1994 "Life in overdrive." *Time Magazine* (July 18):43–50.
Weiss, Gabrielle and Lily Trokenberg Hechtman
1986 *Hyperactive Children Grown Up: Empirical Findings and Theoretical Considerations.* New York: Guilford Press.
Weiss, Gabrielle, Lilly Trokenberg Hechtman, Terrye Perlman, Joyce Hopkins, and Albert Wener
1979 "Hyperactives as young adults: A controlled prospective 10-year follow-up of the psychiatric status of 75 children." *Archives of General Psychiatry* 36:675–681.
Weiss, Lynn
1992 *Attention Deficit Disorder in Adults: Practical Help for Sufferers and Their Spouses.* Dallas: Taylor Press.
Wen, Patricia
2000 "As easy to get as candy? A new Massachusetts study finds wide teen abuse of Ritalin." *Boston Globe* (October 29):A1.
Wender, Paul H.
1971 *Minimal Brain Dysfunction in Children.* New York: Wiley.
1987 *The Hyperactive Child, Adolescent and Adult: Attention Deficit Disorder Throughout the Lifespan.* New York: Oxford University Press.
1995 *Attention Deficit Hyperactivity Disorder in Adults.* New York: Oxford University Press.
1998 "Attention-Deficit Hyperactivity Disorder in adults." *Psychiatry Clinic North America* 21:761–774.

Williams, Simon J. and Michael Calnan
1996 "The 'limits' of medicalization: Modern medicine and the lay populace in 'late modernity.'" *Social Science and Medicine* 42:1609–1620.
Wolkenberg, Frank
1987 "Out of a darkness." *The New York Times* (October 11):62, 66, 68–70, 82–83.
Wood, D. R., F. W. Reimherr, Paul H. Wender, and G. E. Johnson
1976 "Diagnosis and treatment of minimal brain dysfunction in adults." *Archives of General Psychiatry* 33:1453–1460.
Woolraich, Mark L., Scott Lindgren, A. Stromquist, R. Milich, C. Davis, and D. Watson
1990 "Stimulant medication use by primary care physicians in the treatment of Attention Deficit Hyperactivity Disorder." *Pediatrics* 86:95–101.
Young, Alan
1995 *The Harmony of Illusions: Inventing Post-Traumatic Stress Disorder.* Princeton: Princeton University Press.
Zametkin, Alan J. and Monique Ernst
1999 "Problems in the management of Attention-Deficit-Hyperactivity Disorder." *New England Journal of Medicine* 340:40–46.
Zametkin Alan J., Laura L. Liebenauer, G. A. Fitzgerald, A. C. King, D. V. Minkunas, P. Herscovitz, Em Yamada, and Robert M. Cohen
1993 "Brain metabolism in teenagers with Attention-Deficit Hyperactivity Disorder." *Archives of General Psychiatry* 50:333–340.
Zametkin, Alan J., Thomas E. Nordahl, Michael Gross, A. Catherin King, William E. Semple, Judith Rumsey, Susan Hamburger, and Robert M. Cohen
1990 "Cerebral glucose metabolism in adults with hyperactivity of childhood onset." *New England Journal of Medicine* 323 (November 15):1361–1366.
Zito, Julie Magno, Daniel J. Safer, Susan dos Reis, James F. Gardner, Myde Boles, and Francis Lynch
2000 "Trends in the prescribing of psychotropic medications to preschoolers." *Journal of the American Medical Association* 283:1025–1030.
Zola, Irving Kenneth
1972 "Medicine as an institution of social control." *Sociological Review* 20:487–504.