

Functional Impairments in Adults With Self-Reports of Diagnosed ADHD: A Controlled Study of 1001 Adults in the Community

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Objective: The objective of this study was to evaluate functional impairments in a nonreferred sample of adults identifying themselves as having been diagnosed with attention-deficit/hyperactivity disorder (ADHD) by a clinician in their community.

Method: We completed a survey in April and May 2003 of a community sample of 500 adults who reported having received a diagnosis of ADHD in the community and 501 gender- and age-matched comparisons from a national sample representative of the U.S. population.

Results: Adults with self-reports of diagnosed ADHD in the community were significantly less likely to have graduated high school (83% vs. 93% of controls; $p \leq .001$) or obtain a college degree (19% vs. 26%; $p < .01$), were less likely to be currently employed (52% vs. 72%; $p \leq .001$), and had significantly more mean job changes over 10 years (5.4 vs. 3.4 jobs; $p \leq .001$). They also were significantly more likely to have been arrested (37% vs. 18% of controls; $p \leq .001$) or divorced (28% vs. 15%; $p \leq .001$) and were significantly less satisfied ($p \leq .001$) with their family, social, and professional lives.

Conclusion: Adults who reported having received a diagnosis of ADHD in the community had significant impairment in multiple domains of functioning compared with age- and gender-matched controls without this diagnosis, highly consistent with findings derived from carefully diagnosed referred samples.

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Many studies of adult attention-deficit/hyperactivity disorder (ADHD) have documented the syndrome of inattention, impulsivity, and hyperactivity that are the defining features of the disorder in youth. These include studies of nonreferred adult relatives of ADHD children,¹ clinically referred ADHD adults,² surveys of college students,^{3,4} participants in treatment protocols,⁵ and adults from the general population selected for extreme responses on an ADHD rating scale.⁶ The validity of diagnosing ADHD in adults is further supported by a variety of evidence including (1) neuropsychological and neuroimaging studies,⁷ (2) genetics,⁸ (3) clinical manifestations and associated comorbidities,⁹ (4) response to treatment,¹⁰ and (5) follow-up studies of ADHD children to adulthood.¹¹

ADHD in adults is associated with lower socioeconomic status, increased work difficulties, fewer years of education, lower rates of professional employment,¹² social maladjustment, immaturity, fewer social assets, lower occupational achievement, high rates of separation and divorce, more frequent changes in employment, poor

work performance, and higher rates of quitting or being fired from jobs.¹³

Barkley et al.^{14,15} evaluated the motor vehicle driving knowledge and skills and negative driving outcomes of older teens and young adults with ADHD. Problems with driving should not be surprising given that patients with ADHD lack focused attention and are more impulsive and hyperactive. Although the ADHD young adults in these studies showed no deficits in driving knowledge, compared with controls they had elevated rates of speeding citations, suspended licenses, crashes, and crashes causing bodily injury. They were more likely to be rated by themselves and others as having poorer driving habits. Murphy and Barkley¹³ reported that ADHD adults have more psychological maladjustment, more speeding violations, and more license suspensions than non-ADHD adults, and a computer-simulated driving test showed young adults with ADHD to have more crashes, scrapes, and erratic steering.¹⁶ Moreover, stimulant treatment improves driving skills in ADHD teens and adults.^{16,17}

Given that academic underachievement is a well-known correlate of ADHD in childhood,^{18,19} several studies have shown that adults with ADHD often have histories reflecting school problems. Biederman et al.²⁰ showed that, compared with control adults, ADHD adults had significantly higher rates of repeated grades, tutoring, placement in special classes, and reading disabilities. Similarly, Barkley and colleagues²¹ showed that ADHD adults had histories marked by poorer educational performance and more frequent school disciplinary actions. Notably, Seidman et al.²² showed that ADHD adults had an increased likelihood of having a history of school failure that could not be accounted for by age, learning disabilities, psychiatric comorbidity, or gender.

Some data suggest that school problems faced by ADHD children and adolescents continue into the college years. Heiligenstein and Keeling³ studied 42 college students with ADHD who presented with academic problems, such as learning disabilities and academic underachievement. In another college-based study, Heiligenstein and colleagues⁴ showed that ADHD students had lower mean grade point averages, were more likely to have been on academic probation, and had more academic problems. Murphy et al.²³ found that ADHD adults had significantly less education and were less likely to have graduated from college than non-ADHD adults. They also had a greater prevalence of dysthymia, alcohol dependence/abuse, cannabis dependence/abuse, and learning disorders.

Although prior studies have taught us much about the functional impairments of adult ADHD, prior work has relied on adults referred to mental health clinics. As shown by Faraone et al.,²⁴ findings from studies of adult ADHD in psychiatric clinics may not generalize to community samples due to differences in referral patterns

between mental health and community samples. To address these limitations, we completed a survey of a community sample of 500 adults identifying themselves as having been diagnosed with ADHD by a clinician in the community at some point in their adult life and 501 gender- and age-matched comparisons without such a diagnosis from a national sample representative of the adult population in the United States. On the basis of findings reported in clinical samples, we hypothesized that the adults with a self-report of receiving a diagnosis of ADHD in the community would show impairments in multiple domains of functioning.

METHOD

The ascertainment and interviewing of subjects was conducted via telephone in April and May 2003 by RoperASW (New York, N.Y.), a company that provides survey research services. Interviews were conducted by professional interviewers experienced in the administration of telephone surveys. Each interview lasted approximately 25 minutes, and subjects verbally consented to the interview before study questions were asked.

The sample of adults with a self-reported ADHD diagnosis was ascertained from RoperASW's list of respondents who, in a mailed survey, had identified themselves as having been diagnosed with ADHD by a clinician at some point in their adult life. The original survey respondents had been randomly selected from the U.S. population. The non-ADHD comparison group was selected from respondents indicating they had not been diagnosed with ADHD and was group-matched to the ADHD group by gender and age. The original survey respondents had been randomly selected from the U.S. population using random digit dialing. With random digit dialing sampling, telephone numbers are selected randomly and virtually every American household with a telephone has a possibility of being included in the survey. This methodology yields samples that are nationally representative of households having telephones. Approval for data analysis was sought from and considered exempt by the institutional review board at Massachusetts General Hospital.

For analyses of this survey, the maximum margin of error at the 95% confidence level is within ± 4 percentage points for sample sizes of 500. We used *t* tests to compare groups on continuous outcomes and χ^2 tests for categorical outcomes. The survey form is given in Appendix 1. To assure that our results reflected clinically significant levels of impairment, we dichotomized responses and included only the most extreme category.

