# HONDA PRESENTS THE 1974 EPA TEST RESULTS. FOR OBVIOUS REASONS.

**What you're looking at are the results of a gas mileage test performed on 1974 cars by the U.S. Environmental Protection Agency.**

**The test simulated an average trip under city driving conditions.**

**If you're in the market for a new car, we suggest you make use of these results as follows.**

**1. Go down the list until you find the car you're considering.**

**2. Compare its mileage to the car at the top of the list.**

**3. Then decide.**

**This list is being published by the makers of the car at the top of the list. Partly as a public service.**

| | TRANS | MPG |
|---|---|---|
| Honda Civic | M4 | 29.1 |
| Volkswagen 412 Wagon | M4 | 27.9 |
| Toyota Corolla 1200 Coupe | M4 | 27.1 |
| Lotus Europa Special | M5 | 25.2 |
| Datsun B210 | M4 | 24.9 |
| Toyota Corolla 1200 Sedan | M4 | 24.8 |
| Volkswagen 412 Wagon | A3 | 24.6 |
| Chevrolet Vega Hatchback | M3 | 24.6 |
| Lotus Europa | M4 | 24.5 |
| Volkswagen Dasher Sedan | M4 | 24.3 |
| Volkswagen Dasher Wagon | A3 | 23.7 |
| Volkswagen Dasher Sedan | A3 | 23.3 |
| Triumph Spitfire | M4 | 23.1 |
| Ford Pinto | M4 | 22.8 |
| Dodge Colt Wagon | M4 | 22.8 |
| Dodge Colt Coupe | A3 | 22.7 |
| Subaru Wagon | M4 | 22.7 |
| Toyota Corolla 1600 Sedan | M4 | 22.6 |
| Volkswagen Convertible | SA | 22.6 |
| BMW 2002 | A3 | 22.6 |
| Dodge Colt Coupe | M4 | 22.5 |
| MG Midget | M4 | 22.4 |
| Datsun B210 | A3 | 22.2 |
| Renault 17 Gordini | M5 | 22.2 |
| Renault 12 Wagon | A3 | 22.2 |
| Audi Fox | M4 | 22.0 |
| Dodge Colt Wagon | A3 | 21.9 |
| Honda Civic | SA | 21.8 |
| Saab 97 | M4 | 21.7 |
| Volkswagen Karman Ghia | M4 | 21.7 |
| Subaru Coupe | M4 | 21.7 |
| Toyota Corolla 1600 Wagon | A3 | 21.1 |
| Volkswagen 181 "Thing" | M4 | 21.0 |
| Volkswagen Super Beetle | M4 | 20.9 |
| Toyota Corolla 1600 Sedan | A2 | 20.8 |
| Datsun 710 | A3 | 20.7 |
| Datsun 610 | M4 | 20.6 |
| Fiat X1/9 | M4 | 20.4 |
| BMW 2002 tii | M4 | 20.3 |
| Fiat 124 Special TC | M4 | 20.2 |
| Ford Mustang | M4 | 20.1 |
| Datsun 710 | M4 | 20.0 |
| Mazda 808 Coupe | M4 | 20.0 |
| Chevrolet Vega Panel Express | M3 | 20.0 |
| Chevrolet Vega Kammback | A3 | 20.0 |
| Lincoln-Mercury Comet | M3 | 19.9 |
| Opel Manta Rallye | M4 | 19.8 |
| Lincoln-Mercury Capri | M4 | 19.8 |
| Datsun 610 | A3 | 19.8 |
| Alfa Romeo 2000 Berlina | M5 | 19.7 |
| Ford Pinto Wagon | M4 | 19.7 |
| Volkswagen Kombi-22 (Microbus) | M4 | 19.6 |
| Chevrolet Vega Hatchback | A3 | 19.6 |
| Saab 99 LE | A3 | 19.5 |
| Toyota Mark II Wagon | A3 | 19.5 |
| Alfa Romeo 2000 GTV | M5 | 19.4 |
| Renault 12 Sedan | A3 | 19.4 |
| Porsche 911-T | M4 | 19.1 |
| TVR 2500 M | M4 | 19.0 |
| Volkswagen Kombi-22 (Microbus) | A3 | 19.0 |
| Mazda 808 Coupe | A3 | 18.9 |
| Renault 12 Sedan | M4 | 18.8 |
| MGB | M4 | 18.7 |
| Toyota Corona SR Sedan | M4 | 18.4 |
| Toyota Corona SR Sedan | A3 | 18.4 |
| Volvo 145 | M4 | 18.4 |
| Opel Manta | M4 | 18.2 |
| Opel 1900 | A3 | 18.2 |
| Fiat 124 Sport Sedan | M5 | 18.0 |
| Renault 15 TL Coupe | M4 | 17.9 |
| Opel Manta Luxus | A3 | 17.9 |
| Fiat 124 Special TC | A3 | 17.9 |
| Fiat 128 Wagon | M4 | 17.8 |
| Fiat 124 Wagon | A3 | 17.7 |
| Porsche 914-4 | M5 | 17.5 |
| Renault 17 TL Coupe | M4 | 17.5 |
| Volvo 142 | M5 | 17.5 |
| Fiat 128 Sedan | M4 | 17.4 |
| Chevrolet Vega Hatchback | M4 | 17.4 |
| Ford Mustang | M4 | 17.3 |
| Porsche 911 S | M5 | 17.2 |
| Ford Pinto | A3 | 17.1 |
| Peugeot 504 Sedan | A3 | 17.0 |
| Volvo 144 | A3 | 17.0 |
| Ford Mustang | A3 | 16.9 |
| Lincoln-Mercury Capri | A3 | 16.9 |
| Porsche 911 S | SA | 16.9 |
| Triumph TR-6 | M4 | 16.9 |
| Peugeot 504 Sedan | M4 | 16.8 |
| Plymouth Valiant Duster | A3 | 16.7 |
| Ford Maverick | A3 | 16.7 |
| Ford Pinto Wagon | A3 | 16.6 |
| MGB/GT | M4 | 16.3 |
