

# Job Readiness

Performance • Retention  
Customer Service • Sales  
Research Reports



# ROI – RETURN ON INVESTMENT

## Airline Industry

33% decrease in tardiness in an International Airline  
36% fewer accidents annually among Airline Ground Crew

## Supermarket Industry

32% decrease in tardiness in a Supermarket  
21% less turnover in a Supermarket Chain  
60% fewer terminations in a national Supermarket Chain  
80% less paid in annual workers' compensation claims in a Grocery Store Chain  
17% more product handled in a Grocery Distribution Center  
45% fewer injuries in Distribution Centers

## Banking

32% decrease in cash drawer variance in a Banking System  
30% less total turnover in a Bank System  
30% less turnover in a Regional Bank System  
51% less total turnover in a Hospital System

## Transportation

23% fewer absences in a Metropolitan Transit Commission  
21% fewer injuries among Truck Drivers  
77% fewer days tardy in a year among Bus Drivers  
84% drop in worker compensation claims from Bus Drivers  
58% decrease in uninsured loss in a Jewelry Store Chain

## Retail and Discount Stores

85% fewer drug test failures in a Discount Store Chain  
43% less shrinkage in Discount Stores  
50% fewer terminations in Discount Showroom Stores  
17% less inventory shrinkage in a Retail Chain  
44% fewer theft terminations in a Retail Chain  
41% less voluntary turnover in a Fashion Retail Chain  
57% decrease in theft terminations in a Retail Chain  
40% shorter interviews in Department Stores

## Health Care

13% fewer accidents due to carelessness in a Health Care Facility  
82% decrease in turnover in a Health Care Facility

## Restaurants

77% fewer tardy days in Restaurants  
\$300 decrease in monthly management costs in an International Restaurant Chain

**All Results Based On 200 Validity Studies**

# Research Reports

for Hiring, Training , & Retaining the Best Employees

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The topics listed above are the outcomes of research studies that were performed at a wide variety of business organizations. The results were based on 4 different assessments that were used as the framework for the studies. The four assessment were: Job Readiness, Job Retention/Tenure, Customer Service, and Sales.

The four Scales were designed to predict:

1. Success in entry-level and nonexempt positions. Also designed to identify individuals who are more reliable, dependable, conscientious, and motivated
2. The likelihood that an individual will stay on the job for at least 3 months and be committed and motivated.
3. Success in positions with customer service contact. Helps identify individuals who are friendly, courteous, helpful and service oriented.
4. Success in positions requiring high levels of initiative, commitment, persuasiveness, and resilience.

The return on investment (ROI) was evident in the following industries: Airline, Supermarket, Banking, Transportation, Retail & Discount, Health Care, and Restaurants. In total ,the results were based on over 200 Validation studies.

The following 12 reports are summaries of the most dramatic results of the use of the 4 assessment programs.

# Identify Dependable People for Hiring

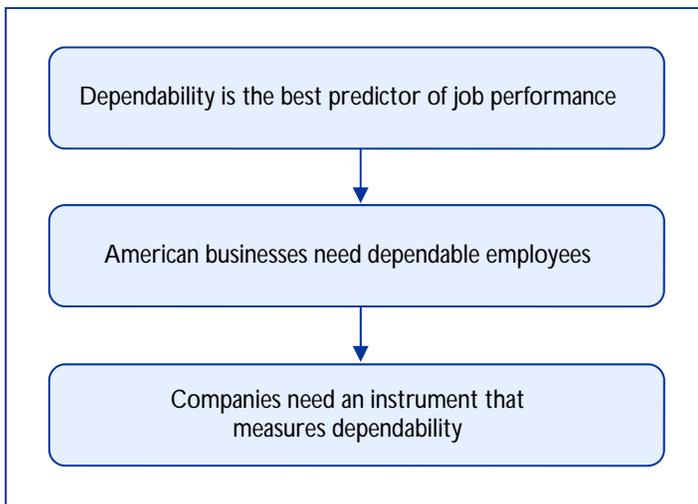
"Building and keeping a qualified work force will be the overriding concern of businesses during the next decade," according to corporate leaders surveyed nationally by a management recruiting firm. The theme is echoed in another large survey of almost 3,000 employers in Michigan. The need for qualified workers, it proclaims, "is critical if the nation is to remain internationally competitive."

Both surveys reflect the basic assumption among U.S. companies when they are seeking hourly employees: "Qualified" means "dependable." Many employers recognize that job technology changes over time, and worker skills need periodic updating.

The need for dependable people, however, is stable; dependability becomes more important than specific job skills.

Michigan employers rated the importance of 86 personality and job skill characteristics in hiring new workers. They described seven characteristics as critically important:

- Being free from substance abuse;
- Demonstrating honesty and integrity;
- Paying attention to the person speaking;
- Following directions given verbally;
- Showing respect for others;
- Showing pride in one's work; and
- Being punctual and in attendance.



These "Responsibility/Values" traits were rated as the most important for employees to have regardless of company size or type of industry - service, manufacturing, agricultural, retail, or financial.

The i-Match Internet program screens for these top-rated traits. It provides employers with results related to almost all of the critical characteristics.

Michigan employers are not alone in their need for dependable employees. A Columbia University literature review of 14 similar studies in other states reinforces the conclusion that employers are looking for stable, dependable, productive people. In study after study, the most valued employees clearly are those who exhibit "dependability, respectfulness, productivity, trustworthiness, pride in work, flexibility, appear-

ance, cooperativeness, self-confidence, punctuality, desire to learn, interest in serving clients, and desire to advance."

U.S. Army research supports this approach of hiring for dependability factors. A large-scale study found that dependability is the single most consistent predictor of performance among enlisted military personnel. Other research reported in a recent psychological journal article on a meta-analysis of 117 studies involves thousands of people in several occupational groups. The one personality trait which predicts successful job performance with the greatest validity, the authors conclude, is conscientiousness. "In fact," they say, "it is difficult to conceive of a job in which the traits associated with the conscientiousness dimension would not contribute to job success."

**Dependability is the personality trait that best predicts job performance.**

Whether they label the key employee characteristic "conscientiousness," "dependability," or "responsibility," these studies articulate the purpose of i-Match users: Dependable people make the best employees.

American employers want employees who are conscientious, dependable workers. Dependability is the personality trait that best predicts job performance. Dependability is what i-Match measures. Thus, it can help you be competitive during the coming decade; with it, you can select the quality work force you need.

**Recent figures from a New York City consulting firm estimated that employees who show undependable behavior by faking illness, taking long breaks and lunches, and arriving late cost U.S. businesses \$100 billion to \$150 billion annually, triple the losses from theft of merchandise.**

# Evaluate the Benefits from Hiring More Productive Employees

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In one way, i-Match is like using an automatic dishwasher: It's a great invention but it's hard to place a value on some of the advantages.

Observing—let alone evaluating—all employee behaviors is impossible, and those dishes don't look any different from the ones washed by hand.

Yet, more productive employees mean a healthier company, just as cleaner dishes mean better health for your family. It is difficult to put a dollar value on personal health or employee productivity but, even if they can't be measured, more certainly is better.