RESULTS

Demographic characteristics of adults with a self-reported diagnosis of ADHD and non-ADHD controls

Table 1. Demographic Characteristics of Adults With a Self-Reported Diagnosis of ADHD and Adult Controls

Parameter	Self-Reported ADHD Diagnosis (N = 500)	Control (N = 501)	p Value
Gender, % ± SD			NS
Male	49 ± 2.2	49 ± 2.2	
Female	51 ± 2.2	51 ± 2.2	
Age, mean ± SD, y	31.9 ± 12	33.4 ± 14	NS
Race, % ± SD			< .001
White/Caucasian	89 ± 1.4	74 ± 2.0	
Black/African American	2 ± 0.6	14 ± 1.6	
Asian/Pacific Islander	1 ± 0.4	2 ± 0.6	
Native American	4 ± 0.9	1 ± 0.4	
Other	4 ± 0.9	9 ± 1.3	
Education, % ± SD			< .0001
Not a high school graduate	17 ± 1.7	7 ± 1.1	
High school graduate to some college	64 ± 2.1	67 ± 2.1	
College graduate or more	19 ± 1.8	26 ± 2.0	
Location, % ± SD			NS
Urban	37 ± 2.2	39 ± 2.2	
Suburban	30 ± 2.0	33 ± 2.1	
Rural	31 ± 2.1	26 ± 2.0	
Don't know	2 ± 0.6	2 ± 0.6	
Income, % ± SD			< .001
< \$25,000	39 ± 2.2	20 ± 1.8	
\$25,000 to < \$50,000	26 ± 2.0	34 ± 2.1	
\$50,000 to < \$75,000	15 ± 1.6	23 ± 1.9	
\$75,000 to < \$100,000	5 ± 1.0	9 ± 1.3	
\$100,000 or more	6 ± 1.1	7 ± 1.1	
Don't know/refused	9 ± 1.3	7 ± 1.1	

Abbreviations: ADHD = attention-deficit/hyperactivity disorder, NS = not significant.

from this survey are compared in Table 1. Although the control cell was age- and gender-matched to the ADHD cell, all other demographic characteristics were left to fall naturally. The sample population was nearly evenly divided between male (49%) and female (51%) genders. The mean age was 31.9 years for the ADHD group and 33.4 years for the control group. The sample was nearly evenly divided by location: urban, suburban, or rural.

The median age at diagnosis for adults with a self-reported diagnosis of ADHD was 12 years. About half the sample (51%) had been diagnosed before age 13 years. Thirty-five percent had not been diagnosed until the age of 18 years or older. Of the ADHD adults who had children, 55% reported that 1 or more of their children had been diagnosed with ADHD. Thirty-six percent of the ADHD group reported taking a prescription medication for the disorder.

Effects on Socialization During Childhood and Teenage Years

The adults who reported receiving a diagnosis of ADHD were significantly more likely to have negative perspectives about their childhood and teenage years than were adults in the control group. With the exception of participating in volunteer work, those adults with a self-reported ADHD diagnosis were significantly “less likely”

Table 2. Participation in Social Activities During Childhood and Teenage Years in Adults With Self-Reported ADHD Diagnosis and Adult Controls

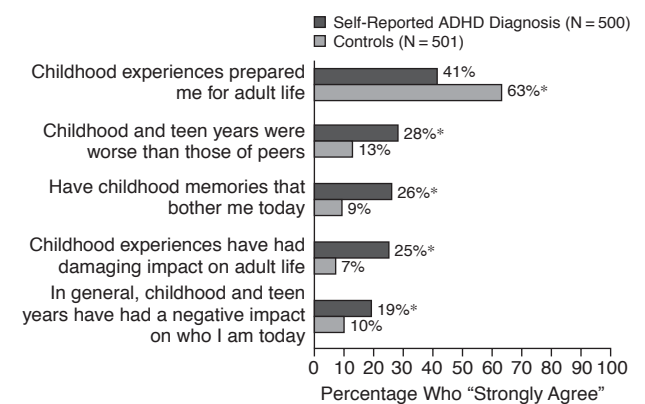
Activity	“Less Likely” Than Peers to Have Done Each Activity, %	
	Self-Reported ADHD Diagnosis (N = 500)	Control (N = 501)
Cultural or educational activities outside of school	55	39*
Volunteer work, community service	46	43
School clubs, extracurricular activities	45	32 [†]
Dating	43	24 [†]
Recreational/organized sports	39	29*
Spending free time with friends	27	15 [†]
Spending time with family	27	12 [†]

*p < .01.

[†]p < .001.

Abbreviation: ADHD = attention-deficit/hyperactivity disorder.

Figure 1. Effects of Childhood on Adult Life in Adults With Self-Reported ADHD Diagnosis and Adult Controls



*p ≤ .001.

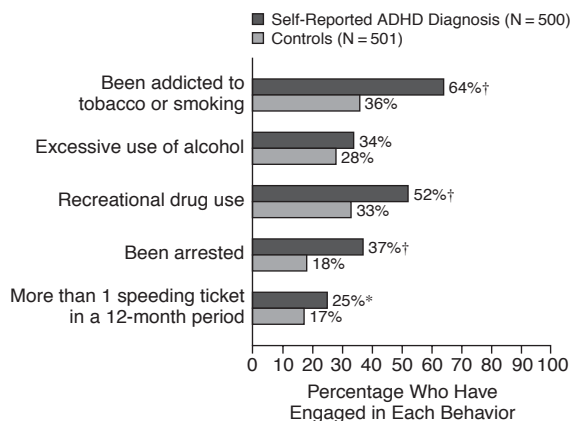
Abbreviation: ADHD = attention-deficit/hyperactivity disorder.

compared with others of the same age and gender to have participated in social activities, including school clubs or other extracurricular activities, going out on dates, organized sports, and spending free time with friends or family (Table 2).

Perception of the Effects of Childhood on Adult Life

Adults who had reported being diagnosed with ADHD were less likely than controls to “strongly agree” that their childhood prepared them for adult life (41% vs. 63%, respectively; p ≤ .001; Figure 1). Moreover, those who were diagnosed with ADHD in childhood were more likely than those diagnosed in adulthood to “strongly agree” with this statement (50% vs. 29%, respectively; p ≤ .001). Figure 1 shows that this group of adults with self-reported

Figure 2. Prevalence of Antisocial and Addictive Behaviors in Adults With Self-Reported ADHD Diagnosis and Adult Controls



*p ≤ .01.

†p ≤ .001.

Abbreviation: ADHD = attention-deficit/hyperactivity disorder.

ADHD were significantly more likely than controls to “strongly agree” with other negative statements about the effects of childhood on their adult life.

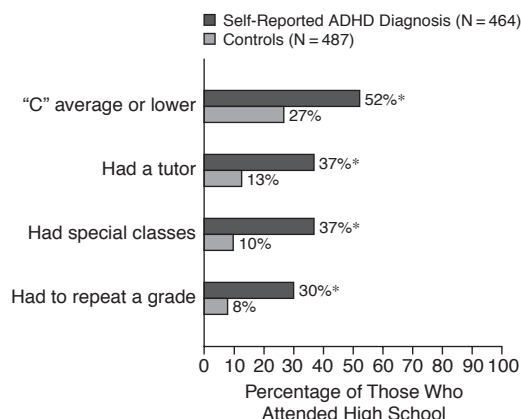
Prevalence of Antisocial and Addictive Behaviors

Adults who reported having been diagnosed with ADHD were significantly more likely to engage in antisocial and addictive behaviors than the control group (Figure 2). Among adults with a self-reported diagnosis of ADHD who engaged in these behaviors, many participated in them during their childhood or teenage years as well, including smoking tobacco (64%) and recreational use of drugs (52%). Although the adults with a self-report of being diagnosed with ADHD reported more excessive use of alcohol than the control group, the difference was not statistically significant.