| Datsun 260Z | M4 | 16.2 |
| Porsche 911 T | M5 | 16.1 |
| Audi 100 | M4 | 16.0 |
| Saab 99 LE | A3 | 15.9 |
| Fiat 124 Sport Coupe | M5 | 15.8 |
| Dodge Dart | A3 | 15.8 |
| AMC Gremlin | A3 | 15.8 |
| Datsun 260Z | A3 | 15.7 |
| Chevrolet Nova Hatchback | A3 | 15.6 |
| AMC Gremlin | M3 | 15.6 |
| Ford Maverick | A3 | 15.6 |
| Lincoln-Mercury Comet | A3 | 15.5 |
| AMC Hornet Sportabout | A3 | 15.5 |
| Chevrolet Vega Panel Express | M4 | 15.4 |
| Toyota Mark II Sedan | A3 | 15.4 |
| Toyota Mark II Wagon | A3 | 15.2 |
| Toyota Mark II Sedan | M4 | 15.2 |
| Chevrolet Nova Hatchback | A3 | 15.2 |
| AMC Hornet Sedan | A3 | 14.7 |
| Volvo 164 | A3 | 14.5 |
| Mercedes Benz 220 | A4 | 14.3 |
| Mercedes Benz 280 | A4 | 14.1 |
| Ford Torino | A3 | 14.0 |
| BMW Bavaria | M4 | 13.8 |
| Chevrolet Sedan | A3 | 13.8 |
| Volvo 164 | M5 | 13.4 |
| AMC Matador | M4 | 13.2 |
| AMC Javelin | M3 | 13.2 |
| BMW Bavaria | A3 | 12.7 |
| Plymouth Valiant Duster | M3 | 12.5 |
| AMC Matador | A2 | 12.4 |
| AMC Matador Wagon | A3 | 12.3 |
| AMC Javelin | A3 | 12.1 |
| Mercedes 280 | A4 | 11.9 |
| Plymouth Satellite | M4 | 11.8 |
| AMC Ambassador | M3 | 11.7 |
| Plymouth Satellite | A3 | 11.6 |
| Mercedes Benz | M5 | 11.6 |
| Ford Torino Wagon | A3 | 11.4 |
| Lincoln-Mercury Monterey | A3 | 11.4 |
| Mercedes 450 SEL | M5 | 11.2 |
| Avanti Coupe | A3 | 11.0 |
| Chevrolet Lincoln Sports Sedan | A3 | 11.0 |
| Lincoln-Mercury Montego | M3 | 11.0 |
| AMC Javelin | M4 | 10.8 |
| AMC Ambassador | A3 | 10.8 |
| Mazda RX-3 Wagon | M4 | 10.8 |
| Ford | A3 | 10.7 |
| Mazda RX-3 Coupe | A3 | 10.7 |
| Mazda RX-2 Coupe | M4 | 10.6 |
| Mercedes Benz 450 | A3 | 10.6 |
| Mazda RX-4 Wagon | M4 | 10.4 |
| Ford Pantera | M5 | 10.4 |
| Buick Century 350 | A3 | 10.4 |
| Buick LeSabre | A3 | 10.4 |
| Cadillac Eldorado | A3 | 10.4 |
| Mazda RX-4 Coupe | A3 | 10.3 |
| Jaguar E Type V-12 | M4 | 10.3 |
| Oldsmobile Cutlass | A3 | 10.3 |
| Chevrolet Impala Custom Coupe | A3 | 10.1 |
| Pontiac Trans Am | A3 | 10.1 |
| Ferrari Dino 246 GT | M5 | 10.0 |
| Chevrolet Impala Estate Wagon | A3 | 10.0 |
| Pontiac Ventura | A3 | 9.9 |
| Lincoln-Mercury Montego | A3 | 9.9 |
| Chevrolet Malibu Classic | A3 | 9.9 |
| Pontiac LeMans | A3 | 9.9 |
| Ford Torino | M4 | 9.8 |
| Buick Century Wagon | A3 | 9.7 |
| Jaguar E Type V-12 | A3 | 9.7 |
| Buick Estate Wagon | A3 | 9.6 |
| Chevrolet Caprice Wagon | A3 | 9.6 |
| Lincoln-Mercury Cougar | A3 | 9.5 |
| Ford Wagon | A3 | 9.5 |
| Oldsmobile Cutlass Supreme | A3 | 9.5 |
| Pontiac LeMans | M3 | 9.4 |
| Rolls-Royce Silver Shadow | A3 | 9.3 |
| Pontiac Catalina | A3 | 9.2 |
| Pontiac LeMans | A3 | 9.2 |
| Buick Grand Sport | A3 | 9.1 |
| Chrysler | A3 | 9.1 |
| Oldsmobile Delta 88 Royal | A3 | 9.0 |
| Pontiac Ventura GTO | A3 | 8.9 |
| Pontiac Ventura GTO | M4 | 8.9 |
| Chrysler Wagon | A3 | 8.9 |
| Plymouth Fury Wagon | A3 | 8.8 |
| Cadillac DeVille | A3 | 8.8 |
| Buick Regal | A3 | 8.8 |
| Pontiac Grand Am | A3 | 8.8 |
| Chevrolet Caprice Classic | A3 | 8.8 |
| Oldsmobile Vista Cruiser | A3 | 8.7 |
| Cadillac Fleetwood | A3 | 8.7 |
| Pontiac Trans Am | M4 | 8.6 |
| Pontiac LeMans Safari | A3 | 8.6 |
| Excalibur II | A3 | 8.5 |
| Dodge Sport Wagon | A3 | 8.5 |
| Pontiac Grand Safari | A3 | 8.4 |
| Oldsmobile Toronado | A3 | 8.3 |
| Buick Electra 225 | A3 | 8.3 |
| Pontiac Catalina Safari | A3 | 8.3 |
| Jensen Interceptor | A3 | 8.2 |
| Pontiac Grand Ville | A3 | 8.1 |
| Mercury Wagon | A3 | 8.1 |
| Lincoln Continental | A3 | 7.9 |
| Maserati 120 | M5 | 7.8 |
| Pontiac Bonneville | A3 | 7.8 |
| Chevrolet Chevelle Laguna | M4 | 7.6 |
| Oldsmobile 98 Regency | A3 | 7.6 |
| Oldsmobile Delta 88 Wagon | A3 | 7.6 |
| Lamborghini Jarama | M5 | 7.3 |
| Lamborghini Espada | M5 | 7.2 |
| Ferrari 365 GTB-4 | M5 | 6.5 |