Some effects of i-Match use can be tangible. Shrinkage in a national retail chain, for example, dropped to 1.89% with i-Match use after climbing to 2.3% previously. This adds about \$11 million per year to this chain's bottom line.

## Assessing the Intangibles

More productive employees hired with i-Match add many contributions that are subtle. Where in your budget do you count the profits when one employee "keeps working even though others are standing around talking?" How do you assess the additional expenses involved when an employee "takes unauthorized breaks?"

To get a handle on intangible effects of i-Match use, several studies have evaluated the costs of specific counterproductive work behaviors and the benefits of productive behaviors.

A multi-company panel of retail experts assigned dollar values to behaviors. A cashier "noticing an error on a customer's check," for example, can save a store \$25 or more in time and money, according to the experts' estimates. "Noting a safety hazard and alerting the supervisor" can save \$20 on average.

Although these figures for single episodes may sound small, they are multiplied by many occurrences in a large company.

## Using i-Match Can Produce Some Unexpected Benefits

We recently learned of an unanticipated secondary effect of using i-Match. Managers in one company related that, as expected, cashiers hired with i-Match were more reliable and stayed on the job longer than was typical before the firm started using i-Match.

An unexpected result, however, was that i-Match passers were encouraging their friends to apply for jobs at the retailer's stores.

## Observing Improvements

Employees in more than 26 studies have been rated by their managers on several dozen measures of productivity, including how often they "continued working while coworkers stood around talking."

Part-time retail employees who passed the i-Match cutoff were observed "continuing to work while others talked" an average of 15 times per year, 33% more than the company norm. The retail experts esti-

ated that each instance of keeping working in a store instead of standing around may be worth \$30 in sales or some other outcome of productivity.

i-Match helps this kind of productivity in two ways—by hiring passing employees who "keep working" 33% more and by not hiring i-Match failing employees who "keep working" 53% less than the norm.

## Realizing the Effects

Understanding of the overall effects in hiring employees becomes more complete when other work behaviors also are considered. For example, recent results have shown that i-Match passers were 36% more likely to notice errors on a customer's check, while those who failed either didn't notice or ignored check errors 58% more often than the company norm.

Here are some other examples of more productive hourly behavior:

- Passers were 19% more likely than the company norm to "take the initiative to find more work when finished with regular tasks." Those who failed were 29% less likely to find more work to do.
- Employees who passed at one retail firm were 18% more likely than the norm to "notice a safety hazard and alert the supervisor," compared to 28% less likely for failers.
- Those who passed at one discount chain "checked for concealed merchandise to prevent shoplifting" 31% more often than the company norm, and those in grocery stores checked 27% more often. In addition, failers were 45% and 54% less likely to be conscientious in this way.

While some benefits of i-Match use may not be measured easily, their effects will be visible in the long run: The combination of hiring employees who are more likely to behave productively and screening out those likely to be counterproductive can mean a healthier bottom line.

**Q:** How well does an applicant need to read in order to fully understand what i-Match is asking?

**A:** The reading level was estimated with a formula which counted its syllables, words, and sentences. Applying this system to all sections and the directions, i-Match was labeled "easy," requiring a sixth grade education.

Some of the single word adjectives in Part 2, such as "systematic," "conscientious," "persuasive," and "persistent," likely require a greater language skill, but shouldn't present major problems to most people.

An invalid score or any difficulty with answering may be a result of either illiteracy or a language barrier. In each situations, and if language is not a job requirement, i-Match may be given orally. Scores for these applicants should fall into the normal ranges of scores as long as standard administrative procedures are followed.

Remember, too, that a Spanish version of the test is available and could be given in the appropriate circumstances.

# Add Structure and Objectivity to Mass Hirings

Sometimes it's challenging enough to find one qualified applicant for your hourly job. Imagine, then, having to hire hundreds of employees in only a few days. This is what companies face when opening a new store or facility.

The usual procedure is to set up mass hiring clinics in auditoriums or hotel ballrooms. A dozen selection interviews may be going on simultaneously—or, worse yet, not quite simultaneously—presenting an enormous potential for distractions.

Besides dealing with interference from the surrounding hubbub, interviewers have to determine the differences in applicants in only 15 to 20 minutes. Since interviewers face wave after wave of applicants, they need to get pertinent information quickly and simply don't have time to belabor over any information gaps.

Further, it's difficult to assess reliability dependability qualities in an interview. Anecdotes applicants use to describe their work histories certainly help, but only to a degree.

Companies with experience seeking dependable employees in mass hiring situations say that i-Match is a useful—even necessary—tool. They give several reasons why works well for them:

- **Flexibility.** There's no need to restructure the company's current procedures—i-Match fits easily into most selection processes. It worked as well for one organization that hired 12,000 employees one summer with a short, simple process as it did for another company which used a longer, more complex system to open six small stores with 80 employees.
- **Simplicity.** i-Match includes automatic scoring. An individual responsible for administering the test will require minimal training. Reports can also be generated by this individual.
- **Speed.** Only 15 to 25 minutes is needed to complete i-Match, and scoring is instantaneous. This speed is important, since one goal of mass hiring clinics is to make job offers before the applicants leave.
- **Inoffensiveness.** Applicants don't mind taking i-Match. Its items don't offend them and, since it's so short, taking it doesn't overwhelm them.

Keep in mind that, as in any hiring situation, i-Match should be used in conjunction with other screening methods; it's not meant to be used as a stand-alone procedure. i-Match scores can act as confirmation of other findings or as a red flag, indicating that further screening might be necessary.

Also, the more inexperienced or more fatigued your interviewers, the greater the utility in the process. i-Match helps structure the screening process, making interviewers feel they can do a more professional job.

Whether you need to hire 15 or 500 new people, i-Match can help you find more dependable employees.

## *One Format for a Fine-Tuned Mass Hiring Process*

No one structure exists for mass hiring procedures. Companies developing such a process, however, might find it helpful to know the steps used by a national retailer with extensive experience in mass hiring.

Its process of staffing a store with approximately 200 employees takes about a week. Human Resource personnel first screen as many as 1,000 short applicant forms. Applicants who are, for example, unavailable during the required hours or who have overly-high salary expectations would be eliminated immediately.

In the next step, continuing applicants are scheduled to come to the interview site for an hour session. Interviews are conducted in a large room, with six to eight going on simultaneously. The applicants then fill out a long application form and then take i-Match.

All information—applicant form, interview findings, and i-Match reports—on each applicant is reviewed. Any applicant who does not pass the chosen cutoff score or is rejected by the interviewer is eliminated from further consideration.

Information about questionable applicants is placed in a "maybe" pile for further checking in case there is a shortage of strong candidates.

The final step, for those who pass the assessment and are accepted by the interviewers, is a reference check. If references are favorable, the applicant is offered a job the same day.

### **Q: What if I need to hire 300 people and only 250 show up?**

**A:** A shortage of qualified hourly workers can occur in any labor market. It may mean using a lower-than-normal cutoff score in order to get the help you need, or it may mean more recruiting so you can be more selective.