Educational Impairment

The sample of adults with a self-reported diagnosis of ADHD attained less education and had lower incomes compared with controls (see Table 1). Adults with a self-reported ADHD diagnosis were significantly more likely not to have graduated from high school (17% vs. 7% of controls; p ≤ .001) and significantly less likely to have obtained a college degree (19% vs. 26% of controls; p < .01). For those who attended high school, adults who reported having been diagnosed with ADHD were more likely than controls to have received lower grades and extra help (Figure 3). Looking back on their high school years, compared with the control group the adults with self-reported ADHD were significantly less likely to “strongly agree” that they were able to handle a large workload (23% ADHD vs. 57% control; p ≤ .001), easily concentrate on their schoolwork (8% vs. 40%; p ≤ .001),

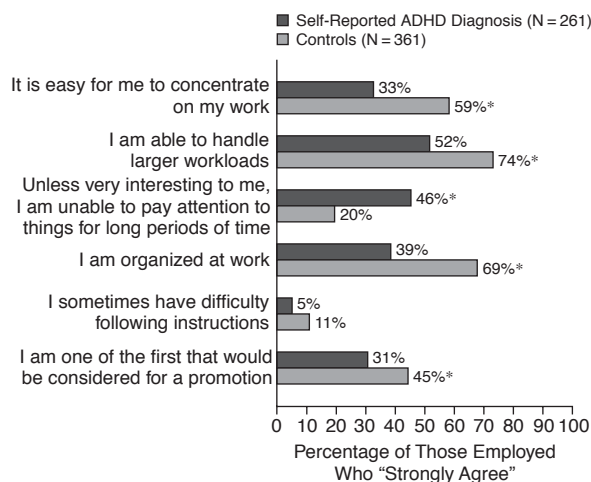
Figure 3. Educational Impairment in High School in Adults With Self-Reported ADHD Diagnosis and Adult Controls



*p ≤ .001.

Abbreviation: ADHD = attention-deficit/hyperactivity disorder.

Figure 4. Workplace Impairment in Adults With Self-Reported ADHD Diagnosis and Adult Controls



*p ≤ .05.

Abbreviation: ADHD = attention-deficit/hyperactivity disorder.

or organize their schoolwork (15% vs. 38%; p ≤ .001). Adults with a self-reported diagnosis of ADHD in the community were more likely to “strongly agree” that they had a hard time paying attention in high school (63% vs. 24% of controls; p ≤ .001), had difficulty following instructions (36% vs. 7%; p ≤ .001), and made careless errors on schoolwork (28% vs. 12%; p ≤ .001).

Workplace Impairment

For adults who reported having been diagnosed with ADHD, the difficulties with academic work experienced in high school carried over into adulthood. The same problems with attention, concentration, and organization

were reported in the workplace (Figure 4). When questioned about their current employment status, fewer adults with a self-reported ADHD diagnosis in the community were employed compared with controls (52% vs. 72%; $p \leq .001$), and fewer were employed full-time (34% vs. 57%; $p \leq .001$). Fourteen percent of the adults with a self-reported ADHD diagnosis endorsed currently looking for work compared with 5% of the control group ($p \leq .001$). Adults with a self-reported ADHD diagnosis who were currently employed endorsed having had more jobs over the course of the past 10 years than those in the control group. Adults with a self-reported diagnosis of ADHD had had a mean of 5.4 jobs, whereas subjects in the control group and currently employed had had a mean of 3.4 jobs ($p \leq .001$). Among this group of adults with self-reported ADHD who were currently employed and had had more than one job in the past 10 years, 43% lost or left 1 or more of those jobs in some part because of their ADHD symptoms.

Problems in Relationships

When recounting experiences in high school, adults who reported having received a diagnosis of ADHD were far less likely than controls to perceive that they had fit in with their peers (27% ADHD vs. 60% control; $p \leq .001$), were popular in school (19% vs. 36%; $p \leq .001$), got along with their teachers (44% vs. 63%; $p \leq .001$), were liked by adults (46% vs. 67%; $p \leq .001$), or had a good relationship with their parents (35% vs. 64%; $p \leq .001$). These problems carried over into adulthood, as only 47% of adults who reported having been diagnosed with ADHD endorsed having a good current relationship with their parents compared with 70% of controls ($p \leq .001$). In addition, adults with ADHD endorsed being less likely to fit in with their peers than controls (40% vs. 70%, respectively; $p \leq .001$).

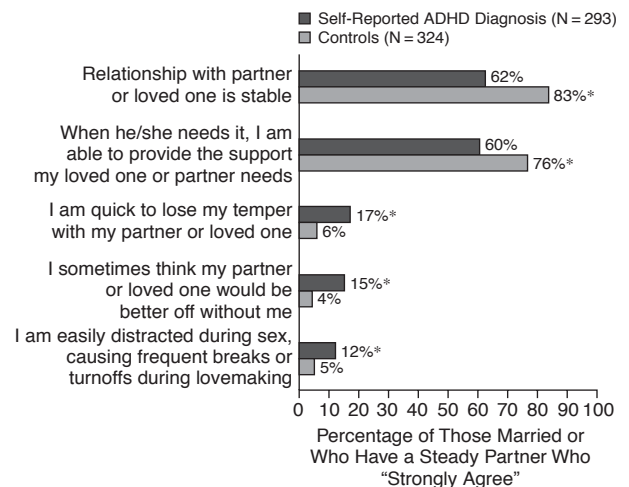
In reference to their place of work, 62% of the adults who reported that they had been diagnosed with ADHD in the community and 68% of the control group "strongly agreed" that they get along with superiors. Only 47% of the adults with self-reported ADHD compared with 66% of controls "strongly agreed" that they were popular among their coworkers ($p \leq .001$).

Compared with controls, adults who reported having been diagnosed with ADHD endorsed less stability in their love relationships, felt less able to provide emotional support to their loved ones, and experienced more sexual dysfunction (Figure 5). In addition, adults with a self-reported diagnosis of ADHD endorsed higher divorce rates (28% vs. 15% of controls; $p \leq .001$).

Satisfaction With Key Aspects of Life and General Outlook

A majority of adults who reported having been diagnosed with ADHD in the community (72%) felt that

Figure 5. Quality of Personal Relationships in Adults With Self-Reported ADHD Diagnosis and Adult Controls



* $p \leq .05$.

Abbreviation: ADHD = attention-deficit/hyperactivity disorder.

Table 3. Satisfaction With Key Aspects of Life in Adults With Self-Reported ADHD Diagnosis and Adult Controls

Aspect	"Completely Satisfied," %	
	Self-Reported ADHD Diagnosis (N = 500)	Control (N = 501)
Family life	47	68 [†]
Relationships with partners or loved ones	47	58 [†]
Social life	38	58 [†]
Degree of involvement in community	25	27
Health and fitness	23	39 [†]
Professional life and career track	22	40 [†]
Achievements in life	26	39*

* $p \leq .05$.