In transmission listings, A is automatic and M is manual i.e. A3 is a three speed automatic and M4 is a four speed manual. SA is semi-automatic.

Where two or more cars of the same make, model and transmission were tested, we have listed the best mileage figure recorded for that model, regardless of variances in weight, engine size and axle ratio.

Data is based on information available as of Feb. 19, 1974.




**The Honda Civic. More miles per gallon than anybody.**

called "endogenous" form of depression, which seems to arise without any evidence of a traumatic life experience to account for it, is rarely diagnosed in youngsters. In nearly all cases, childhood depression is "reactive," associated with an event in the child's life, usually involving the parents. "The child-psychiatry books of twenty years ago may not have even mentioned it," says Dr. Leon Cytryn of the George Washington University School of Medicine. "But we're beginning to realize that there are many depressed children and we suspect a lot of them become depressed adolescents and depressed adults."

Its most pathetic form is the "anaclitic" (from the Greek, "leaning on") depression that is observed in infants separated from their mothers in the first six months of life and raised in institutions where they get little attention and neural stimulation. These babies, starved for warmth, withdraw and display some of the signs of autism, such as monotonous rocking and, as they grow older, difficulties with language. They will improve with regard to language and motor skills if moved to a favorable environment, but the profound emotional impact of their early experience may be devastating.

Beyond the age of 6, the depressed child may show signs of sadness, social withdrawal and apathy similar to the symptoms of adult depression. But usually it is masked. In young children it may be expressed in psychosomatic headaches or vomiting; in older children it may show up in aggressive behavior, truancy, vandalism and, particularly among girls, sexual promiscuity. The periodic episodes of sadness that are the tip-off, notes Dr. Donald H. McKnew Jr. of the Children's Hospital of the District of Columbia, may be overlooked by the parents for months, but psychological testing may bring out the true extent of the child's depression quite quickly.

Asked to draw a picture and then tell a story about it, an 8-year-old boy brought to McKnew recently drew a picture of a small whale. Then he told how the whale was lost and was trying to get home. He tried to hitch a ride with another whale, but slipped off its back. Then he joined a school of whales, but they swam too fast for him to keep up. So the whale in the picture was lying with another whale, also lost, waiting to be found. "If an adult told you a story like that," notes McKnew, "you'd immediately give him antidepressants."

Depression in children almost always follows a sense of loss. Acute reactions occur, understandably enough, after the death of a parent or close relative, divorce or a move to a new community. Often, they are more like grief reactions and disappear with time. But many depressions occur because the child senses a withdrawal of interest and affection through frequent separations from, say, a father who travels a lot; or because a parent conveys an attitude of rejection or deprecation. In most instances, one or another of the parents has a depressed personality, McKnew observes.

Antidepressant medication is seldom prescribed for children. Most often, psychiatric counseling, involving both parent and child, is required. Fortunately, psychotherapy usually is effective. Here psychiatrists have devised methods that sidestep the completely verbal methods of communication used in more adult forms of psychotherapy. One of the most widely used is play therapy, in which the child uses a variety of toys to expose, under the therapist's watchful eye, the situations that may be at the bottom of his problem. The play-therapy concept is based on the common-sense notion that play is a more natural mode of expression for a child than verbalizing dreams.

One of the most common problems that call for psychiatric attention in children is school phobia. It may be a symptom of depression, but may also have a far more readily treated cause. Dr. Lee Salk recalls the case of Stephen, age 5, who lived on the twelfth floor of a New York apartment with his parents and grandparents, who continually expressed their fear of burglars. His mother warned him constantly of the evils that could befall him when he went out to play and often warned him not to let the elevator doors close on him. Soon, he had developed a fear of both burglars and elevators, and was afraid to go out alone.

Not surprisingly, his anxieties continued at school; his mother would drop him off at the door but could count on his coming out again minutes later. The problem, as Salk explained, was that the child had become totally helpless outside his mother's purview and dependent on her attention—a common source of school phobias. Salk explained to the overanxious mother that Stephen should hear fewer dire predictions about the world outside and be allowed more independence. In weeks, he was spending full days in school.

Robert R. McElroy—Newsweek

Keep trying: TEACCH therapists working with a difficult patient

The relief of the most serious problems of troubled children—autism, schizophrenia and hyperkinesis—must await much further research into the physical and biochemical mysteries of the brain. What is required is the same sort of commitment on the part of private agencies and the government that has lately been mounted in the war against cancer and heart disease. At the same time, the children who are already victims of these tragic disabilities must be afforded the special training that will give them the best chance of finding a useful life. In view of the fact that 10 per cent of the nation's children are now destined to develop some form of emotional disability, the effort would seem a small price to pay.

Meanwhile, in the view of child experts, there is a good deal that parents can do to protect their children from many kinds of serious emotional damage. First, says Salk, is to recognize the child's dependency during the first year of life and respond unstintingly to his need for warmth and affection. Once the child has learned to trust his parents, it is time to set limits that prepare him for his encounters with the world. To contend with the child's impulse to explore his environment, knocking over countless glasses of milk as he goes, may be a frustrating and seemingly endless task, Salk concedes. "But," he adds, "for the parent who loves his child, has patience and can still see the world through a child's eyes, the rewards are beyond measure."