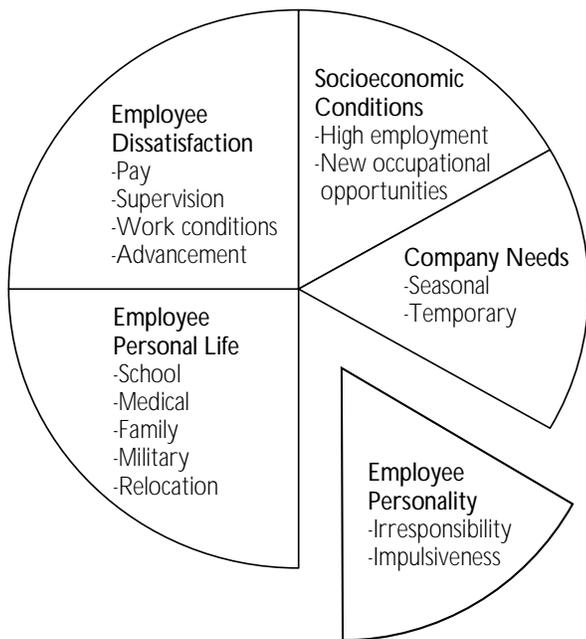
In this situation, though, you'll need to choose your problem: Hire everyone regardless of their qualifications and then fire and rehire over the following weeks, or bite the bullet and get by with only the better applicants.

Don't stop using i-Match, however. You may be better off leaving some jobs unfilled for a short while, and, by screening in more productive workers, you might not need to hire as many people as you originally planned.

# Reduce Turnover and Staffing Costs

High turnover is the reason many companies begin using pre-employment screening tests. Poor customer service, work force instability, and low productivity are some of the problems associated with high turnover.

Organizational concern, however, most often focuses on the direct costs of turnover—and with good reason. According to an annual survey done by the Employment Management Association, the hiring of one hourly or production worker costs over \$1,600 up significantly over previous years. The survey showed a similar high cost (\$3,500 for hiring nonexempt office and clerical workers).



With even low turnover, these figures can add up quickly. Usually before employees can find the restrooms without getting lost, many administrative costs are incurred: recruiting and interviewing applicants, putting new employees on the payroll, and training them.

## Determining Causes of Turnover

So how can companies reduce turnover? Needed first is some insight into the causes of turnover. A conceptual model has been developed which shows the various causes of employee turnover, and the relative distributions among these causes.

As the model indicates, much hourly turnover is outside the control of employees—the result of seasonal jobs or of economic conditions. Further, much of the turnover under employee control is justifiable. Life changes such as returning to school, taking a better job, or leaving for personal reasons can't be predicted at the time of hiring, or controlled during the course of employment.

Voluntary turnover, however, resulting from personal characteristics such as irresponsibility, undependability, low motivation, or general instability can in itself be considered counterproductive behavior. As such, it can be predicted at hiring. This is this type of turnover which the i-Match helps to reduce.

## Reducing Unnecessary Turnover

Many studies done with i-Match in a variety of settings (retail, manufacturing, health care) have shown that the use of the test significantly reduces unnecessary turnover.

One national retailer, for example, had 150% total turnover (both voluntary and involuntary) before introducing i-Match, and 110% at the end of the first year's use. Total involuntary terminations during the time period also dropped significantly, from 9.2% of the work force to 4.6%.

A study at another retail firm showed that 11.9% of all terminated employees were discharged. If an i-Match cutoff of 52 had been used for hiring, the rate would have been 6.6%—about half of those fired would not have been hired in the first place.

## Saving Hiring Costs

Without i-Match, 119 per 1,000 of these employees were discharged; with the i-Match, 66 per 1,000 were terminated. The difference of 53 fewer firings for each 1,000 employees represents significant savings. With a conservatively estimated hiring cost of only \$300 per person just to replace a discharged employee, savings would have totaled \$15,900 per 1,000 employees.

Actual turnover costs, though, probably are higher than \$300, especially if the costs of poor performance are included.

Other studies have shown these relative improvements:

- 12% to 30% declines in total turnover;
- 9% to 12% decreases in voluntary terminations; and
- 19% to 64% drops in involuntary terminations.

It is estimated that only about 10% of total turnover is the result of counterproductive behavior and thus is predictable at the time of hiring. The 48 studies of turnover done so far indicate, however, that i-Match can have a great impact not only on this segment of turnover but also on total turnover—and on your costs.

Many companies in a variety of settings, both retail and industrial, have found that i-Match pays for itself many times over just by reducing turnover.

# Selection Process for Hiring that Saves Time and Money

Whether your company is mass hiring or replacing employees one at a time, early elimination of the least viable candidates saves you time, effort, and money.

Your immediate goal is to determine—in the most cost-effective way—whether candidates meet the minimum job requirements. That's why the most valid and least expensive screening methods should be one of the first steps in the selection process.

Low-cost selection tools include application forms, brief screening interviews, and i-Match. A short interview would eliminate immediately those candidates who, for example, aren't available during the required hours; i-Match would screen out those who are less dependable.

When you test applicants right away, you send a more qualified pool of candidates on to subsequent—and higher cost—stages of the selection process, such as in-depth interviews, drug tests, skills tests, or reference checks.

Testing generally is the fastest, most valid, and least expensive method for screening job candidates. It requires little effort from personnel managers; it's the applicants who invest their time.

But these aren't the only reasons to use a test such as i-Match early in the process of selecting hourly applicants. For example, i-Match clearly reduces the possibility of making overly subjective hiring decisions.

Interviewers can have good and bad days; they can be interrupted and lose track of an important point. They may not get the same information from each candidate or interpret information consistently.

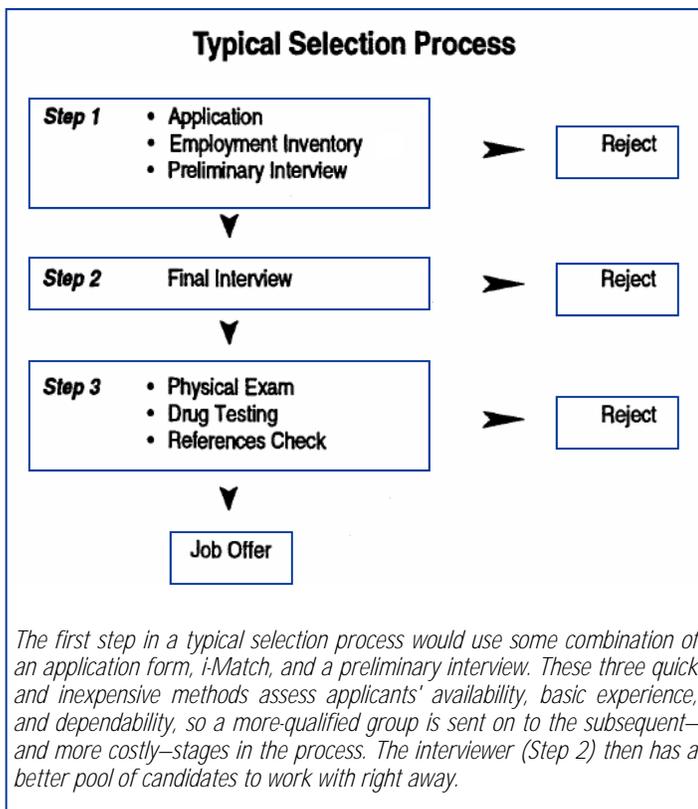
With the i-Match, however, they get the same kind of information that is interpreted objectively, consistently. The early use of i-Match also can help control the "halo" error of evaluating candidates. Once managers have invested in a long selection process for a particular candidate, they may then not want to reject that applicant because of a low i-Match score. The manager may have come to like the candidate and may not believe such a verbal or pleasant person really could be undependable.