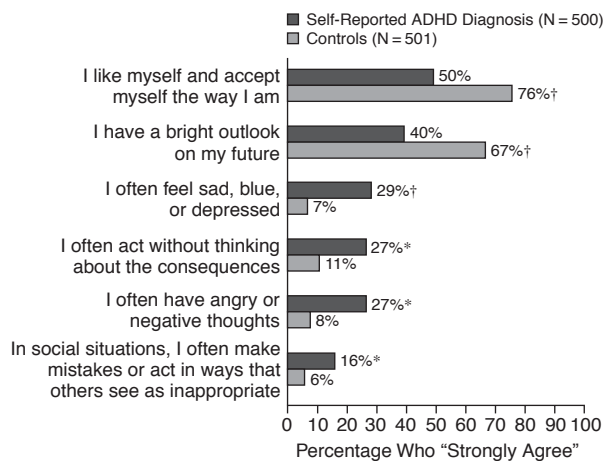
[†] $p \leq .001$.

Abbreviation: ADHD = attention-deficit/hyperactivity disorder.

ADHD has had a detrimental lifelong impact and were significantly less likely to be satisfied with key aspects of their lives. Table 3 shows the percentage of each group who claimed to be completely satisfied with various aspects of life during the previous 12 months.

The group of adults with a self-reported diagnosis of ADHD was less likely than controls to express a positive self-image or optimism. Figure 6 shows the percentage of each group that "strongly agreed" with specific statements regarding these factors. Significantly fewer adults with a self-reported diagnosis of ADHD endorsed self-acceptance or a bright outlook on the future ($p \leq .001$). Additionally, significantly more adults with self-reported ADHD endorsed frequent depressed mood ($p \leq .001$).

Figure 6. General Outlook on Life Among Adults With Self-Reported ADHD Diagnosis and Adult Controls



* $p \leq .05$.

† $p \leq .001$.

Abbreviation: ADHD = attention-deficit/hyperactivity disorder.

DISCUSSION

This survey found substantial evidence for functional impairments in 500 adults identifying themselves as having been diagnosed with ADHD by a clinician in the community. This large sample of adults who reported having been diagnosed with ADHD in the community showed significant psychosocial, educational, and occupational impairments relative to age- and sex-matched controls without this diagnosis. Despite diagnostic uncertainties, the pattern of functional impairments among these community-diagnosed adults is similar to that seen in specialty centers diagnosing adult ADHD using structured psychiatric interviews.^{14,15,21,25,26} These results are particularly noteworthy given that the diagnosis of ADHD relied on self-reports of having received the diagnosis from a clinician in the community and that patterns of referral and treatment in primary care community settings differ from those in psychiatric settings.^{11,24}

A significant number of adults with a self-reported diagnosis of ADHD did not graduate from high school (17% vs. 7% of controls). These numbers are similar to those found in prospective longitudinal follow-up studies of carefully diagnosed adults who had been diagnosed with ADHD as children (31% vs. 10%²⁷ and 23% vs. 2%²⁸) as well as studies of referred adults comprehensively evaluated with structured diagnostic interviews.^{23,29} Additionally, the increased prevalence of having repeated a grade, having been in special classes, having had a tutor, and having had lower than average grades followed the same pattern as other studies documenting educational impairments in adult ADHD.^{2,13,14,20,23}

Our sample of adults with a self-reported diagnosis of ADHD in the community reported significant occupa-

tional impairment compared with controls and specifically endorsed symptom clusters consistent with DSM-IV ADHD (Figure 4). In addition, these adults with a self-reported ADHD diagnosis had significantly lower yearly incomes compared with controls (Table 1). These data are consistent with the lower socioeconomic status reported in several previous studies of carefully diagnosed referred samples of adults with ADHD.^{2,20,28,30}

High rates of having been addicted to tobacco or smoking were reported in our sample of adults with a self-reported diagnosis of ADHD from a clinician in the community. This finding is consistent with the findings of Borland and Heckman,³⁰ who reported smoking rates of 80% in men who had been diagnosed as a child compared with 26% in their non-ADHD brothers, and with mounting evidence documenting that ADHD is a significant risk factor for smoking.

The higher rate of substance use reported in our sample of adults who reported having been diagnosed with ADHD in the community is consistent with results from some previous studies in referred samples. Murphy and Barkley¹³ reported that 40% of adults with ADHD admitted abusing illegal substances compared with 14% of the control group ($p < .008$). In a later study with a slightly younger cohort, these investigators reported that the use of illegal drugs was 80% vs. 52%, respectively ($p < .001$).²³ In other cross-sectional studies^{20,31} and prospective follow-up studies,^{27,28,32,33} significantly more adults with ADHD than controls received DSM diagnoses of drug use disorders (other than alcohol). Likewise, Biederman et al.³⁴ compared 120 adults with ADHD with 268 adults without ADHD (mean age, 40 years) and found ADHD to be a significant risk factor for substance use disorders (SUD). Additionally, the characteristics of SUD in adults with ADHD appear to be more severe relative to those without ADHD. Adults with ADHD and SUD have an earlier onset of substance abuse and abuse more often than those with SUD and no ADHD.³⁵ The duration of substance abuse was found to be nearly 40% longer in referred samples of adults with ADHD than those without,³⁶ and the move from alcohol abuse to substance abuse progressed more rapidly in those with ADHD.³⁷

In the current sample, alcohol abuse rates were very similar between adults with self-reported ADHD and controls. These findings are consistent with longitudinal studies of grown-up ADHD children revealing nonsignificant differences between groups in alcohol use disorders.^{27,28,32,33} One cross-sectional study²⁹ found similar results. However, other studies have found DSM diagnoses of alcohol abuse or dependence in significantly more referred adults with ADHD than controls.^{2,20} The reasons for this discrepancy are unknown, but may be driven in part by referral bias of ADHD subjects seen in specialty clinics in these studies with patients more likely to be severely ill. Although a separate cohort of nonreferred

Table 4. Data Supporting the Validity of Adult ADHD

Domain of Evidence	Selected References
Neuropsychological findings similar to those seen in ADHD children	22, 39–49
Structural and functional brain abnormalities similar to those seen in ADHD children	50–57
Genetic studies show familial link between child and adult ADHD	34, 58–63
Clinical manifestations and associated comorbidities similar to those seen in ADHD children	1–4, 6, 12, 16, 21, 23, 28, 33, 45, 64, 65
Response to treatments known to help ADHD children	5, 10, 17, 41, 66–79

Abbreviation: ADHD = attention-deficit/hyperactivity disorder.

adults with ADHD was included in one of these previous studies, that group also showed significantly higher rates of alcohol abuse and dependence compared with controls.²

Consistent with previous reports, our study found that significantly more adults who reported having received a diagnosis of ADHD received speeding tickets than controls.¹⁴ Additionally, we found arrest rates very similar to those reported in other cross-sectional studies of referred subjects.²⁹

Our survey explored recall in several areas of childhood and teenage functioning not reported in previously studies of referred subjects. It is notable that the adults with a self-reported diagnosis of ADHD viewed their childhood social lives to be significantly less active than those of their peers, and their childhood years as having had a damaging impact on their current lives. Of particular interest is the perception that their childhood ill prepared them for adult life. This finding was particularly striking in subjects diagnosed in adulthood, further highlighting the importance of childhood identification of the disorder to avoid the detrimental emotional impact of the disorder on later adult life.