Lester Sloan—Newsweek

Normal child taking eye test for autism

homes. Through a one-way glass, therapists show parents how to reward the child with hugs, or candy, when he performs an expected task. The early exercises focus on such basics as looking the parent in the eye, learning concepts such as "same" and "different" by sorting knives, forks or other objects, and learning to identify objects with words. Parents are taught to distract their children from psychotic movement, such as rocking. When a child fails to respond, the parent is assured that it is correct to show displeasure.

The road to advancement is painfully arduous, but many children *do* improve. Michael, a brown-haired 5-year-old, couldn't talk and was unmanageable when he entered TEACCH a year and a half ago. Now he has a vocabulary of 750 words and behaves well enough to attend a special school. David, who had an IQ of 70 when treatment began nine years ago, now scores 30 points higher and is getting average grades at a regular private school. "By getting to them early," says Schopler, "some children can be salvaged."

## SCHIZOPHRENIA

Schizophrenia in children bears some resemblance to autism and many psychiatrists consider them related. The child may be withdrawn and fail to use words. He may also be overactive and aggressive. Unlike schizophrenic adults, children affected by the disorder don't usually hear voices or otherwise hallucinate. But they do fantasize, according to psychiatrists, and they often can't distinguish between the real and the imaginary.

In the past, psychoanalysts tended to ascribe schizophrenia largely to the influence of a castrating "schizophrenogenic" mother. Many psychiatrists today believe the emotional environment of the home may play a greater part in the disorder than is the case with autism. But a growing number of the experts are now persuaded that a genetic defect, coupled with neurologic impairment of some kind, constitutes the underlying cause of the disorder.

The influence of genetics in childhood schizophrenia has been demonstrated by Dr. David Rosenthal of the National Institute of Mental Health. Rosenthal compared children with a schizophrenic mother or father who were raised by normal adoptive parents with adopted children of normal parents. In this way, the possible environmental influence of parenting was equalized. It turned out that the children of psychotic parents in the study had about twice the incidence of schizophrenic disorders as did those of normal parents.

The outlook for the schizophrenic child is considerable brighter than it is for the autistic. Many of these children are educable and never have to be institutionalized. Brooklyn's League School is typical of centers across the country that use a "psycho-educational" approach to treating schizophrenic children while the child lives at home.

Children are usually accepted at the school between the ages of 3 and 5 and most stay several years. Tommy Harper of Brooklyn began when he was in second grade. Throughout his childhood he had displayed a vicious temper. He threw blocks at his teachers when he couldn't get his way, and once pounced on a little girl and broke one of her teeth. Consigned to the cloakroom, he was later found sitting on a shelf, beating himself over the head with a toy gun and crying, "I want to die."

With the structured environment and intensive individual attention he received at the League School, Tommy settled down and learned to read, do math and function in groups. He was bright, a fast learner and in four years he was back in regular school. Today, at 15, Tommy is still a bit of a loner. But he can play sports such as football and not lose his temper in defeat; more important, he is an honor student. Dr. Carl Fenichel, director of the school, estimates that about 80 per cent of the children at the school had been destined for state institutions. Now, the majority go on to satisfactory jobs, regular schools and some even to college.

## HYPERKINESIS

Of the more serious childhood behavior disorders, hyperkinesis has become the most widely publicized of late because it is being diagnosed in an increasing number of schoolchildren. The symptoms may be discernible in infancy, when the mother finds that her baby is unusually restless and difficult to soothe. They become more obvious when he reaches school age. Typically, hyperkinetic children are highly excitable, easily distracted and impulsive. They have trouble concentrating and therefore become disruptive in the classroom. Because they are failures in their work, they develop the emotional side effect of low self-esteem and frequently compensate by delinquent acting-out. "These youngsters consider themselves worthless," says Dr. Lawrence Taft of the College of Medicine and Dentistry of New Jersey, "because everyone is telling them they're no good."

Hyperkinesis seems to run in families, but there is also evidence that the disorder may be related to minimal brain damage, possibly occurring at the time of birth or after a viral infection such as measles. There is also evidence that lead intoxication may produce hyperkinesis among ghetto children who habitually put pieces of peeling lead-based paint into their mouths.

At least a third of hyperkinetic children show marked improvement on daily doses of stimulants such as amphetamines and even coffee (Newsweek, Oct. 8, 1973). Just how the stimulants have this paradoxical calming effect isn't known, but they seem to improve the child's ability to concentrate.

Dosing large numbers of schoolchildren with the very drugs that constitute a major abuse problem in the U.S. has stirred controversy among many parents and even some psychiatrists. Some charge that the stimulants are prescribed as "conformity pills" for rebellious children. The drugs may produce side effects, including loss of appetite and sleeping difficulties. As a result, children who take them for several years may not grow as tall as they might have otherwise. But the effect of the drugs can be so dramatic, says Taft, "that you wonder whether an extra bit of height is all that important."

## DEPRESSION

Among the childhood emotional disorders in which the relationship with the parents is of unquestioned importance, the outstanding example is depression. Some experts estimate that depression accounts for at least a quarter of the troubled children they see. The so-

. . . learning to speak with the gentle help of Danielle Berger

. . . and dressing himself at last

job over to the parents, consulting occasionally to see how they were doing. But Connie found she couldn't work with Shawn. "Every time I tried, it just hurt," she says. "Some parents can't do it." Connie, in fact, felt the need to see a psychiatrist herself—and it was a wrenching experience. "The first thing he asked me," she recalls, "was 'How do you feel about Shawn?' I couldn't answer."

Finally, thanks to two consultants to the Los Angeles County Autism Project, Alan Insul and Danielle Berger, who have worked with Shawn for the past year and a half, the child is slowly improving. Danielle demonstrated the conditioning technique one afternoon recently in the Lapin home. Holding a package of sliced cheese, Shawn's favorite food, she knelt on the floor and instructed the child to say, "I love mommy." Shawn mumbled unintelligibly and Danielle withdrew the cheese and frowned. Then she repeated the command, with similar results. Finally, after half an hour, Shawn formed the right words and earned his piece of cheese.