In addition, i-Match and an interview provide different information. Knowing the i-Match score first lets you take advantage of these differences.

An interview is fine for evaluating, for example, communication or social skills, but i-Match is better for assessing dependability, responsibility, and stability. Having the i-Match score early—and, therefore, knowing the applicant's probable dependability—allows managers to focus on evaluating other job qualifications.

All of the studies have shown "incremental validity" over an interview. In other words, the two methods assess different qualities and, together, give a more complete picture of the applicant than one or the other could give by itself.

When you administer i-Match early, you screen out the least productive applicants right away, before investing much time and money in them. You can save the intensive parts of the hiring process for those applicants who are more likely to succeed on the job. Then you can feel confident about making job offers to finalists.



## *i-Match Gets High Marks*

i-Match is "clearly the most carefully developed 'personality-based' integrity test available today," according to John A. Johnson, Ph.D., associate professor of Psychology at Pennsylvania State University.

"Although in one sense, i-Match is only a few years old," Johnson says, It can be regarded as an evolutionary product of 20 years of outstanding selection research. and over 40 years of test-construction research at the University of Minnesota."

Johnson reviewed i-Match in Test Critiques, Volume VIII, a reference manual of published employment and educational tests which was printed recently.

# Reduce Inventory Shrinkage Rates Significantly

Inventory shrinkage—unaccountable loss of company property—is a pervasive and painful problem in retail and other businesses. It's common for people to "take something home from work" which, in an individual case, may not add up to much but cumulatively amounts to millions of dollars of losses annually.

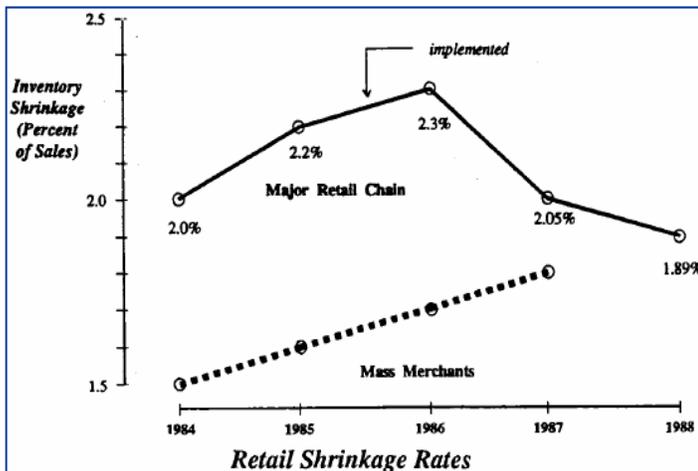
Although i-Match doesn't measure honesty, it does predict counterproductive behavior such as pilfering.

Results from four different kinds of research with i-Match have shown these consistent improvements in shrinkage:

- **Shrinkage as a percent of total sales.** Shrinkage in a national retail chain was 2.0% of total sales. This figure was creeping upward—2.2%, and then a year later, 2.3%, similar to the national trend reported by the National Mass Retailers Institute—until i-Match was introduced.

Shrinkage, projected at 2.4% one year later, instead dropped to 2.05%, and edged lower again to 1.89% one year later. For this large chain, the savings from reduced shrinkage adds about \$11 million per year to the bottom line.

- **Store-level i-Match scores and shrinkage data.** One year's shrinkage data collected from a group of 80 retail stores showed that the higher the store average score, the lower the store shrinkage. The 20 stores with the highest scores had 1.74% shrinkage, compared to 2.94% in the 20 stores with the lowest scores.
- **Using vs. control stores.** A chain of discount showroom stores used i-Match in about half of their locations. They had 50% fewer involuntary terminations and 43% less inventory shrinkage in stores using i-Match compared to stores not using it.
- **Terminations for theft.** In another retail chain, theft terminations dropped from 4.5% to 2.5% of the work force after the first year of use. Studies in over a dozen companies have shown reduced levels of involuntary terminations, in many cases specifically for theft.



Results of other studies during the last two years have shown drops in involuntary terminations ranging from 19% to 64%, declines in inventory shrinkage ranging from 11% to 43%, and increases in satisfactory employees ranging from 10% to 49%.

Declines in inventory shrinkages and theft terminations aren't the only measurable effects of i-Match use by retailers. Many companies also have seen an increase in satisfactory employees, as determined by performance reviews, and a drop in problem and marginal performers. This means improved employee productivity—which translates into greater earnings.

An indirect consequence of less counter productivity is a reduction in problems for managers. When the work force is more productive, supervisors spend less time dealing with unwanted job behaviors such as tardiness and slow or sloppy work.

## Lack Face Is an Important i-Match Feature

Sometimes we're asked how i-Match can predict productivity when it doesn't ask much about work behaviors. This is really a question about the inventory's "face validity."

Face validity doesn't refer to validity in a technical sense. We say a test or question has face validity if it measures what it appears to measure.

A typing test, for example, has face validity, as do honesty tests which directly ask applicants about stealing or theft. A typical face valid honesty question would be, "What is the dollar amount you have stolen from your employer during the last five years?"

In contrast, i-Match poses questions which measure personality traits such as dependability, impulsiveness, responsibility, and stability. These traits underlie the propensity for productive and counterproductive behaviors.

Therefore, the questions don't have face validity; instead of asking directly about counter-productive behavior, they ask about the more basic personality characteristics.

One advantage of i-Match lack of face validity is that its purpose isn't obvious. Applicants can't determine easily how they "should" answer in order to do well. Honesty tests, on the other hand, have a fairly obvious purpose.

Another advantage of i-Match style of questions is that are not offensive to applicants. While applicants can feel offended by answering questions about how much they stole during the past year, they don't mind answering rather innocuous-sounding questions about their opinions and attitudes.

Just remember that test questions can be valid statistically even if they don't have face validity. And this can be a strong advantage for some testing purposes.

# Meet Hiring Needs in Different Labor Markets

You're opening one store in Newark and another in Santa Clara at about the same time. Your managers will use i-Match as part of the selection process. Should the same cutoff scores be used in both cities? It depends.