The years of functional impairment suffered by adults who reported having been diagnosed with ADHD in the community took a significant toll on their general outlook on life (Figure 6). The limited optimism and self-acceptance of these individuals is striking when compared with controls. These results clearly outline an overall decreased quality of life for adults with ADHD irrespective of referral status.

Although not explored in most previous studies of referred subjects, an interesting observation in the current study is that of increased sexual problems in adults who reported having been diagnosed with ADHD in the community (Figure 5). Weiss et al.,²⁷ in their follow-up study of referred ADHD children as adults, found that 20% of their subjects with ADHD had complaints of sexual problems versus 2% of controls. Adult sexual problems have become increasingly recognized as an important quality of life issue. This area should be explored in future studies of adult ADHD.

Only one third of the adults with a self-reported diagnosis of ADHD in the community were currently taking a prescription medication for the condition. This finding is strikingly consistent with results documented in referred samples²⁰ stressing the gross underidentification and un-

der-treatment of adults with ADHD in our society. This finding raises the possibility that the striking functional differences between the ADHD and control groups in this as well as in previously reported referred samples would not be as dramatic if more of these affected individuals would have been identified and treated proximally to the onset of their symptoms.³⁸

Results of this study should be tempered by the limitations of its methods. Subjects in this study were identified through health profile surveys administered to mail-panel members. Inherent limitations in survey methodology are respondent motivation and honesty. It is possible that people with severe ADHD did not participate due to the severity of their impairments. The fact that our subjects lived in a household with or are themselves a mail-panel member may indicate a heightened interest in health issues or in survey participation that may not be reflective of the overall population of those with ADHD. Also, our subjects reported that they had a diagnosis of ADHD made by a clinician. Accordingly, our study may have relied, to some degree, on self-diagnosis and self-referral, which may also limit the generalizability of our findings.

Our survey did not employ a comprehensive assessment battery to confirm the diagnosis of ADHD in these individuals because our goal was to assess the functional impairments of community-diagnosed ADHD adults. We also did not determine the age at which they were diagnosed in adulthood. The population was identified as having been diagnosed as having ADHD at some time in their adult life, so they may not have been symptomatic at the time of assessment or may have had only residual symptoms. Because we did not control for comorbidity, the functional impairments noted may be due to comorbid conditions. Because some impairments defined in our study were closely tied with symptoms, those analyses do not discriminate differences in ADHD symptom expression from differences in impairment. It is possible that the ADHD sample erroneously reported that they were diagnosed with a psychiatric disorder by a community clinician when, in fact, they had not been. Although this is unlikely to have commonly occurred, the use of patient records would provide a more accurate estimate of community-diagnosed ADHD.

Despite these limitations, this survey provides the largest sample of community-diagnosed adults with ADHD ever to be studied and shows that adults with self-reported

ADHD in the community suffer from significant impairments across multiple domains of functioning. We found adult ADHD to be associated with histories of school failure, occupational impairment, substance use, traffic violations, arrests, decreased quality of life, and sexual problems. Taken together with other with other studies on adult ADHD (Table 4), these findings support the idea that, when diagnosed in the community, ADHD is a clinically significant and highly disabling disorder in adults.

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Appendix 1 appears on page 533.

Appendix 1. Survey Form^a

ADHD CELL SCREENER

Hello, I'm _____ from RoperASW, a national public opinion research firm. We are conducting a national survey on a number of topics and would very much like to have your thoughts.

AS NECESSARY:

- Your answers to this survey are completely confidential.
- We are a research company and we don't sell anything. No one will ever try to sell you something as a result of this survey.
- The survey should take about 20 or 25 minutes.

First I have a few questions for classification purposes.

S1. Does anyone in your household currently work in advertising, marketing, management consulting, sales promotion, or public relations or for a pharmaceutical distributor or manufacturer?

- Yes 1
 TERMINATE
 No 2 CONTINUE
 DK X
 TERMINATE
 Refused Y
 TERMINATE

S2. Please tell me if, at any point in the past, a doctor or a mental-health professional has diagnosed anyone in your household, currently age 18 or over, with each of the following. [READ EACH ITEM.]

[ROTATE:]	Yes	No	Ref.	DK
a. A sleeping disorder	1	2	X	Y
b. Attention Deficit Hyperactivity Disorder, also known as ADHD [INTERVIEWER, IF RESPONDENT UNSURE, SAY:] or Attention Deficit Disorder, also known as ADD	1	2	X	Y
c. Post-Traumatic Stress Disorder, also known as PTSD	1	2	X	Y

IF "NO" TO S1 AND "YES" TO S2b, CONTINUE. IF NOT, TERMINATE

S3. For this survey, I need to speak to the person age 18 or over who was diagnosed with ADHD [ADD]. May I please speak to that person?

[IF PERSON IS ALREADY ON THE PHONE, SKIP TO Q.1. OTHERWISE, WHEN PERSON COMES TO PHONE, SAY:]

Hello, I'm _____ from RoperASW, a national public opinion research firm. We are conducting a national survey on a number of topics and would very much like to have your thoughts.

AS NECESSARY:

- Your answers to this survey are completely confidential.
- We are a research company and we don't sell anything. No one will ever try to sell you something as a result of this survey.
- The survey should take about 20 or 25 minutes.

S4. First, may I confirm that you are 18 years old or older?

- Yes 1 CONTINUE
 No 2
 TERMINATE
 DK X
 TERMINATE
 Refused Y
 TERMINATE

S5. Next, please tell me if, at any point in the past, a doctor or a mental-health professional has diagnosed you with each of the following.

[READ EACH ITEM.]

[ROTATE:]	Yes	No	Ref.	DK
a. A sleeping disorder	1	2	X	Y
b. Attention Deficit Hyperactivity Disorder, also known as ADHD [INTERVIEWER, IF RESPONDENT UNSURE, SAY:] or Attention Deficit Disorder, also known as ADD	1	2	X	Y
c. Post-Traumatic Stress Disorder, also known as PTSD	1	2	X	Y

IF "YES" TO S4 AND S5b, CONTINUE. OTHERWISE, TERMINATE

S6. At what age were you diagnosed with ADHD [ADD]?

- [RECORD AGE] [____]
 Refused X
 Don't know Y

continued

Appendix 1. Survey Form (cont.)

CONTROL CELL SCREENER

Hello, my name is _____. I'm calling from RoperASW, a public opinion research company. We are conducting surveys to learn about Americans' opinions on a number of topics. May I please speak with the youngest male, at least 18 years old, who is at home now? (IF NO MALE AVAILABLE, SAY:) May I please speak with the youngest female, at least 18, who is at home now?