Shawn has learned his tiny repertoire of skills: he can now look his parents in the eye, he is toilet-trained, he can dress himself in three minutes instead of the 45 it used to take and he can say about fifteen words. It is a pathetically small set of achievements for a normal 5-year-old, but according to the standards by which the autistic child is judged, it represents dramatic progress. And the Lapins haven't given up.

or fight back. Some children fight back, but the autistic child plays dead."

But the current trend is away from the Freudian view. Recent studies show that the parents of autistic children display no emotional traits that set them apart. "The only differences these parents show from other parents," notes Dr. Eric Schopler of the University of North Carolina School of Medicine, "is that they are all under stress themselves because they have a difficult child."

Moreover, researchers have made a number of observations that suggest that autism is more of a neurologic problem than an emotional one. A number of autistics, for example, show so-called "soft signs" of neurologic impairment, such as poor muscle tone, uncoordination and exaggerated knee-jerk responses. Drs. Edward Ornitz and Edward Ritvo of the UCLA School of Medicine have studied the eye reactions of normal and autistic children placed in a spinning chair. If the chair spins to the left, a normal person's eyes will move to the right, snap back and wander right again; when the chair stops, the eyes will reverse their movement. Autistic children show the same pattern of eye movement, but for a much shorter period. This suggests that the disorder involves a maturational lag in neural development. "The overwhelming evidence," says Ornitz, "is that this is an organic condition."

Because of the evidence suggesting that a physical abnormality is involved, there is a tendency among experts today to regard autism as a form of mental retardation rather than an emotional illness. "Autistic children both will not and cannot perform many tasks," says Ornitz. About 75 per cent of autistics remain retarded through life, he notes, and more than half eventually are institutionalized.

It is the parents of an autistic child who suffer the most. Many of them spend years going from specialist to specialist in a fruitless search for cures. At first, a pediatrician may tell them their child is deaf or simply "spoiled." Psychoanalysts may suggest that they, the parents, need treatment as much as their child does, only adding to an already unbearable burden of guilt. Psychiatrists may give the child tranquilizers, stimulants or even electroshock therapy. But the child remains his autistic self. Recently, some physicians have prescribed massive doses of such B vitamins as niacinamide, pyridoxine and pantothenic acid for both autistic and schizophrenic children. But most experts insist that the so-called megavitamin therapy has no scientific basis. "This is the false-hopes business," says one researcher, "and it causes a lot of anguish." "Every time you go to someone you're desperate," says Connie Lapin, a Los Angeles mother of an autistic son (box). "They say they'll treat him. But then they can't reach him and they give up."

But while there is no specific treatment for autism, a number of centers now offer special training that has produced promising results in some children. One of them is TEACCH (Treatment and Education of Autistic and related Communications handicapped Children), begun by Drs. Eric Schopler and Robert J. Reichler eight years ago and now funded by the State of North Carolina. One of the outstanding features of the program, according to Schopler, is the participation of parents as co-therapists in training their own children.

Basically, the parents are instructed how to use reward-and-punishment behavior modification to train their children during daily half-hour sessions in their

Photos by Lester Sloan—Newsweek

Milestones of progress: Crying in a moment of frustration . . . responding to a teacher at his special school . . .

# The Silent Struggle of Shawn Lapin

At the age of 1, Shawn Lapin seemed to be a healthy, normal child. He never could hold onto his bottle, recalls Connie Lapin, 34. But on the other hand, Shawn had begun to walk even before his older brother and could say three or four words. So there seemed to be no reason for concern. Then a sudden change in Shawn occurred. "One day he tuned everything out," his mother says. "He didn't respond to his name any more. He didn't talk any more."

Soon, Shawn's behavior was growing worse. He cried all night, and Connie and her husband, Harvey, a Los Angeles dentist, split four-hour shifts to quiet him. But every time one of them picked him up, his body became rigid and he pushed his parent away.

Connie and Harvey then began the tormenting, purgatorial ritual that most parents of troubled youngsters seem to follow—making the rounds of experts. After several false leads, the Neuropsychiatric Institute at UCLA finally diagnosed Shawn as an autistic child.

The last stop for the Lapins in their search for help was the office of Dr. Ivar Lovaas of UCLA. A Norwegian-born psychologist, Lovaas has specialized for the past twelve years in changing the behavior of autistic children through reward-and-punishment "operant conditioning." Lovaas was kind but blunt about Shawn's prognosis. "This is not going to cure Shawn," he told the Lapins. "All it will do is modify his behavior, and probably get him into a better institution."

"It was Ivar who brought me down to earth," says Harvey. "All that work and that's all it would do—get him into a better institution. It blew my mind. But as a parent, what are you going to do? The kid didn't ask to be born, and he certainly didn't ask to be autistic. I thought I had to do what I could."

Lovaas and his assistants, usually UCLA undergraduates, spent several sessions a week with the child and his parents, both at the clinic and in the home. After six months, they turned the

likely that he himself will be aggressive."

Because there is no one cause of childhood emotional problems, many methods of treatment have evolved in recent years. Since a young child can hardly be expected to lie still for long, deep-probing sessions of analysis on the couch, psychiatrists have developed other ways to get at the source of his troubles. One involves watching how he plays with his toys or interpreting the pictures he draws. Other therapists ignore the deep-rooted sources of a child's problem and use reward-and-punishment conditioning techniques to modify the child's abnormal behavior. In many cases, the children with the overactivity syndrome of hyperkinesis can be helped with drugs. Unfortunately, no truly effective treatment has yet been found for the child afflicted with the most devastating of all the disorders—autism.