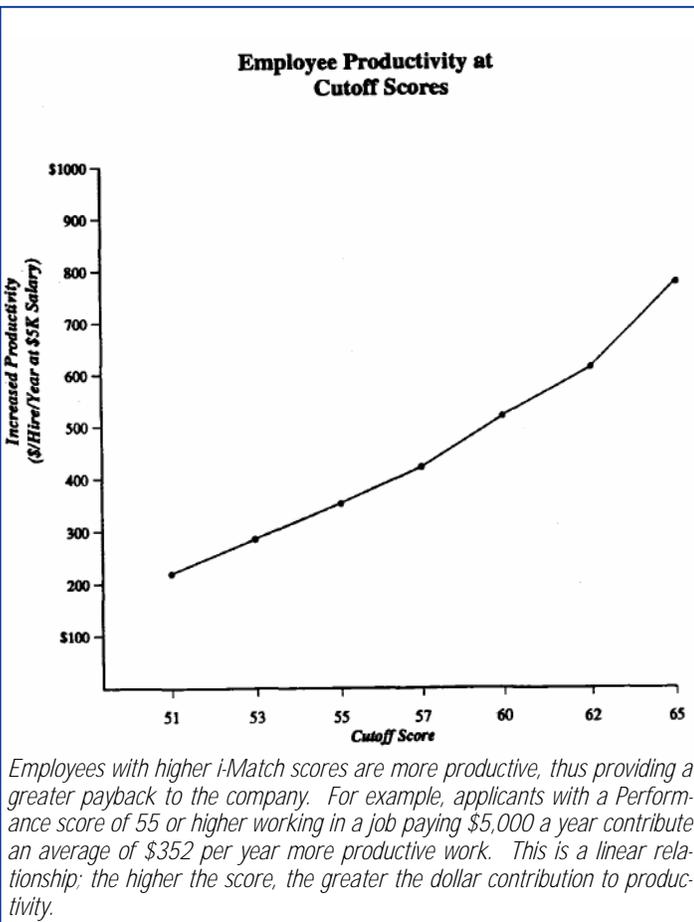
Theoretically, the cutoff score is the point in the distribution of test scores that separates acceptable from unacceptable performance. Practically, however, the meaning of acceptable and unacceptable varies from time to time and place to place.

## How Cutoff Scores Work

It's impossible to set a cutoff score that magically separates capable from incapable candidates. A low score doesn't necessarily mean that the applicant fails to meet job requirements; neither does a score above the cutoff mean that the applicant automatically meets all job standards.

Rather, the cutoff score represents the point at which the organization is likely to achieve a reasonable return on its investment in a job candidate. This means that, at a particular score, a reasonably high number of employees will prove to be successful on the job.

For example, all of the studies have shown a linear relationship between i-Match scores and measures of productivity—employees with higher scores are more dependable, stable, and hardworking.



## Higher is Better

Virtually everyone with a Performance scale score of 65 will be a more productive hourly employee, and almost all candidates scoring 45 or lower will be counterproductive in some way. Overall, the higher the score, the better.

Any cutoff score, however, is not carved in stone and, for practical reasons, needs to be based on local labor market conditions—which may be different in Newark and Santa Clara.

Where there are many applicants, the passing point can be higher; you can raise your standard and be choosier about who you hire. This will result in fewer, but better, applicants passing the i-Match assessment. Conversely, in an area with few available employees, the cutoff score can be lowered so more applicants pass.

## Meeting Labor Market Needs

Newark is an area of low unemployment—you might need to hire most of the applicants—while Santa Clara has a large labor pool. Therefore, you may need two different cutoff scores, lower in Newark and higher in Santa Clara, in order to hire the necessary numbers of employees. This is entirely acceptable legally and is an appropriate use of i-Match.

Just remember: your goal is to get the highest scorers as consistently as you can. This will give you more productive employees and a better payback from using i-Match.

## Companies Set Own Policies on Handling High and Low Scorers

Though i-Match provides guidelines on the best way to use scores, each company sets its own rules about how to handle the applicants.

Some retailers, for example, have a policy that any applicant scoring above 60 on the Performance scale is offered a job immediately. This occurs primarily in areas with tight labor markets where job seekers simply go from store to store until they're hired.

In such cases, retailers extend offers to high scorers because they are confident that these people will be more dependable employees.

Other retailers have a slightly different policy: Applicants scoring below 48 are not hired unless an exception is granted by a supervisor.

Whatever the policies, though, build some flexibility into them so managers can accommodate special cases among these high and low scorers.

Also remember, the goal always should be to get the highest scoring employees possible.

# Guard Against “Beating the Assessment”

When people apply for jobs that they need and want, they naturally try hard to make a good impression. Most don't outright lie about their qualifications, but some stretch the truth in interviews and attempt to show themselves in the best light—“fake good”—on tests.

Faking isn't possible when the test measures a specific skill such as typing. But, tests of personality traits based on attitudes and self-descriptions have less verifiable answers and can be more fakable.

Research on some employment tests—particularly those seeking attitudes toward theft—has shown that most applicants tend to answer honestly, but that the tests can be faked. Applicants can get higher scores when they try to “beat the test.”

## *Producing Valid Scores*

i-Match recognizes that applicants want to look as good as possible, so it uses several methods, including those of psychiatric tests, to produce more valid scores.

This means i-Match, despite its apparent simplicity, is not easily fakable. The reason is a process which shows if an applicant is trying to fake good. Called the Frankness adjustment, it is comprised of 12 questions about “unlikely virtues” or “universal faults.”

For example, one question for the adjustment is “You have absolutely no fear of speaking in front of a large group.” Most people can be expected to answer this “false,” since they are, indeed, afraid of speaking in front of large groups.

While there are some people who are not afraid of such an experience, few would have all of the unlikely virtues claimed in the questions. The key here is a pattern of answering in the unusual direction, indicating a deliberate attempt to fake good. The more an applicant fakes, the more the i-Match score is automatically reduced—the computer program makes the Frankness adjustment and subtracts out the effects of trying to beat the test. The job applicant isn't aware of this process and the test administrator doesn't need to do anything to make it happen. Applicants end up with i-Match scores they would have received without faking.

*Attempts to “beat” i-Match trigger an automatic correction for test-taking Frankness. The more an applicant fakes, the more i-Match score is reduced.*

One example of how the Frankness correction works: A convenience store manager wanted to hire an applicant whose i-Match Performance scale score was in the “recommend rejection” area. The manager had the applicant take the test a second time (a practice that is discouraged) to try to get a higher score. But trying to beat i-Match netted the applicant an even lower score.

## *Nonrevealing Questions*

The Inventory has other safeguards to prevent faking. Lack of face validity of test items is one important factor. The questions don't ask directly about counterproductive behavior and their purpose isn't obvious. Applicants can't determine easily how they “should” answer in order to do well.

i-Match does ask about beliefs and behaviors reflecting more basic personality characteristics such as dependability, impulsiveness, responsibility, and stability, which underlie the propensity for either productive or counterproductive behavior. Its questions don't give away its purpose.

## *Focusing on Facts*

The multiple-choice items in Part 3 focus on biodata information such as high school grades. These facts don't change over time and tend to be answered reliably. Further, the self-descriptive adjectives in Part 2 all are viewed as equally positive, so applicants have no clues about which answer might be best. Together, all these built-in safeguards make it difficult for job applicants to fake good on i-Match.