(REPEAT INTRODUCTION IF NECESSARY)

[WHEN RESPONDENT IS ON THE PHONE, SAY:] Hello, I'm _____ from RoperASW, a national public opinion research firm. We are conducting a national survey on a number of topics and would very much like to have your thoughts.

AS NECESSARY:

- Your answers to this survey are completely confidential.
- We are a research company and we don't sell anything. No one will ever try to sell you something as a result of this survey.
- The survey should take about 20 or 25 minutes.

S1. First, may I confirm that you are 18 years old or older?

- Yes 1 CONTINUE
 No 2
 TERMINATE
 DK X
 TERMINATE
 Refused Y
 TERMINATE

S2. Does anyone in your household currently work in advertising, marketing, management consulting, sales promotion, or public relations or for a pharmaceutical distributor or manufacturer?

- Yes 1
 TERMINATE
 No 2 CONTINUE
 DK X
 TERMINATE
 Refused Y
 TERMINATE

S3. Next, please tell me if, at any point in the past, a doctor or a mental-health professional has diagnosed you with each of the following.

[READ EACH ITEM.]

[ROTATE:]

	Yes	No	Ref.	DK
a. A sleeping disorder	1	2	X	Y
b. Attention Deficit Hyperactivity Disorder, also known as ADHD [INTERVIEWER, IF RESPONDENTS UNSURE, SAY:] or Attention Deficit Disorder, also known as ADD	1	2	X	Y
c. Post-Traumatic Stress Disorder, also known as PTSD	1	2	X	Y

IF "YES" TO S1 AND "NO" TO S2 AND S3b, CONTINUE. OTHERWISE, TERMINATE

1. To begin, how satisfied would you say you have been, overall, with what you have been able to achieve in life—completely satisfied, somewhat satisfied, somewhat dissatisfied, completely dissatisfied, or neither satisfied nor dissatisfied?

- Completely satisfied 5
 Somewhat satisfied 4
 Somewhat dissatisfied 3
 Completely dissatisfied 2
 Neither 1
 DK X
 Refused Y

2. Next, for each of the following please tell me whether during the past 12 months you have been completely satisfied with it, somewhat satisfied, somewhat dissatisfied, completely dissatisfied with it, or neither satisfied nor dissatisfied? If something doesn't apply to you, just let me know. First... [READ EACH ITEM.]

[ROTATE:]	Completely Satisfied	Somewhat Satisfied	Somewhat Dissatisfied	Completely Dissatisfied	Neither	Doesn't Apply	DK/Ref.
a. Your family life	5	4	3	2	1	0	Y
b. Your professional life and career track	5	4	3	2	1	0	Y
c. Your health and fitness	5	4	3	2	1	0	Y
d. Your social life	5	4	3	2	1	0	Y
e. Your degree of involvement in your community	5	4	3	2	1	0	Y
f. Any relationships with partners or loved ones	5	4	3	2	1	0	Y

continued

Appendix 1. Survey Form (cont.)

3. And, thinking back to your **childhood and teenage years**, compared to others your age, would you say you were, in general, more likely, less likely, or about equally likely to [READ FIRST ITEM]? What about... [READ REMAINING ITEMS]?

[ROTATE:]	More Likely	Less Likely	Equally	Ref.	DK
a. Spend time with family	2	1	0	X	Y
b. Spend free time with friends	2	1	0	X	Y
c. Exercise or play recreational or organized sports	2	1	0	X	Y
d. Participate in volunteer work, community service, or other group projects in your community or neighborhood	2	1	0	X	Y
e. Participate in cultural or educational activities <u>outside of school</u>	2	1	0	X	Y
f. Go out on dates	2	1	0	X	Y
g. Participate in school clubs or other extracurricular activities	2	1	0	X	Y

For the next few questions, I would like you to think back over your experiences during the **past 30 days**.

4. Thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the **past 30 days** was your mental health not good?

[RECORD DAYS:] _____

Refused	8
Don't know	9

5. And, during the **past 30 days**, for about how many days did poor physical or mental health keep you from doing your usual activities, such as self-care, work, or recreation?

[RECORD DAYS:] _____

Refused	8
Don't know	9

6. During the **past 30 days**, for about how many days have you felt worried, tense, or anxious?

[RECORD DAYS:] _____

Refused	8
Don't know	9

7. During the **past 30 days**, for about how many days have you felt you did not get enough rest or sleep?

[RECORD DAYS:] _____

Refused	8
Don't know	9

8. Next, I'd like you to think about the ways that your **childhood and teenage experiences** may have contributed to any of your achievements or failures as an adult. As you think about this, please tell me whether you strongly agree, somewhat agree, somewhat disagree, strongly disagree, or neither agree nor disagree with each of the following statements... [READ EACH ITEM.]

[ROTATE:]	Strongly Agree	Somewhat Agree	Somewhat Disagree	Strongly Disagree	Neither	Ref.	DK
a. My experiences during my childhood and teenage years have prepared me for adult life	4	3	2	1	0	X	Y
b. My experiences during my childhood and teenage years have had a damaging impact on my life as an adult	4	3	2	1	0	X	Y
c. I have a lot of bad memories about my childhood and teenage years that bother me today	4	3	2	1	0	X	Y
d. In general, my childhood and teenage years have had a negative impact on who I am today	4	3	2	1	0	X	Y
e. My childhood and teenage years were worse than the childhood and teenage years of most other children and teenagers I knew	4	3	2	1	0	X	Y

9a. Are you currently employed at a job for which you receive earnings?

Yes	1 [CONTINUE TO Q9B AND THEN Q10]
No	2 [CONTINUE TO Q9C AND THEN Q10]
DK	X [CONTINUE TO Q10]
Ref	Y [CONTINUE TO Q10]

b. Is that full-time or part-time?

Employed full-time	1
Employed part-time	2
DK	X
Ref	Y

continued

Appendix 1. Survey Form (cont.)

c. Are you a full-time student, retired, not currently employed but looking for work, not currently employed and NOT looking for work, or a homemaker?

- Full-time student 1
- Retired 2
- Not currently employed—but, looking for work 3
- Not currently employed and not looking for work 4
- Homemaker 5
- Other [SPECIFY] _____ 6
- DK X
- Ref Y

10. And, during the past 10 years, how many jobs have you had for which you received earnings?

- [RECORD NUMBER OF JOBS:] _____ RANGE: 0–50
- Refused 8
 - Don't know 9

ASK Q's 11–12 ONLY IF "EMPLOYED FULL-TIME" OR "EMPLOYED PART-TIME" AT Q9.

11. Please tell me whether you strongly agree, somewhat agree, somewhat disagree, strongly disagree, or neither agree nor disagree that each of the following statements describes your experiences at work during the past 12 months. First.... [READ EACH ITEM.]