## AUTISM

The term "early infantile autism," from the Greek for "self," was coined 30 years ago by Dr. Leo Kanner of Johns Hopkins to describe a group of disturbed schizophrenic children who showed a uniform pattern of disabilities in responding to their environment. As an infant, the autistic child may go limp or rigid when his mother picks him up. He may seem deaf to some sounds but not to others. He may show no sensitivity to pain, even to the extent that he can blister his fingers on a hot stove without flinching. For long periods, he may rock monotonously back and forth, flap his hands in front of his face, walk on the tips of his toes or whirl about like a dervish.

Autistics show unusual deviations in reaching the milestones of development. They may never sit up by themselves or crawl, but instead suddenly start walking. Some start to talk, but then abruptly stop using language altogether, or only echo words and phrases they have overheard. They reverse personal pronouns, such as saying "you" for "me." They seldom look anyone in the eye. When an autistic child wants something, he may, without looking at his mother, steer her hand toward the object as if manipulating a pair of pliers. Because many autistic children show certain "splinter skills" above and beyond their otherwise poor level of functioning—such as the ability to rattle off strings of numbers—they have traditionally not been classified as retarded or brain-damaged.

After Kanner's description of autism was published, some psychiatrists observed that the parents of such children tended to be intellectual, emotionally detached and with a tendency to think in abstractions. With the prevailing influence of Freud on child psychiatry at the time, it was hardly surprising that the condition should be blamed on these "refrigerator parents." Autism was supposed to result from rejection of the child by the mother at an early stage in infancy. Dr. Bruno Bettelheim, a distinguished psychoanalyst who recently retired after 30 years of dealing with autistic children at the University of Chicago's Orthogenic School, is a forceful exponent of the Freudian view.

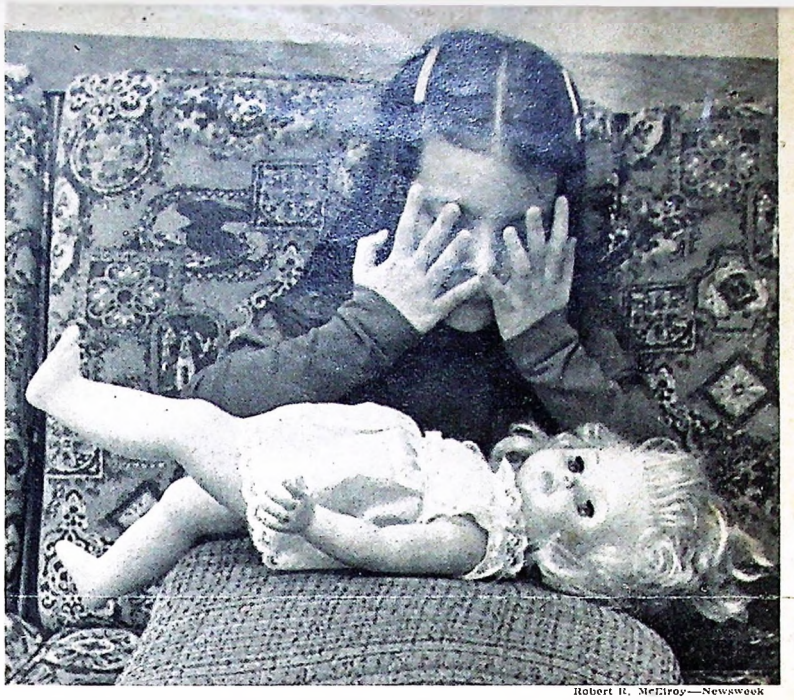
The autistic child has an inherited predisposition to emotional trauma, Bettelheim says, but unconscious rejection by the mother is the major traumatizing event. The parents, he says, tend to deal with the child in a mechanistic way, out of a sense of obligation rather than genuine affection. "This is interpreted by the child as a feeling he shouldn't be alive," says Bettelheim. "When animals are threatened, they either play possum

770,000. "The drift," says Noshpitz, "is toward seeing more and more very disturbed children, youngsters who need residential treatment." And psychiatrists in private practice note similar trends. "There is now a widening scope of patients with childhood disturbances," says one veteran New York psychoanalyst, "and it is not just because more people are deciding to put their children in therapy."

Freud, who preached that the root causes of emotional disorders were to be found largely in a disturbed relationship between parent and child in early life, is no longer quite so predominant an influence on child-care professionals. The more eclectic psychologists and psychiatrists hold that childhood mental ills seem to arise from three intertwining influences: predisposing physical and hereditary factors, forces within the family —including the Freudian traumas—and stresses imposed by contemporary life. "The fortunate child," says Ner Littner of Chicago's Institute of Psychoanalysis, "is the one with good heredity and adequate care provided by two parents who are able to recognize and meet the child's needs in early life, and a minimum of chronic, overwhelming stress situations as the child grows up."

But now more than ever before, the triad of forces seems to conspire against the emotional well-being of the American child. First, there is a growing recognition that children born prematurely or as a result of difficult labor, those suffering from complications of measles and other viral infections and those raised by parents who are themselves victims of mental disorders run a high risk of emotional disturbance. Boys, for reasons perhaps attributable to hormonal differences, are up to five times more vulnerable than girls.

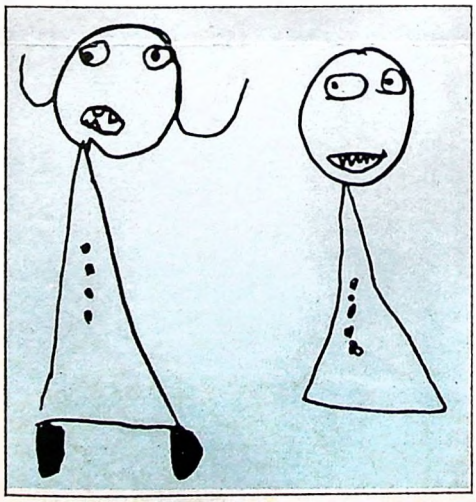
Second, today's mobile society has all but abolished the extended family. Parents can no longer count on grandparents, aunts and uncles to act as authority figures in the raising of their children. "I'm personally convinced that no two parents can rear a child entirely alone," says Dr. Sally Provence of Yale's Child Study Center. "Yet young parents have fewer supports for parenting than ever before—it's either drag the kids along or get a sitter." With the increasing number of young women carving out careers for themselves, some experts see a threat even to the integrity of the nuclear family. "I'd much rather see people not have children at all than leave infants in a day-care center," says Dr. Lee Salk, chief child psychologist at New York Hospital-Cornell Medical Center and author of the best seller "What Every Child Would Like His Parents to Know."