## *i-Match Works Well for Screening Bank Tellers*

A recently completed study at an Eastern U.S. banking system showed that, if i-Match had been used to screen its employees, the number of top-rated tellers would have been increased by 16% and total turnover would have been reduced by 21%.

In addition, compared to existing hiring methods, the use of the i-Match would have:

- Reduced the number of tellers with large cash drawer errors from 45% to 30%;
- Increased the number of tellers with no errors from 36% to 52%; and
- Saved \$160 per employee per year in cash errors. i-Match passers averaged \$336 total cash variance, compared to the bank norm of \$496 and to i-Match failers' average of \$610.

# Measure Personality Characteristics Behind Productive Job Behavior

If you need to hire an employee to type one-page business letters, you can easily test for a successful candidate: simply have the applicants type one-page business letters, then measure the speed and accuracy of the typing.

But, other work behaviors also are important for success in a typist's job. Short of hiring all the applicants and observing them during a probation period, however, how can you determine their likely work habits? Will they show up on time, follow policy, and have good attendance, or will they take long breaks and mouth off to supervisors?

Many work habits are predicted better by tests of personality characteristics (such as the i-Match) than by skills tests (such as for typing). Personality commonly is defined as a tendency toward a certain pattern of behavior. An employee with more of the personality characteristics of stability, responsibility, and dependability tends to behave more productively on the job. i-Match measures these personality characteristics and enables us to predict the pattern of job behavior resulting from them.

For measuring a skill such as typing, a typing test works best. For measuring a personality characteristic that underlies a job behavior, a personality test fills the bill.

Personality test questions generally do not inquire directly about specific behaviors. Tests of alcoholism, for example, don't ask simply how much alcohol a person drinks. Since most alcoholics at some time are depressed, the tests ask about feeling depressed or hopeless. Such tests also cover related outcomes like missing work, experiencing blackouts, and having deteriorating relationships. To determine how much people drink, you don't have to ask them how much they drink; you ask them about things that relate to the drinking behavior.

i-Match works in the same way. By asking many questions that reflect a person's dependability, stability, impulse control, and conscientiousness, i-Match correlates with job behaviors that are important for productive performance.

By the time applicants answer the i-Match 97 questions about their personalities and backgrounds, we can draw some fairly confident conclusions about their probable behaviors on the job.

We also can make some conclusions about the potential seriousness of these behaviors. The higher an applicant's score, the more likely that person's behavior on the job will be productive. Alternatively, people with lower scores are more likely to exhibit counterproductive behaviors.

This is because productive and counterproductive behaviors are not really two different things.

Rather, they are two ends of one scale, with a continuum of behaviors between them (see figure).

Exaggerating an injury, for example, is more counterproductive than taking long breaks; changing vacation plans to help out at work is a greater contribution than simply sticking to the task at hand.

By measuring stable and enduring personality characteristics, i-Match can do a good job of predicting the degree of productive or counterproductive behavior an individual will show at work. It cannot, however, predict specific behaviors. People can choose to be counterproductive—or productive—in many different ways.

i-Match can't predict, for example, that a particular job candidate will steal merchandise. It can predict only that the person will tend to be counterproductive, perhaps by taking long breaks, perhaps by doing sloppy work, perhaps by stealing merchandise.

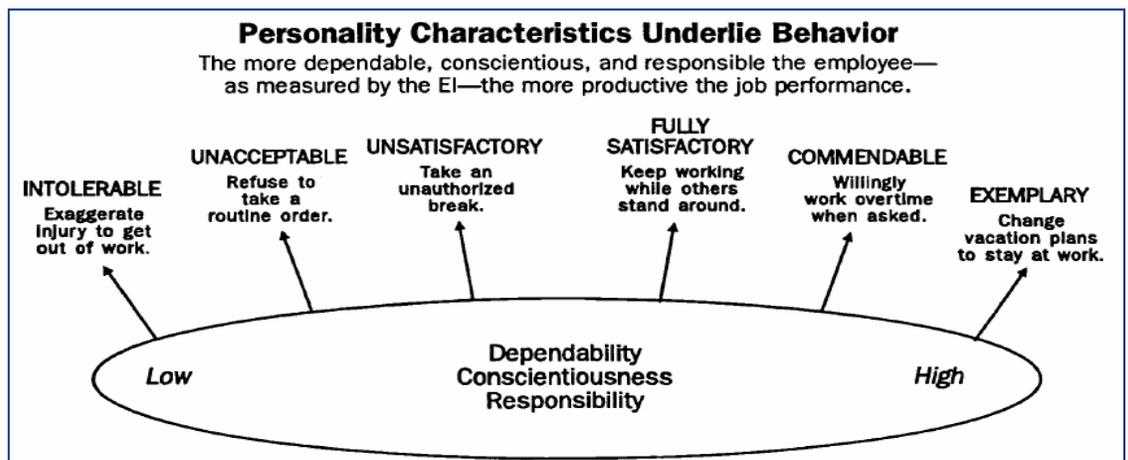
As a tool that measures a stable tendency toward a pattern of behaviors, i-Match is based on established, scientific personality psychology theory and methods. i-Match asks questions about personality traits from many different angles, without asking job candidates directly how productive and stable they will be. Candidates' answers lead to an assessment of the personality characteristics that underlie productive, stable behaviors.

## *i-Match Keeps on Working and Working ...*

Annual follow-up studies done since 1986 at a national retail chain show that the EI continues to help hire a productive work force. The company has over 400 large stores employing 80,000 people.

Before the retail chain used i-Match 15.2 percent of its employees per year terminated involuntarily (see graph). Since i-Match, the average percentage of involuntary terminations has been 9.3, a drop of more than one-third from pre-i-Match levels. Now, most terminated employees are those who fail probation and would not be rehired.

Statistical correlations also have held up over five years of follow-up: each year, with tens of thousands of employees, the higher the test score, the better the job outcome. This company, and many others, have hired fewer and fewer low i-Match scorers and have experienced consistently lower termination rates.



# Reduce Absenteeism—and Its Costs

Absenteeism probably should be a line item in your budget. It's more than an annoyance; it's costing you money.

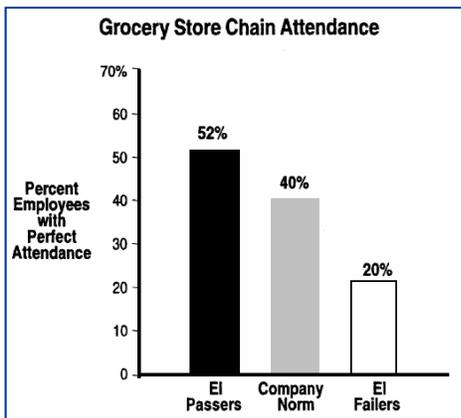
A major airline calculated a cost of \$175 for every day of work missed by a ticket agent or baggage handler. Either a supervisor had to do the work or rearrange it, or another employee was paid overtime to do it, or the work went undone. An employee absence in retail may cost much less, but it adds up quickly on a store-wide or a company-wide basis.