[ROTATE:]	Strongly Agree	Somewhat Agree	Somewhat Disagree	Strongly Disagree	Neither	Ref.	DK
a. It is easy for me to concentrate on work	4	3	2	1	0	X	Y
b. Unless they are very interesting to me, I am unable to pay attention to things for long periods of time	4	3	2	1	0	X	Y
c. I get along with my superiors	4	3	2	1	0	X	Y
d. I am able to handle a large workload	4	3	2	1	0	X	Y
e. I am organized at work	4	3	2	1	0	X	Y
f. I make careless mistakes at work	4	3	2	1	0	X	Y
g. I sometimes have difficulty following instructions	4	3	2	1	0	X	Y
h. I am popular among my co-workers	4	3	2	1	0	X	Y
i. I am one of the first people my boss would consider for a promotion if a better position became available	4	3	2	1	0	X	Y
j. I often feel stressed or overwhelmed by job related responsibilities	4	3	2	1	0	X	Y

12. And, of the last 40 hours that you spent at your current job, approximately what number of these hours did you end up using for personal or non-work related activities?

- [RECORD NUMBER OF HOURS:] _____ [RANGE: 0–40]
 [RECORD NUMBER OF MINUTES:] _____ [RANGE: 0–60]
- Refused 8
 - Don't know 9

13. Next, what was the highest degree or last level of school you completed? [DO NOT READ. IF NEEDED, PROBE FOR SPECIFIC CHOICES.]

- Less than high school 1
- Attended high school but did not graduate 2
- High school graduate 3
- Some college/vocational, technical, or trade school 4
- College graduate 5
- Some post-graduate work 6
- Post-graduate degree (includes Master's, M.B.A., Ph.D., or M.D.) 7
- [DO NOT READ] Refused 8
- [DO NOT READ] Don't know 9

ASK Q'S 14–16 ONLY IF AT LEAST SOME HIGH SCHOOL AT Q13.

14. And, for the most part, while you were you in high school, were you an A student, a B student, a C student, or lower than a C student?

- A 4
- B 3
- C 2
- Lower than C 1
- Don't know X
- Refused Y

continued

Appendix 1. Survey Form (cont.)

15. And, while you were in school, did you ever... [READ EACH ITEM.]

[ROTATE:]	Yes	No	Ref.	DK
Have a tutor help you with your schoolwork	1	2	X	Y
Take a special class to get extra help with your schoolwork	1	2	X	Y
Repeat a grade	1	2	X	Y

16. Please tell me whether you strongly agree, somewhat agree, somewhat disagree, strongly disagree, or neither agree nor disagree that each of the following statements describe your experiences while you were in high school. First.... [READ EACH ITEM.]

[ROTATE:]	Strongly Agree	Somewhat Agree	Somewhat Disagree	Strongly Disagree	Neither	Ref.	DK
a. It was easy for me to concentrate on my schoolwork.....	4	3	2	1	0	X	Y
b. Unless they were very interesting to me, I was unable to pay attention to things for long periods of time	4	3	2	1	0	X	Y
c. I got along with my teachers	4	3	2	1	0	X	Y
d. I was able to handle a large workload	4	3	2	1	0	X	Y
e. I was organized with my schoolwork	4	3	2	1	0	X	Y
f. I made careless errors on my schoolwork	4	3	2	1	0	X	Y
g. I sometimes had difficulty following instructions from my teachers	4	3	2	1	0	X	Y
h. I was popular in school	4	3	2	1	0	X	Y
i. My teachers thought highly of me	4	3	2	1	0	X	Y

17. Next, which one of the following best describes you right now? [READ EACH ITEM. ACCEPT ONE RESPONSE.]

- Married 1
- Living with a steady partner, but not married 2
- Have a steady partner, but don't live with him or her 3
- Single without a steady partner 4
- [DO NOT READ] Refused 8
- [DO NOT READ] Don't know 9

18. And, have you ever been... [READ EACH ITEM. ACCEPT MULTIPLE RESPONSES.]

- Divorced 1
- Separated 2
- Widowed 3
- In a serious relationship but not married 4
- [DO NOT READ] None of the above 0
- [DO NOT READ] Refused 8
- [DO NOT READ] Don't know 9

ASK Q19 ONLY IF NOT CURRENTLY "SINGLE WITHOUT A STEADY PARTNER," "REFUSED," OR "DON'T KNOW" AT Q17:

19. Thinking about your relationship with your partner or loved one, please tell me whether you strongly agree, somewhat agree, somewhat disagree, strongly disagree, or neither agree nor disagree that each of the following statements describes this relationship during the past 12 months. First.... [READ EACH ITEM.]

[ROTATE:]	Strongly Agree	Somewhat Agree	Somewhat Disagree	Strongly Disagree	Neither	Ref.	DK
a. When he or she needs it, I am able to provide the support my partner or loved one needs	4	3	2	1	0	X	Y
b. I sometimes think my partner or loved one would be better off without me	4	3	2	1	0	X	Y
c. My relationship with my partner or loved one is stable	4	3	2	1	0	X	Y
d. I am quick to lose my temper with my partner or loved one	4	3	2	1	0	X	Y
e. I am easily distracted during sex, causing frequent breaks or turnoffs during lovemaking	4	3	2	1	0	X	Y

continued

Appendix 1. Survey Form (cont.)

20. And, in general, thinking about your experiences during the **past 12 months**, please tell me whether you strongly agree, somewhat agree, somewhat disagree, strongly disagree, or neither agree nor disagree that each of the following statements describes you during this time. First.... [READ EACH ITEM.]

[ROTATE:]	Strongly Agree	Somewhat Agree	Somewhat Disagree	Strongly Disagree	Neither	Ref.	DK
a. I fit in with my peers	4	3	2	1	0	X	Y
b. I have a good relationship with my parents	4	3	2	1	0	X	Y
c. When in social situations, I often make mistakes or act in ways that others see as inappropriate	4	3	2	1	0	X	Y
d. I often have angry or negative thoughts	4	3	2	1	0	X	Y
e. I often act without thinking about consequences	4	3	2	1	0	X	Y
f. I have a bright outlook on my future	4	3	2	1	0	X	Y
g. I often feel sad, blue, or depressed	4	3	2	1	0	X	Y
h. I like being myself and accept myself the way I am	4	3	2	1	0	X	Y
i. When I see a good opportunity, I recognize it and seize it	4	3	2	1	0	X	Y

ASK Q21 ONLY IF AT LEAST SOME HIGH SCHOOL AT Q13.

21. Please think back to your experiences during your **high school years** and tell me whether, in general, you strongly agree, somewhat agree, somewhat disagree, strongly disagree, or neither agree nor disagree that each of the following statements describes you during that time. First.... [READ EACH ITEM.]