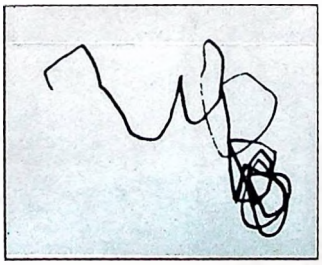


Robert R. McElroy—Newsweek

Six-year-old girl with doll: Nightmares, compulsions and loneliness

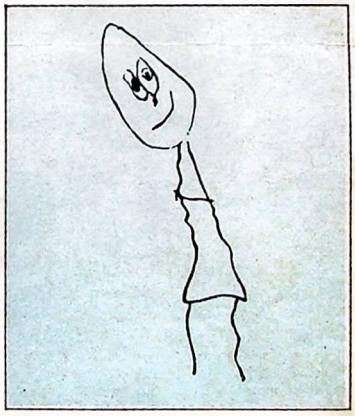
Third, in today's push-button society children tend to learn about the world around them vicariously by television. "Many of our children and young people have been everywhere by eye and ear," notes a recent report of the Joint Commission on Mental Health of Children, "and almost nowhere in the realities of their self-initiated experiences." And much of what the children see is the vivid depiction of war, violence and social upheaval; aggression has become one of the most pervasive childhood experiences of all, says Dr. Ebbe Ebbesen of the University of California at San Diego. "Children learn abnormal behavior from observing other people," the California psychologist contends. "The more aggression a child is exposed to, the more





A schizophrenic child can produce only squiggles when requested to draw a person

Big teeth in drawing by depressed boy suggest hostility of parents



Withdrawn child's poor perception of people is shown in drawing of figure without ears and arms

## Mission to Mercury

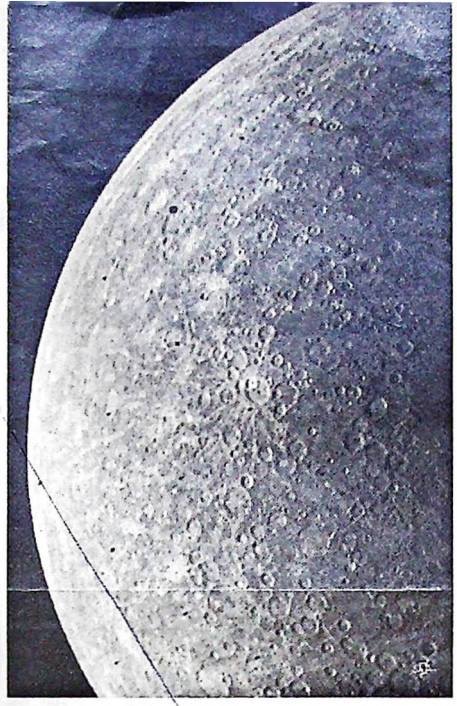
For the moment the U.S. manned space program is at a standstill, and after next year's planned link-up between U.S. and Soviet spacecraft, no American astronaut is scheduled to fly until 1979 when the space shuttle is due to make its maiden flight. But the pace of planetary exploration by unmanned probes, both U.S. and Soviet, is quickening spectacularly. In recent months, instrumented spacecraft have zeroed in on Venus, Mars and Jupiter to provide astronomers with a wealth of significant new data on those planets. And last week in Pasadena, scientists at the Jet Propulsion Laboratory witnessed perhaps the most dramatic event yet in planetary exploration—the transmission by Mariner 10 of the first-ever close-up pictures of Mercury.

For the astronomers at Pasadena, the pictures were priceless. Mercury is the closest planet to the sun (the distance varies from 29 million to 43 million miles), and is thus all but unobservable through even the largest earth-based telescopes. Because of its proximity to the sun, the ancients saw Mercury as a kind of solar equerry—and hence named it after the messenger of the gods. The planet is just half again as large as the moon, but its density is similar to the earth's, suggesting that it contains large amounts of iron. Mercury takes 88 days to speed around the sun in a markedly elliptical orbit. Until 1965, astronomers believed that it continually offered the same face to the sun as the moon does to the earth. But then radar studies proved that the planet rotates on its axis once every 58½ days.

The combination of Mercury's slow rotation and its elliptical orbit produces an effect unique in the solar system. As the planet approaches its closest point to the sun, an observer on Mercury's surface would see the sun apparently stop in the sky and then travel backward for a short while, before resuming its movement across the sky in the normal direction.

**Pictures:** Mariner 10's first photographs, taken from a distance of 3.5 million miles, showed Mercury to be covered with white spots. As the craft moved closer, the spots became craters, resembling those on the moon and Mars. So clear were the pictures that the scientists at Pasadena did not need the normal computer enhancement to spot craters within other craters, or to see sinuous, rille-like features winding between the craters.

The pockmarked appearance of Mercury's surface had been largely expected, but scientists were amazed when Mariner's instruments detected evidence of a small magnetic field and a wispy atmosphere around the planet. Astronomers had thought that Mercury's slow rotation would preclude a magnetic field. They had also believed that the solar wind of particles streaming outward from the sun would strip away any molecules in the atmosphere. The magnetic field that Mariner found is only 1 per cent as strong as earth's field, but greater than those of Venus and the moon; the thin atmosphere is composed predominantly of neon, argon, helium and hydrogen. Scientists postulate that the gases arose in some way from inside Mercury, either from volcanic activity or some process yet to be identified.