And the \$175 figure may be greatly underestimated. According to a detailed analysis completed by a national expert on the economics of job behaviors, the cost of a one-day absence in a typical manufacturing firm is \$1,200.

Organizations have taken steps to cut the costs of absenteeism. Numerous companies have found that using i-Match in the selection process significantly reduces the number of unexcused absences.

The airline, for example, found that using i-Match to hire ticket agents and baggage handlers in one hub reduced absences by almost 8%, and saved them \$50,000 - more than 70 times the cost of administering i-Match.

Other companies have had similar results. One regional bottling company found a large improvement in the number of employee sick days taken in a year. In the group of employees hired without taking i-Match, 28% called in sick at least once a year; only half as many—14%—of those who had taken i-Match had any sick days.



A regional grocery chain found that 52% of i-Match passers had perfect attendance records, compared with only 20% of i-Match failers, and a company average of 40% (see graph).

A large food service firm in a difficult labor market found a significant difference between i-Match passers and failers in the numbers of days they were absent. Employees who failed the test missed an average of 8 days of work per year, while those who passed missed only 5-1/2 days.

Companies have noted similar improvements in other measurements of attendance. The percentage of workers who sneaked out of work early at a regional manufacturing plant was reduced by 17% when i-Matched

was introduced into the selection process. Without i-Match, 54% of employees always stayed on the job until quitting time; with i-Match, 71% never left early.

The grocery store chain, to evaluate total attendance, added together the numbers of times employees were absent and tardy. It found that 60% of all employees had been absent or tardy at least once a year.

A breakdown of the figures, however, showed that 80% of those who failed i-Match were absent or tardy at least once, compared with 48% of the i-Match passers. Using i-Match in the selection process would have resulted in a 12% drop in the number of absent or tardy employees. At the airline, instances of tardiness dropped by one-third with i-Match use, saving the company almost \$8,000 per year.

The strong relationship between i-Match scores and absenteeism is reflected in the high statistical correlation between the two. Correlations in several companies have been in the .40s—the higher score, the fewer days absent.

## Estimating the Cost of Absenteeism

Here is a simple way to estimate the cost to your company of one employee's absence at a pay rate of \$10/hour:

|  |         |
|--|---------|
| Employee benefits (no salary paid)                             | \$24    |
| Supervisor time handling absence<br>(15 minutes at \$ 20/hour) | 5       |
| Work undone; customers not served                              | 6       |
| Overtime pay or inefficiency of replacement                    | 12-24   |
| Total  | \$47-59 |

The total cost could be much higher if:

- the employee is paid even when absent;
- the employee's and supervisor's salaries are higher;
- the employee is difficult to replace; or
- it's crucial that the work be done on time.

Multiply the total number of employee absence days by your estimated cost of one absence. Hiring only those applicants who pass the i-Match can reduce this cost by 10 percent.

i-Match cannot predict who will become sick or who will need to miss work for jury duty. Sometimes being absent, however, is one way of being undependable or counterproductive. Increasing the number of dependable employees by using i-Match can help you reduce absenteeism—and its costs.

## Mood Doesn't Affect i-Match Score

Whether applicants feel nervous, happy, sad, or angry makes no difference in their performance on i-Match. Emotional mood simply doesn't affect the score. In order to determine if feelings did affect scores, researchers had i-Match test takers fill out a mood self-report. The self-report, based on other mood research, asked people to note how often during the previous week they had felt any of 43 moods such as relaxed, jittery, drowsy, and distressed. All 43 of the moods then were compared individually and in combination with i-Match scores; none was associated with either high or low i-Match scores.

# Reduce Counterproductive Behavior in Your Hourly Work Force

—One of your employees has called in sick with a feeble excuse for the fifth time this month.

—Several employees are busy swapping play-by-play analyses of last night's game.

—Another employee has disappeared, probably off running personal errands again.

—Meanwhile, your customer, finally conceding defeat in getting assistance, stalks away.

Wouldn't it be great if fewer of your employees skipped work, spent so much time goofing off, or ignored company policies? Having more dependable employees certainly would make your workday go smoother, and even help your department profitability.

According to several dozen studies, employees hired with i-Match are consistently more productive than workers hired with only an application and interview. As expected, the main reason for companies to add i-Match to their screening processes has been to increase the number of employees behaving productively.

## Comparing i-Match Passers and Failers

Over two dozen studies have shown that hiring with i-Match reduces employee counterproductive behavior. Compared to employees hired with typical methods, low i-Match scorers are more often observed showing counterproductive behaviors and less

| Counterproductive Behavior                   | Percentage Increase Among i-Match Failers | Percentage Decrease Among i-Match Passers |
|--|---|---|
| Refusing to take routine orders              | 37 to 44%                                 | 27 to 31%                                 |
| Blaming others for mistakes                  | 69 to 75%                                 | 42 to 49%                                 |
| Drinking on company property                 | 40%                                       | 32%                                       |
| Allowing non-employees in unauthorized areas | 25%                                       | 20 to 67%                                 |
| Using store phones for personal calls        | 33%                                       | 23%                                       |
| Leaving a job half finished                  | 44%                                       | 35%                                       |
| Refusing to work when extra help is needed   | 51%                                       | 30%                                       |
| Needs prompting to move on to another task   | 20%                                       | 16%                                       |
| Smoking in unauthorized areas                | 40%                                       | 26%                                       |

## Screening out Counter Productivity

But screening applicants with i-Match also can significantly reduce the number of employees showing counterproductive behaviors. Screening in more dependable workers—together with screening out those who are counterproductive—can help you meet your hourly hiring objectives. To a certain extent, assessing the effects of both counter productivity

and productivity is difficult. You need to observe employees who might "take the initiative to find more work when finished with regular tasks," "hide merchandise until it goes on sale, to buy it at a discount later," "under-ring the price of merchandise for a friend," and many other job behaviors.

Further, seeing these behaviors is only part of the problem. How can you figure their impact on your operation?

In order to evaluate the costs of counter productivity and benefits of productivity, managers in a variety of retail and manufacturing settings spent time observing and documenting specific behaviors among their employees. Later, the number of occurrences of these behaviors was compared with employee scores. Results of these studies showed that those employees who failed i-Match were significantly more likely to exhibit counterproductive behaviors than the company norm.

## On-the-job Behavior Improvements

For example, employees who failed i-Match were 80% more likely to "let joking friends be a distraction and interruption to work" at one retail chain and 39% more likely at a grocery store chain. Moreover, those passing were 47% and 25% less likely to exhibit this counterproductive behavior. Here are some other results:

- Failers at a discount chain were 82% more likely to "take an unauthorized break" and those at a retail chain were 34% more likely. i-Match passers at the discount chain were 55% less likely to take unauthorized breaks.
- Employees who failed in three different retail settings were 46%, 55%, and 82% more likely to "use a weak excuse to stay home from work." i-Match passers were 32% and 67% less likely to do this.
- Those who failed in a discount chain were 56% more likely to "cheat on the timecard by punching in before actually starting work"; the figure in a retail chain was 52%. i-Match passers were 38% and 45% less likely to cheat on timecards.