[ROTATE:]	Strongly Agree	Somewhat Agree	Somewhat Disagree	Strongly Disagree	Neither	Ref.	DK
a. I fit in with my peers	4	3	2	1	0	X	Y
b. I was liked by adults	4	3	2	1	0	X	Y
c. I had a good relationship with my parents	4	3	2	1	0	X	Y
d. When in social situations, I often made mistakes or acted in ways that others saw as inappropriate	4	3	2	1	0	X	Y
e. I often had angry or negative thoughts	4	3	2	1	0	X	Y
f. I often acted without thinking about consequences	4	3	2	1	0	X	Y
g. I had a bright outlook on my future	4	3	2	1	0	X	Y
h. I often felt sad, blue or depressed	4	3	2	1	0	X	Y
i. I liked myself and accepted myself the way I was	4	3	2	1	0	X	Y
j. When I saw a good opportunity, I recognized it and seized it	4	3	2	1	0	X	Y

22. Next, please tell me if, at any point in the past, a doctor or a mental-health professional has diagnosed you with each of the following. [READ EACH ITEM.]

[ROTATE:]	Ever Diagnosed	Ref.	DK
a. Depression	1	X	Y
b. An Anxiety Disorder including Generalized Anxiety Disorder or GAD	2	X	Y
c. Any type of Phobia	3	X	Y
d. Obsessive-Compulsive Disorder or OCD	4	X	Y
e. Post-Traumatic Stress Disorder	5	X	Y
f. A learning disability other than Attention Deficit Hyperactivity Disorder or ADHD	6	X	Y
g. A Communication or Language Disorder	7	X	Y
h. A Mood Disorder including Dysthymic Disorder, Major Depressive Disorder, or Bipolar Disorder	8	X	Y
i. Tics or Tourette's Syndrome	9	X	Y
j. Oppositional Defiant Disorder or ODD	10	X	Y
k. Conduct Disorder or CD	11	X	Y
l. Asperger's Disorder or some other type of Pervasive Development Disorder	12	X	Y
m. A Sleeping Disorder	13	X	Y
n. A condition that causes problems with your coordination—sometimes referred to as a Developmental Coordination Disorder	14	X	Y
o. Hypothyroidism	15	X	Y
p. Anemia	16	X	Y
q. Lead Poisoning	17	X	Y
r. A Hearing or Vision Impairment	18	X	Y
s. A Sexually Transmitted Disease or STD	19	X	Y
t. Any other chronic illness or medical condition (SPECIFY:)	20	X	Y

continued

Appendix 1. Survey Form (cont.)

23a. Next, please tell me whether, at any point, you have experienced each of the following. In answering, please keep in mind that your responses will be kept strictly confidential. Let's start with... [READ ITEMS. FOR EACH ITEM CHECKED, IMMEDIATELY ASK Q23b AND THEN CONTINUE WITH Q23a]

23b. And, is this something that you experienced as an adult, experienced during your childhood or teenage years, or is this something that you experienced during BOTH your childhood or teenage years AND as an adult?

[ROTATE:]	Q23a	Q23b				
		Only Today	Only Childhood or Teenage Years	Both	Don't Know	Ref.
a. Had an eating disorder	1	1	2	3	X	Y
b. Had problems controlling your weight	2	1	2	3	X	Y
c. Consumed too many alcoholic beverages or becoming intoxicated on a relatively frequent basis	3	1	2	3	X	Y
d. Recreationally used drugs which may or may not be illegal	4	1	2	3	X	Y
e. Been addicted to tobacco or smoking	5	1	2	3	X	Y
f. Been arrested	6	1	2	3	X	Y
g. Been in an automobile accident while you yourself were driving	7	1	2	3	X	Y
h. Gotten more than one speeding ticket in a 12 month period	8	1	2	3	X	Y
i. Been unable to control your need to urinate, especially when in bed at night	9	1	2	3	X	Y

24. Next, considering all types of alcoholic beverages, how many times during the past month did you have 5 or more drinks on an occasion?

[RECORD DRINKS:] _____ RANGE 0-30

Refused	8
Don't know	9

Q'S 25-28 ASKED ONLY AMONG ADHD CELL:

Next I am going to ask you some questions about your Attention Deficit Hyperactivity Disorder. As you probably know, this condition is also known as ADHD and, in addition, can sometimes be referred to as Attention Deficit Disorder or ADD

25. Would you say that ADHD has a lifelong impact—that is, have the symptoms of the condition had a noticeable effect on you during your adult life?

Yes	1
No	2
DK	X
Ref	Y

26. And, do you currently take medication that is prescribed to you for your ADHD?

Yes	1
No	2
DK	X
Ref	Y

27a. Have any of your children, either those living at home or those who have moved out, been diagnosed with ADHD by a doctor or a mental-health professional? If you don't have any children, just let me know.

Yes	1
No	2
Don't have children	3
Don't know	X
Refused	Y

27b. And, would you say that you have a family history of ADHD or ADD, learning problems, mood disorders, or substance abuse problems?

Yes	1
No	2
Don't know	X
Refused	Y

ASK Q28 ONLY AMONG ADHD RESPONDENTS WHO HAVE HAD AT LEAST "2" JOBS DURING THE PAST 10 YEARS AT Q10:

28. You mentioned earlier in the survey that you have had [INSERT NUMBER OF JOBS FROM Q10] jobs during the past 10 years. Of these [INSERT NUMBER OF JOBS FROM Q10] jobs, how many would you say that you have lost or did you leave, at least in some part, because of the symptoms of your ADHD?

[RECORD NUMBER OF JOBS:] _____

Refused	8
Don't know	9

continued

Appendix 1. Survey Form (cont.)

And finally, just a few more questions about yourself for classification purposes only...

D1. In what year were you born?

- [RECORD YEAR:] _____
 Refused 8
 Don't know 9

D2. Do you consider yourself Hispanic, Spanish or Latino, or none of these?

- Yes 1
 None 2
 Refused 8
 Don't know 9

D3. What do you consider to be your racial or ethnic background? [READ ITEMS IF NEEDED.]

- White/Caucasian 1
 Black/African American 2
 Asian 3
 Pacific Islander 4
 Native American/Alaskan 5
 Other: [SPECIFY:] _____ 6
 [DO NOT READ] Refused 8
 [DO NOT READ] Don't know 9

D4. Would you describe the community you live in as urban or within a city, suburban or in the suburbs, or rural or in the country?

- Urban/Within a city 1
 Suburban/In the suburbs 2
 Rural/In the country 3
 DK X
 Ref. Y

D5. I am going to read a list of income ranges. Please stop me when I reach the category that includes your total annual household income during the past 12 months from all sources before taxes. We need this information for statistical purposes only. [READ EACH ITEM; STOP WHEN REACH ITEM THAT CONTAINS RESPONDENT'S INCOME.]

- Less than \$25,000 1
 \$25,000 to \$49,999 2
 \$50,000 to \$74,999 3
 \$75,000 to \$99,999 4
 \$100,000 or more 5
 [DO NOT READ] Refused 8
 [DO NOT READ] Don't know 9

D6. [ASK ONLY AMONG ADHD CELL:] Finally, would you be willing to be re-contacted at some point in the future to participate in a more in-depth interview about Attention Deficit Hyperactivity Disorder?

- Yes 1
 No 2
 Don't know X
 Refused Y

D7. INTERVIEWER RECORD:

- Male 1
 Female 2

Those are all of my questions. Thanks very much for your time and participation—it is greatly appreciated.

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