AP photos

Mercury close-up: A pockmarked planet with an unexpected atmosphere

Spectacular as they were, Mariner 10's views of Mercury were just the latest in a series of recent planetary unveilings. Among the highlights:

■ **VENUS.** Passing within 3,500 miles of Venus en route to Mercury, Mariner 10 provided scientists with a first clear glimpse of Venusian weather patterns. The unexpected findings included ultraviolet views of a shell of carbon monoxide surrounding the planet, a huge (4,500 miles by 1,250 miles) oval blemish in the atmosphere roughly in line with the sun that was dubbed the Venusian Eye, and a jet stream that carries the cloud cover in a westerly direction at up to hundreds of miles an hour.

■ **MARS.** Last month, a convoy of four Soviet spacecraft arrived in the vicinity of the red planet, but two efforts to soft-land an instrument package on its surface failed; one missed Mars completely, while the other ceased transmitting on its way down. Even so, the probes did hint that the Martian atmosphere contains several times more water vapor than previously believed. U.S. space experts think that the Russians will try another soft landing next year.

■ **JUPITER.** Negotiating the intense radiation belts of the giant planet last December, Pioneer 10 returned a great deal more data than expected. In particular, the craft discovered that the Jovian upper atmosphere consists of at least 70 per cent hydrogen and that it contains a "temperature inversion" (in which the warmer air lies above the colder). This combination of circumstances, says Dr. John Wolfe of NASA's Ames Research Center, means that the space agency should be able to send a space probe right into Jupiter's atmosphere—a task previously considered impossible.

From the astronomers' point of view, the planetary probes are giving a completely new dimension to the oldest of all sciences. "All of the other sciences lend themselves to experimentation," explains Carl Sagan of Cornell University. "But this has never been true of astronomy. The astronomer has always had to sit passively and watch the sky. Now, the advent of space probes makes astronomy an experimental science, and this is one of the biggest breakthroughs in the history of the field."

Interestingly enough, the information produced by space probes has applications close to home. Meteorologists think that knowledge of planetary atmospheres will permit them to build models of global weather systems that will allow better understanding of the earth's weather. On Venus, for example, atmospheric circulation is not affected by planetary rotation, and on Mars there is no evaporation and condensation of water. "The planets," says Kenneth Franklin of New York's Hayden Planetarium, "give us a chance to study some of the important factors in weather by isolating those factors—something that is impossible to do on earth."

# Troubled Children: The Quest for Help

BY MATT CLARK

The control of the often deadly diseases of childhood is the proudest achievement of medical progress in this century. Thanks to vaccines and antibiotics, the average American child no longer must run a gauntlet of physical threats such as the crippling effects of polio, the heart damage of rheumatic fever or diphtheria's death by slow strangulation. Thanks to better nutrition, today's children grow inches taller and pounds heavier than their forebears did. In short, the American youngster has never had better prospects for a long and healthy life.

But for all that modern medicine has done to protect and nourish the child's body, surprisingly little has been done to assure him of an equally healthy mind. Despite all the talk about America's child-centered society and all the best sellers purporting to tell parents how to raise happy, well-adjusted youngsters, the number of emotionally troubled children is appallingly high.

By the most conservative estimate, at least 1.4 million children under the age of 18 have emotional problems of sufficient severity to warrant urgent attention. As many as 10 million more require psychiatric help of some kind if they are ever to achieve the potential that medical progress on other fronts has made possible. "If we used really careful screening devices," says Dr. Joseph D. Noshpitz, president of the American Academy of Child Psychiatry, "we would probably double and maybe treble the official statistics."

The hard core of these children are those who are autistic or schizophrenic. They are helplessly withdrawn from reality and exist in an inner world that is seldom penetrated by outsiders. More than 1 million other children are hyperkinetic. They turn both living rooms and classrooms into shambles by their frenetic and uncontrollable physical activity. Millions more troubled children are plagued by neurotic symptoms. They are haunted by monster-ridden nightmares, frightened of going to school, held in the grip of strange compulsive rituals or lost in the loneliness of depression. Harder to pinpoint but just as troubled are those who simply don't function in society. They fail in school, they run away, they fight, they steal. Eventually, they fill reform schools and prisons.

Until recently, childhood emotional disorders have been tragically neglected as a national health problem of dramatic proportions. Because of his bizarre and often repellent behavior, the emotionally disturbed youngster has never made an appealing poster child for mothers' marches and annual fund-raising drives. While most of the nation's 7.6 million physically handicapped children receive educational and medical services through a variety of public and private channels, fewer than 1 million of the emotionally handicapped are receiving the help they need. All too often, the disturbed child has been expelled from public school as unteachable, or shunted into special classes for retarded children with brain damage. "We are in the Year One in care and treatment of these children," declares Josh Greenfeld, a 46-year-old writer whose 1972 book, "A Child Called Noah," vividly described his own agonizing search to find help for his autistic son. "We are going to have to shock ourselves into the fact that we are killing these children as well as destroying the lives of the families the kids are part of."

Robert R. McElroy—Newsweek

A test of patience: Autistic child with mother in North Carolina

But within the past few years, parents like the Greenfelds have made some important gains in winning better care for their troubled children through the legislators and the courts. In one of the most far-reaching decisions of all, a District of Columbia Federal judge ruled in 1972 that all handicapped youngsters—including the emotionally disturbed—are entitled to public education under the Fourteenth Amendment. Thanks to the relentless lobbying of the National Society for Autistic Children in Albany, N.Y. —composed largely of parents—more than 30 states have passed laws providing special education for autistics in the last four years.

One reason for the increasing recognition of the needs of the troubled child is the strong evidence that his ranks are growing. The number of children receiving treatment for emotional problems in institutions and outpatient facilities has risen nearly 60 per cent in the last seven years—from 486,000 to