So what does this mean for you as a manager? By using i-Match, you not only screen in employees who are more likely to behave productively, you also screen out people with a propensity for counterproductive behavior. This means that, over time, your work force will be increasingly more dependable and you can concentrate on tasks other than putting out personnel-related fires.

## Estimating Dollar Values

But can more productive employees affect your profitability? A panel of retail experts from several companies assigned dollar values to behaviors. They used a complex formula, including factors such as average amounts of time involved and salaries, to establish the costs.

The employee who calls in sick with a feeble excuse, for example, costs a company an estimated loss of \$60 in sales, service, other people's time, or other outcome of productivity. Employees standing around talking about last night's game rather than doing their work cost an estimated \$20, and someone off doing personal errands costs around \$16. Although these costs for single episodes may sound small, simply multiply the figures by the number of possible occurrences in a good-sized company to see how deeply these behaviors can cut into the profit margin.

Using i-Match, therefore, to reduce the number of employees behaving counterproductively and increase the number of those who are productive can boost your profits and your management effectiveness.

# Comply with the Civil Rights and Disabilities Acts

Recent enactment of the Compromise Civil Rights Act of 1991 and of the Americans with Disabilities Act has caused concern among many of the nation's employers.

A modicum of concern is warranted. The long-term implications of some provisions, particularly in the Civil Rights Act, are unclear; experts say that precise interpretation of the law will be determined ultimately through litigation in the courts.

Other portions of these measures, however, are straightforward—stairways can't be the only access provided to the workplace, for example. And, as we've already informed users of i-Match, the Civil Rights Act affects the way employment tests can be scored. The result is that some tests eventually will have to be withdrawn from the market because they can't be adapted to the required changes.

## *The Civil Rights Act of 1991: Effects on Employers*

- Compensatory and punitive damages—previously available only to racial and ethnic minorities—now can be sought by victims of intentional discrimination based on sex, religion, or disability.
- Score adjustments, use of different cut-off scores, or other alterations to results of employment-related tests on the basis of race, color, religion, sex, or national origin are prohibited.
- A national award for diversity and excellence in executive management has been established. A Glass Ceiling Commission also has been established to recommend ways for women and minorities to overcome barriers to advancement in the workforce.

i-Match not only complies with these laws, it goes beyond the requirements. In revising it, we sought input from prominent labor attorneys, industrial psychologists, and the American Psychological Association staff.

i-Match used the information from several hundred thousand employees from more than 100 validity studies to make sure that i-Match produces no adverse impact against any protected groups. You can rest assured that the i-Match meets—and exceeds—all state and federal regulations and requirements.

The Americans with Disabilities Act (ADA) requires that employment tests measure only those characteristics that are related to effective job performance, and not exclude applicants with irrelevant disabilities.

For example, if vision is not essential to performing a given job, a written test is not allowed to screen out blind applicants simply because they are unable to fill in the answer sheet. In such a case, i-Match could be administered orally instead of on paper. We have found no reason to expect that anyone could challenge the proper use of the i-Match on the basis of this Act.

Using i-Match is completely compatible with the requirements of both the Civil Rights Act and the Disabilities Act. i-Match produces no adverse impact on protected groups. It is a valid selection tool which can help you identify employees who are more productive and stable in hourly positions. i-Match is still the strongest test of its kind, and we have more data than ever to support its effectiveness.

## *People Prefer Taking Personality-based Pre-employment Tests*

Results of recent research on pre-employment tests done at the State University of New York surprised the nationally prominent researchers who conducted the study.

The research focused on privacy issues and the perceived invasiveness of two tests, i-Match and an honesty test. Researchers expected that a more "transparent" test—one in which the type of information asked for is obvious, such as an honesty test—would be viewed more positively by test takers. When a test's purpose is obvious, the researchers theorized, applicants would feel more in control of their responses—which also means, however, that they could fake their answers more frequently.

Participants in the study were 116 individuals enrolled in evening graduate business classes. All were in their 20s and employed in a variety of jobs: janitor, teacher, engineer, computer programmer, clerk, office manager, accountant. Almost 20% of the group said they were currently seeking jobs, and about the same percentage said they had taken an honesty test previously.

The participants were asked to role play a job applicant and were randomly assigned to take either i-Match or the honesty test. They then filled out a 20-item questionnaire which asked them what they thought about the fairness or invasion of privacy of the test they took, and if they felt any resentment toward it.

Because the professors expected that the transparent honesty test would be more acceptable to applicants, they were surprised when test takers preferred taking i-Match. The difference between the reactions to the tests was statistically significant.

The findings suggest, the researchers said, that the type of test questions have an important impact on people's perceptions of privacy. People simply may resent questions that ask directly about their previous theft and honesty. But—as the researchers discovered, and as has been our experience over the past six years—people don't mind taking i-Match.

## Research Reports

### **Complies with the Civil Rights And Disabilities Act**

The **EI** Assessment not only complies with the law, it goes beyond its requirements. In the validation process

**EI** received input from prominent labor attorneys, industrial psychologists and the American Psychological Association staff. **EI** was re-validated and re-normed and as a result the **EI** test produced no adverse impact on protected groups. It is a valid placement and selection tool that can identify individuals who are more productive and stable in hourly positions. **EI** is the strongest of its kind, and there is more data than ever to support its effectiveness.



### **Measures the Personality Characteristics Underlying Productive Job Behavior**

If you want to place or hire individuals to type one-page business letters, you can easily test for successful candidates: simply have job applicants type one-page business letters, then measure the speed and accuracy of letters produced. However, other work behaviors are also important for success in a "typist" job. Will they show up on time, follow policy and have good attendance; or will they take long breaks and mouth off to their supervisors. For measuring a skill such as typing, a typing test works best. For measuring a personality characteristic that underlies a job behavior, a personality test works best. "Personality" commonly is defined as a tendency toward a certain pattern of behavior. An individual with more of the personality characteristics of stability, responsibility, and dependability tends to behave more productively on the job. **EI** measures these personality characteristics and the test predicts the pattern of job behavior resulting from them.



### **Saves Time And Money - Reduces Inventory Shrinkage and Produces a Marked Reduction In Turnover**

When **EI** is administered you can immediately identify those individuals who are job ready and those who are in need of help. This will save a great deal of time and hence a great deal of money. In addition, employers who hire these individuals will also save time and money ... and will continue to use your services. Once placed on the job **EI** users report 50% fewer involuntary terminations and 43% less inventory shrinkage. Increases in satisfactory employees range from 10% to 49%. **EI** studies, done in a variety of settings (retail, manufacturing, and health care), have shown that the use of the assessment significantly reduces unnecessary turnover.

### **Selected Telephone Reps Connect Better With Customers**

The telephone has become an indispensable marketing tool with successful companies using it in ever more creative ways to connect to their customers. Approximately two-thirds of all customer contact is through a telephone call center. **EI** is an effective tool that can identify individuals who have the qualities that will translate into success as a telephone service rep, no matter what the job entails. *For example:* a rental car company found that reservation sales representatives who passed the **EI** were able to close 105 more sales annually. This amounts to \$13,000.00 more in sales per person.

